

MASTOLOGY

Official Journal of the Brazilian Society of Mastology

Volume 36, Supplement 1, 2026

ISSN 2594-5394



**28º Congresso Brasileiro de
Mastologia | Goiânia 2026**

BBCS BRAZILIAN
BREAST CANCER
SYMPOSIUM
13 a 16 de Maio

Prática Clínica, Ciência e Humanismo

 **Brazilian Society of
Mastology**

MASTOLOGY

Official Journal of the Brazilian Society of Mastology

28th Brazilian Congress of Mastology and Brazilian Breast Cancer Symposium – BBCS 2026

Leonardo Ribeiro – 28th Brazilian Congress of Mastology President

Ruffo de Freitas Junior – Brazilian Breast Cancer Symposium 2026 President

Guilherme Novita – Brazilian Society of Mastology President (2026–2028)

Organizing Committee

Alexandre Marchiori Xavier de Jesus
Aline Regina Nunes Reis
Ana Carolina Salles de Mendonça Ferreira
André Mattar
Augusto Tufi Hassan
Barbara Pace Silva de Assis Carvalho
Carolina Argolo
Cícero de Andrade Urban
Danielle Cristina Netto Rodrigues
Danielle Laperche dos Santos
Eduardo Carvalho Pessoa
Felipe Pereira Zerwes
Fernando Vecchi Martins
Flávia Vidal Cabero
Guilherme Novita
Humberto Carlos Borges
João Nunes de Matos Neto
Jordana Carolina Marques Godinho Mota
Leandro Gonçalves Oliveira
Leonardo Ribeiro Soares
Luana Marques Novato
Luiz de Paula Silveira Júnior
Marcus Nascimento Borges
Nilceana Maya Aires Freitas
Paola Ferreira de Freitas Germek
Rafaela Dutra Silva
Régis Resende Paulinelli
Ricardo Caponero
Romualdo Barroso de Sousa
Rosemar Macedo Sousa Rahal
Ruffo de Freitas Junior
Victor Domingos Lisita Rosa

Scientific Committee

Adriana Magalhaes de Oliveira Freitas
Alessandra Borba
Ana Thereza Uchoa
André Mattar
Andrea Pires Souto Damin
Angélica Nogueira Rodrigues
Antonio Frasson
Carlos Alberto Ruiz
Daniel Buttros
Eduardo Camargo Millen
Francisco Pimentel Cavalcante
Guilherme Novita
Idam de Oliveira Junior
Leonardo Ribeiro Soares
Luiz de Paula Silveira Júnior
Marcelo Moura de Lima
Rafael Henrique Szymanski Machado
Rene Aloisio da Costa Vieira
Ruffo de Freitas Junior
Vilmar Marques de Oliveira

EVALUATING COMMITTEE

Evaluation Committee Coordinator

René Aloisio da Costa Vieira*, MD, PhD 
Universidade Estadual Paulista “Júlio de Mesquita Filho” –
Botucatu (SP), Brazil
<http://lattes.cnpq.br/9872331461426316>

Evaluation Committee – Mastology 2026, S1

Andréa Pires Souto Damin, MD, PhD 
Universidade Federal do Rio Grande do Sul – Porto Alegre (RS), Brazil
<http://lattes.cnpq.br/3535502508288499>

Darley de Lima Ferreira-Filho, MD, PhD 
Universidade Federal de Pernambuco – Recife (PE), Brazil
<http://lattes.cnpq.br/6576568654258623>

Daniel Guimarães Tiezzi*, MD, PhD 
Universidade de São Paulo – Ribeirão Preto (SP), Brazil
<http://lattes.cnpq.br/1249884771676480>

Franklin Fernandes Pimentel, MD, PhD 
Universidade de São Paulo – Ribeirão Preto (SP), Brazil
<http://lattes.cnpq.br/3389057575913568>

Gil Facina*, MD, PhD 
Universidade Federal de São Paulo – São Paulo (SP), Brazil
<http://lattes.cnpq.br/1029334251705417>

Giuliano Mendes Duarte, MD, PhD 
Universidade Estadual de Campinas – Campinas (SP), Brazil
<http://lattes.cnpq.br/7979316161821768>

Heloisa Maria De Luca Vespoli*, MD, PhD 
Universidade Estadual Paulista “Júlio de Mesquita Filho” – Botucatu (SP), Brazil
<http://lattes.cnpq.br/2096986628945118>

Idam de Oliveira-Junior*, MD, PhD 
Hospital de Câncer de Barretos – Barretos (SP), Brazil
<http://lattes.cnpq.br/7068434551131365>

Luiz de Paula Silveira-Junior, MD, PhD 
Hospital de Câncer Araujo Jorge – Goiânia (GO), Brazil
<http://lattes.cnpq.br/8787035152345325>

Marcelo Antonini*, MD, PhD 
Hospital do Servidor Público Estadual – São Paulo (SP), Brazil
<http://lattes.cnpq.br/6020250303146868>

Natalia Polidório Machado, MD, MSc 
Hospital Sírío Libanês – Brasília (DF), Brazil
<http://lattes.cnpq.br/7671469281193510>

Rafael Henrique Szymanski Machado*, MD, PhD 
Hospital Federal da Lagoa – Rio de Janeiro (RJ), Brazil
<http://lattes.cnpq.br/0277274226235274>

Ricardo Caponero, MD, MSc 
Hospital Alemão Oswaldo Cruz – São Paulo (SP), Brazil
<http://lattes.cnpq.br/0669196415544547>

Simone Elias*, MD, PhD 
Universidade Federal de São Paulo – São Paulo (SP), Brazil
<http://lattes.cnpq.br/7745925386381770>

Susanne Crocamo Ventilari da Costa, MD, PhD 
Instituto Nacional de Câncer – Rio de Janeiro (RJ), Brazil
<http://lattes.cnpq.br/7529861315408955>

Vinicius Milani Budel*, MD, PhD 
Universidade Federal do Paraná – Curitiba (PR), Brazil
<http://lattes.cnpq.br/8438672083596517>

*Associate Editors of Mastology (2026–2028)



BRAZILIAN SOCIETY OF MASTOLOGY

Praça Floriano, 55, sala 801, Centro – 20031-050 – Rio de Janeiro (RJ)
Phone number: (21) 97271-0192
E-mail: secretaria@sbmastologia.com.br

ABOUT

Mastology is a continue publication of the Brazilian Society of Mastology. The responsibility for concepts emitted in the articles is exclusive of its authors. The total or partial reproduction of the articles is allowed, provided the source is mentioned.

Founder: Antônio Figueira Filho

Submissions - mailing address: Praça Floriano, 55, sala 801, Centro – Rio de Janeiro (RJ) – 20031-050

National and international subscription and advertising: Sociedade Brasileira de Mastologia - Phone number: (21) 97271-0192

EDITORIAL PRODUCTION



ZEPPELINI
PUBLISHERS

Contents

EDITORIAL

- 1 Two Congresses in a Single Event: A Milestone in Both the Quantity and Quality of Scientific Studies**
René Aloísio da Costa Vieira*, Leonardo Ribeiro Soares, Ruffo Freitas-Junior, Andréa Pires Souto Damin, Darley de Lima Ferreira-Filho, Daniel Guimarães Tiezzi, Franklin Fernandes Pimentel, Gil Facina, Giuliano Mendes Duarte, Heloisa Maria de Luca Vespoli, Idam de Oliveira-Junior, Luiz de Paula Silveira-Junior, Marcelo Antonini, Natalia Polidório Machado, Rafael Henrique Szymanski Machado, Ricardo Caponero, Simone Elias, Susanne Crocamo Ventilari da Costa, Vinícius Milani Budel, Guilherme Novita Garcia

EPIDEMIOLOGY SECTION

PRESENTATION: ORAL PRESENTATION (GENERAL SESSION) – BEST STUDY IN EPIDEMIOLOGY

- 4 904 – The paradox of perceived cost and free access: determinants of willingness to undergo hereditary breast cancer genetic testing in Brazil**
Amanda Vitoria de Oliveira Lima, João Victor Martins Bordigoni, Isadora Alves Gamboa, Pedro Henrique Paulino Pereira de Souza, Ysabelle de Oliveira Saraiva, Daniel Castro dos Santos, Ana Carolina de Carvalho Vilela, Jalsi Tacon Arruda

PRESENTATION: ORAL PRESENTATION (GENERAL SESSION)

- 5 1180 – Net and overall survival of breast cancer patients by age group: a population-based study in Porto Alegre, Brazil**
Patricia Klarmann Ziegelmann, Laura Clezar Rodrigues, Alessandra Borba

PRESENTATION: E-POSTER

- 6 902 – Breast cancer incidence and mortality among women in Latin America: A Systematic Review of Epidemiological Trends (2015–2025)**
Anna Laura de Paula Rego, Maria Carolina Martins da Conceição, Stefany Cristina de Jesus Alves, Keytinane Kássia de Araújo Ferreira
- 7 908 – Survival implications of non-organized breast cancer screening in a Brazilian tertiary women's health center: a retrospective cohort study of 1,517 patients**
Natalie Rios Almeida, Nicolí Serquiz de Azevedo, Fabrício Palermo Brenelli, Maria Beatriz de Paula Leite Kraft, Cesar Cabello dos Santos, Renato Zocchio Torresan, Giuliano Mendes Duarte, Luiz Carlos Zeferino
- 8 915 – Recent increase in breast cancer mortality rates among young women in Brazil**
Luiz Henrique Alves Costa, Hellen Rocha da Luz, Igor Marques Cesário Calassa, Elisângela de Paula Silveira Lacerda
- 9 923 – Breast cancer associated with gynecological neoplasms: a retrospective case series**
Guilherme Coelho Carvalho, Sabas Carlos Vieira
- 10 924 – Breast cancer with low estrogen receptor expression: an epidemiological study at a referral university hospital in southern Brazil**
Rebeca Neves Heinzen, Julia Carolina Avi, Érica Eliane Traebert Simezo, Daniella Serafin Couto Vieira, Júlia Soares Leite
- 11 931 – Racial and regional disparities in access to post-mastectomy breast reconstruction in Brazil**
Guilherme Kripka, Lauren Kratky, João Neno, Paulo Henrique Moreira Melo, Beatriz Westphalen Pomianoski, Cristina Pires Camargo
- 12 932 – Sexual dysfunction and quality of life in breast cancer survivors: a cross-sectional study**
Nicolí Serquiz de Azevedo, Cibelle de Araújo Medeiros, Giovanna Canário de Araújo, Sara Dantas Nascimento Duarte, Camila Alexandre Silva, Natalie Rios Almeida, Ayane Sarmento, Ana Katherine Gonçalves
- 13 943 – Regional inequalities in breast cancer across Brazil: an ecological study with correlation analysis (2019–2024)**
Daniel Higor da Silva Barros, Lucas Inácio de Sousa, Flávia Vidal Cabrero
- 14 945 – Breast cancer: from diagnosis to treatment initiation — an analysis of Brazilian timelines using the prisma platform**
Wesley Antonio Lopes Lima, Renata Colombo Bonadio, Anna Buehler, Nelson Teich, Luisa Canesin Dourado Figueiredo Costa, Maisa Maria Spagnol Trento, Marcela Jurioli Folquito, Laura Testa
- 15 955 – Independent sociodemographic and healthcare determinants of advanced-stage invasive breast cancer in Brazil**
Luana Mendes Nogueira, José Pereira Guimarães
- 16 968 – Younger women with breast cancer present with more aggressive disease but similar early survival: real-world data from a Brazilian public referral center**
Marcelo Antonini, Diana Pereira Cavallo, Andre Mattar, Felipe Zerwes, Francisco Pimentel Cavalcante, Eduardo Camargo Millen, Fabrício Palermo Brenelli, Antonio Luis Frasson
- 17 979 – Occult breast carcinoma in elective breast surgery: prevalence and characteristics in 4,476 patients**
Mariele dos Santos Dutra Rech, Rogério Grossmann, Iataí José de Freitas, Charles Berres, Rodrigo Wobeto, Lucas Dutra Rech, Bruna Wainstein
- 18 980 – OncoAI: artificial intelligence for recurrence prediction and clinical decision support in breast cancer**
Mariana Zuliani Theodoro de Lima, Jaqueline Alvarenga, Silveira, Alexandre Ray Silva, Daniela Gregolin Gusmão, Andrea Kazumi Shimada, Jefferson Mazzei, Rodrigo Macedo Silva, Fabio Francisco Oliveira Rodrigues
- 19 983 – Ten-year epidemiological profile of breast cancer recurrence in a private institution**
Letícia Martins de Araújo Campos Linhares, Marcela de Oliveira Sá, Isabella Azevedo Queiroz, Letícia Pereira Mendonça, Ana Cláudia Barros de Laurentys, Waldeir José de Almeida Júnior

- 20 986 – Age-related differences in treatment and outcomes among women with breast cancer: a real-world cohort study**
 Marcelo Antonini, Luana Brandão Campanha Silva, Andre Mattar, Felipe Zerwes, Francisco Pimentel Cavalcante, Eduardo Camargo Millen, Frabício Palermo Brenelli, Antonio Luis Frasson
- 21 990 – Prevalence and risk factors for breast cancer, focusing on family history, in women treated at the mastology outpatient clinic of a public hospital in the Distrito Federal**
 Aline Feitosa Pessoa, Luiza Rocha de Souza, Carlucio Pereira Leal Junior, Júllia Eduarda Feijó Belluco, Samantha Silva Tavares Reis, Isabella Luisa Feijó Belluco, Gabriel Piau de Castro, Rosana Zabulon Feijo Belluco
- 22 995 – Clinical factors associated with death and recurrence in invasive breast carcinoma patients: penalized logistic regression analysis in a hospital cohort**
 Debora Nascimento Dias Neves, Juarez Antonio Sousa, Cayan Xavier Paula, Jessica Assis Bispo, Laura Sousa Sousa, Cynthia Arantes Vieira Tojeiro, Jefferson Dias Neves, Matheus Gabriel Gontijo Silva
- 23 996 – Epidemiological analysis of patients with invasive ductal breast cancer treated at A.C. Camargo Cancer Center from 2000 to 2024**
 Anna Gabriela Lacerda Santos, Fernanda Perez Magnani Leite, Renata Brandão Santos, Fabiana Baroni Alves Makdissi, Renato Cagnacci Neto, Fabiana Kain Moura
- 24 1000 – Factors associated with survival in bilateral breast cancer: a retrospective case series**
 Sabas Carlos Vieira, Isabela Cristina Carvalho Bandeira Coelho, Walberto Monteiro Neiva Eulálio Filho
- 25 1001 – Epidemiological profile of breast cancer in elderly women in the Brazilian center-west: a 10-year analysis of mortality, staging, and treatment delay**
 Nicole Marques Santos, Jean Karlus Rocha de Souza, Marina Elias Rocha
- 26 1002 – Overall survival according to molecular subtypes and clinical staging in invasive breast carcinoma patients: Kaplan-Meier analysis in a hospital cohort**
 Débora Nascimento Dias Neves, Juarez Antonio de Sousa, Carlos Eduardo Neves de Sá, Eduardo Souto Silva, Lucélia Gonçalves Vieira, Cynthia Arantes Vieira Tojeiro, Matheus Gabriel Gontijo Silva, Cayan Xavier de Paula
- 27 1003 – Impact of the COVID-19 pandemic on breast cancer mortality rates: a temporal analysis from 2020 to 2024**
 Jean Karlus Rocha de Souza, Nicole Marques Santos, Marina Elias Rocha
- 28 1004 – Clinical-pathological and therapeutic profile of breast cancer patients in a private hospital in central-west Brazil: a retrospective cohort study**
 Débora Nascimento Dias Neves, Juarez Antonio de Sousa, Jessica Assis Bispo, Cynthia Arantes Vieira Tojeiro, Andre Marocco de Sousa, Izadora Caiado Oliveira, Jefferson Dias Neves, Eduardo Souto Silva
- 29 1005 – Triple-negative versus non-triple-negative invasive breast carcinoma: a comparison of clinical-pathological characteristics, therapeutic profiles, and outcomes in a hospital cohort**
 Débora Nascimento Dias Neves, Juarez Antonio de Sousa, Cynthia Arantes Vieira Tojeiro, Lucélia Gonçalves Vieira, Laura Sousa de Sousa, Luiza Sousa de Sousa, Andre Marocco de Sousa, Izadora Caiado Oliveira
- 30 1018 – Characterization of breast cancer in young women treated at the Hospital Regional of Pedro Juan Caballero, 2020–2025**
 Jorge David Davalos Almiron, Vynicius Antonio Ferreira, Karina Pedra, Nicolly Christine Aureliano, Maria Carolina Chaves, Jaime Vester
- 31 1020 – Sarcopenia (including normal-weight obesity), its impact on prognosis and treatment outcomes in patients with breast cancer: a systematic review**
 Bruna Alves de Sousa Santos, Karimi Botelho Amaral, Fernanda Almeida de Souza
- 32 1026 – Spatiotemporal analysis of mortality from malignant neoplasm of the breast in Brazil (2001–2021)**
 Fernanda Ritt Souza, Leonardo Moreira Dias, Isadora Reichmann Garcia, Gabrielle Zaboloski Araújo, Maria Julia Carvalho, Sofia Canan Chas Montana, Lara Mensato Döring, Jan Pawel Pachnicki
- 33 1028 – Germline mutations and clinical outcomes in hereditary breast cancer: a retrospective cohort from northeastern Brazil**
 Samuel Castro Campos, Sabas Carlos Vieira
- 34 1043 – Neoadjuvant endocrine therapy in breast cancer: a single-institution epidemiological and clinicopathological analysis from southern Brazil**
 Michelle Bortolotto Cicheler, Betina Vollbrecht
- 35 1048 – Changes in the diagnostic pattern of breast cancer in the Brazilian Public Health System in Minas Gerais: analysis of the transition from surgical biopsy to core biopsy (2020–2025)**
 Maria Gabriela Bezerra de Souza, Marianne Alves Rodrigues, Lucas Xavier Boareto, Valentina Pinheiro Marion, Arthur de Sousa Silva, Caio Murilo dos Santos Pilicério, Cícero Felipe de Oliveira Xavier, Jhonny Sobreira Farias
- 36 1049 – Incidental findings in risk reducing mastectomy: incidence and predictors in a real-world cohort**
 Thaysa Estevão Fernandes, Daniel Imbassahy Sá Bittencourt Câmara Silva, Augusto Ostermann Magalhães, Mariana Decco Faucz, Renato Torresan, Frabício Palermo Brenelli, Geisilene Russano Paiva Silva, César Cabello dos Santos
- 37 1050 – Complications of breast implants in the Brazilian public health system: a cross-sectional analysis of surgical management patterns and economic impact (2020–2025)**
 Marianne Alves Rodrigues, Valentina Pinheiro Marion, Cícero Felipe de Oliveira Xavier, Lucas Xavier Boareto, Arthur de Sousa Silva, Jhonny Sobreira Farias, Maria Gabriela Bezerra de Souza, Caio Murilo dos Santos Pilicério

- 38 1052 – Pharmacoeconomic analysis of second-line hormone therapy in advanced breast cancer in Brazil (2020-2025)**
Lucas Xavier Boareto, Arthur de Sousa Silva, Marianne Alves Rodrigues, Maria Gabriela Bezerra de Souza, DValentina Pinheiro Marion, Jhonny Sobreira Farias, Caio Murilo dos Santos Pilicério, Cícero Felipe de Oliveira Xavier
- 39 1053 – Geographic disparities in access to post-mastectomy breast reconstruction in Brazil: a time-series analysis (2015–2025)**
Arthur de Sousa Silva, Lucas Xavier Boareto, Valentina Pinheiro Marion, Jhonny Sobreira Farias, Caio Murilo dos Santos Pilicério, Marianne Alves Rodrigues, Maria Gabriela Bezerra de Souza, Cícero Felipe de Oliveira Xavier
- 40 1073 – Sociodemographic profile of breast cancer patients linked to a philanthropic institution in Jataí**
Karoline Camargo Bragante, Vitória Soares, Ana Julia Toledo, Livia Cristina Izidoro
- 41 1077 – Breast cancer mortality trends and sociodemographic inequalities in Brazil, 1996–2024: a nationwide joinpoint analysis**
Beatriz Pereira de Moraes, Arthur de Sousa Silva, Fernanda Dorneles de Moraes, Amanda Moreira da Silva, Gustavo de Deus Costa Philocreon, Anne Victória Ribeiro da Costa, Gabriel dos Santos Leandro, Víctor Bryan Caetano Andrade
- 42 1082 – 3-years after SARS-CoV-2 pandemic: the lack of evident impact in breast cancer deaths in the state of São Paulo**
Daniel Guimarães Tiezzi, Ana Laura Silva de Faria, Ana Carolina Santana Lima, Barbara Alves Baron, Laura Dante Silva, Priscila Longhin Bosquesi
- 43 1086 – African ancestry is associated with early breast cancer onset in Brazilian women**
Daniel Guimarães Tiezzi, Laura de Martin Coletti, João Paulo Cheles de Lima, Isabela Panzeri Carlotti Buzatto, Fabiana Buono de Oliveira, Helio Humberto Angotti Carrara, Jurandyr Moreira de Andrade
- 44 1093 – Breast cancer mortality among female physicians in Brazil (2019–2024): a nationwide analysis enhanced by artificial intelligence to identify hidden patterns and inform targeted awareness strategies**
Marya Eduarda de Melo Camilo Mendanha, Bruna de Souza Ferreira, Maria Eduarda Ferreira de Moraes, Ana Luiza Naujorks Zimmer, Isabela Luiza Pacheco Rodrigues, Fabiano Inácio de Souza Souza, João Henrique Paz da Silva Ribeiro
- 45 1098 – A systematic review of the current literature on the prognostic implications of triple-negative breast cancer: its molecular aspects, metastatic patterns, and therapeutic strategies**
Clara Quaresma Vieira, Isadora Freire Teixeira e Silva Brito, Sara Cristina Santos Correia, Guilherme Fortes Ramos Filho, Camila Fernandes Magalhães, Larisse Silva Dalla Libera
- 46 1100 – Quantitative comparison of breast cancer therapeutic modalities between 2018 and 2025: an ecological study**
Marya Eduarda de Melo Camilo Mendanha, Pedro Henrique Lessa de Oliveira, Samella Soares Oliveira Medeiros, Felipe Rodrigues Resende, Ana Luiza Naujorks Zimmer, Eloah Vieira dos Santos, Giovana Vilas Boas do Prado, Nayara Alves de Freitas Lemos
- 47 1106 – Regional disparities and the economic impact of mastectomy and breast reconstruction in the Sistema Único de Saúde (2015–2025)**
Carolina Polo Salvador Vesentini, Izabelle de Fátima Frankiu, Melissa Polo Salvador Vesentini, Michele Neves Tomson Delazari, Bethina Piva Marafon
- 48 1110 – Epidemiological study on breast surgery procedures in oncological patients**
Erick Santos Aguiar, Felipe Rodrigues Resende, Ana Beatriz Bezerra Pinheiro, Diego Vinícius Gonçalves Santana
- 49 1114 – Ecological study on the hospital mortality rate for breast cancer in Brazilian regions (2017–2024)**
Pedro Henrique Lessa de Oliveira, Ana Luiza Naujorks Zimmer, Nayara Alves de Freitas Lemos, Felipe Rodrigues Resende, Luís Patrício Santos Barros, Samella Soares Oliveira Medeiros, Maria Laura Faria Bernacchi
- 50 1115 – Bilateral mastectomy in the gender-affirming process: a contemporary clinical and epidemiological overview**
Felipe Rodrigues Resende, Samella Soares Oliveira Medeiros, Pedro Henrique Lessa de Oliveira, Erick Santos Aguiar, Mariana Sousa Melo, Josielly Leite Magalhães Oliveira, Nayara Alves de Freitas Lemos
- 51 1125 – Breast cancer navigation service at the Cristiano Varella Foundation: a retrospective observational study of an institutional experience**
Luiz Carlos Navarro de Oliveira-Filho, Leonardo Salazar Portes Navarro de Oliveira, Maria Luiza Navarro Varella, Caroline Leite Sabioni de Paula, René Aloisio da Costa Vieira, Luiz Carlos Navarro de Oliveira
- 52 1131 – Epidemiological profile of breast cancer in Brazil according to stage at diagnosis (2014–2021)**
Pedro Henrique Lessa de Oliveira, Nayara Alves de Freitas Lemos, Heloísa Samartino Costa, Talles Bruno Torres Oliveira, Sâmeda Soares Oliveira Medeiros, Wanderley Pereira da Silva Neto, Felipe Rodrigues Resende, Lara Marçal Machado
- 53 1135 – Breast cancer trends and geographic inequalities in Sergipe, Brazil: evidence from 1996–2022**
Renata Montarroyos Leite, Adriane Dórea Marques, Brenda Evelin Barreto da Silva, Larissa Miranda de Almeida, Alex Rodrigues Moura, Simone Soraia Silva Sardeiro, Angela Maria da Silva, Carlos Anselmo Lima
- 54 1137 – Spatial distribution of mammography units and demographic density in Goiânia: an ecological study**
Luiz Paula Silveira Junior, Pedro Henrique Siqueira Fleury Alves, Arthur Helou, Carolina Alves Paula, Guilherme Santos Ribeiro, Luis Filipe Gonçalves Venâncio, Luiz Paula Silveira Neto, Maria Luiza Bessa Paula
- 55 1147 – Regional inequalities in access to breast reconstruction in Brazil over the last five years**
Mirella Laranjeira Nunes, Luan Fernandes Lins, Ana Carolina Ferraz Pascoal, Carlos Eduardo Caiado Anunciação, Cinthya Roberta Santos de Jesus, Vidianna Barbosa Sampaio, Deborah de Albuquerque Beltrão Amorim, João Esberard Vasconcelos Beltrão Neto
- 56 1149 – Mammography coverage and breast cancer in Roraima from 2020 to 2024**
Antonio Raylan Oliveira Gouvea

- 57 1150 – Analysis of the number of simple and radical mastectomy procedures in the Sistema Único de Saúde between 2018 and 2025**
Pedro Henrique Lessa de Oliveira, Nayara Alves de Freitas Lemos, Ana Luiza Naujorks Zimmer, Henry Barese Santos de Oliveira, Geovana Neves da Costa, Lara Julia Evangelista Mineiro, Felipe Rodrigues Resende, Samella Soares Oliveira Medeiros
- 58 1155 – The evolution of the mortality rate from malignant breast neoplasm in Brazil over the last five years (2020–2024)**
Mirella Laranjeira Nunes, Luan Fernandes Lins, Ana Carolina Ferraz Pascoal, Nathália Valois Montarroyos de Moraes, Larissa Cabral Marques, Gabriela da Rocha Branco Silveira, Deborah de Albuquerque Beltrão Amorim, João Esberard Vasconcelos Beltrão Neto
- 59 1157 – The root of inequality: the regional systemic disruption in access to screening mammography in Brazil**
Mirella Laranjeira Nunes, Deborah de Albuquerque Beltrão Amorim, Luan Fernandes Lins, Maria Luiza de Carvalho Guilherme da Rocha, Gabriela da Rocha Branco Silveira, João Esberard Vasconcelos Beltrão Neto
- 60 1160 – Breast cancer diagnosis outside the screening age range: an analysis of nearly 400,000 cases in the oncology panel**
Mirella Laranjeira Nunes, Luan Fernandes Lins, Deborah de Albuquerque Beltrão Amorim, Gabriela da Rocha Branco Silveira, Larissa Cabral Marques, Ana Carolina Ferraz Pascoal, Thiago Lourenço Apolinário, João Esberard Vasconcelos Beltrão Neto
- 61 1162 – The impact of the COVID-19 pandemic on breast reconstruction in the Brazilian public health system: a pre- and post-pandemic analysis**
Mirella Laranjeira Nunes, Ana Carolina Ferraz Pascoal, Gabriela da Rocha Branco Silveira, Deborah de Albuquerque Beltrão Amorim, Luan Fernandes Lins, João Esberard Vasconcelos Beltrão Neto
- 62 1163 – Regional and therapeutic inequities in breast cancer treatment: an analysis of compliance with the 60-day law in Brazil**
Mirella Laranjeira Nunes, Luan Fernandes Lins, Gabriela da Rocha Branco Silveira, Deborah de Albuquerque Beltrão Amorim, Nathália Valois Montarroyos de Moraes, Ana Carolina Ferraz Pascoal, Larissa Cabral Marques, João Esberard Vasconcelos Beltrão Neto
- 63 1169 – Epidemiological profile and spatial analysis of breast cancer mortality in Minas Gerais, Brazil (2001–2021)**
Fernanda Ritt de Souza, Leonardo Moreira Dias, Maria Fernanda Noel Dias, Antonio Mello Souza e Oliveira, Lara Mensato Döring, Jan Pawel Pachnicki
- 64 1171 – Breast cancer screening in women aged 60–69 years: a nationwide analysis comparing Brazil and the midwest region using public health data**
Anna Laura de Paula Rego, Stefany Cristina de Jesus Alves, Maria Carolina Martins da Conceição, Keytiane Kássia de Araújo
- 65 1179 – Where is the main bottleneck in the breast cancer care pathway in Brazil? An ecological analysis of imaging, diagnostic confirmation and stage at diagnosis**
Isabella Drumond Figueiredo, Max Senna Mano, Douglas Andreas Valverde
- 66 1183 – CLASSIVUS: a digital platform for reclassification of variants of uncertain significance in hereditary breast and ovarian cancer**
Tulio de Lima Campos, Bruno Eduardo Feitosa do Nascimento, Paula Francinete Faustino da Silva, Igor Marques Cesário Calassa, Luiz Henrique Alves Costa, Lis de Paula Lacerda, Elisângela de Paula Silveira-Lacerda
- 67 1184 – Epidemiological profile of breast cancer in young women with hormone receptor-negative tumors: analysis of the number of surgical procedures and lesion size**
Nayara Alves de Freitas Lemos, Felipe Rodrigues Resende, Ana Luiza Naujorks Zimmer, Samella Soares Oliveira Medeiros
- 68 1187 – Temporal trends in advanced-stage breast cancer at diagnosis across Brazilian macroregions: a nationwide ecological study, 2015–2024**
Isabella Drumond Figueiredo, Max Senna Mano, Douglas Andreas Valverde
- 69 1188 – Influence of race on metastatic disease and breast cancer prognosis: a 27-year retrospective historical cohort**
Marina Elias Rocha, Rosemar Macedo Sousa Rahal, Leonardo Ribeiro Soares, Macks Wendhell Gonçalves, José Carlos Oliveira, Ruffo Freitas-Junior
- 70 1190 – Closing the gap: is Brazilian mastology achieving gender equity among younger generations?**
Gabriela da Rocha Branco Silveira, Mirella Laranjeira Nunes, João Esberard de Vasconcelos Beltrão Neto, Cinthya Roberta Santos de Jesus
- 71 1192 – Impact of the COVID-19 pandemic on mammographic screening of breast cancer in the Unified Health System of Brazil: a national epidemiological study with a specific focus on Goiás and racial inequality**
Vyvian Paes de Oliveira, Higor Nogueira Paes

IMAGE SECTION

PRESENTATION: E-POSTER

- 72 1071 – Featuring extraction for predicting malignancy in images from breast ultrasound nodules**
Daniel Guimarães Tiezzi, Isabela da Mata Tiezzi, Sarah Abud Recife, Ruth Morais Bonini, Licerio Miguel, Nilton Onari, Liliane Silvestre, Isabela Panzeri Carloti Buzatto
- 73 1103 – Clinical practice and the consensus on breast biopsies in Brazil: a national survey study**
Henrique Lima Couto, Daniela Rodrigues Siqueira, Eduardo Carvalho Pessoa, Heverton Leal Hernesto de Amorim, Bertha Andrade Coelho, Marcelo Marcelo Antonini, Agnaldo Lopes da Silva, Andre André Mattar

BASIC RESEARCH SECTION

PRESENTATION: E-POSTER

- 74 906 – Optimizing breast cancer care: overcoming delays for better outcomes in Brazil**
Ana Clara Cesar Coelho, Annamaria Massahud Rodrigues Santos
- 75 919 – Diagnostic performance of a digital breast tomosynthesis-based imaging pathway in a peruvian dense-breast population**
Gaston Wilmer Mendoza de Lama, Nancy Elena Muñoz Quispe, Diana Diaz-Llontop, Richard Eduardo Castillo Laborio
- 76 949 – Adiponectin levels and clinical-demographic associations in breast cancer: a cross-sectional analysis**
Victor Domingos Lisita Rosa, Rafael Ribeiro Alves, Anderson Garcia Silva, Nathan Muci Aguiar Damasio, Carlos Alexandre Vieira, Diego Vinicius Goncalves Santana, Ruffo Freitas-Júnior
- 77 950 – Clinical and prognostic characteristics of patients with HER2-low breast cancer: a retrospective cohort study at a referral center in southern Brazil**
Gabriela Tatto Roggia, Pedro Lorenzo Neves, Ana Carolina Rocha Santos, Angela dos Santos Avakian, Daniela Assumpcao Flain
- 78 958 – Photobiomodulation in radiodermatitis in patients with breast cancer: a literature review**
Débora Frazão e Silva, Tatiane Nunes da Silva Rodarte, Flavia Batista Gomes Noleto, Carlos Alexandre Vieira
- 79 984 – Photodynamic therapy for cutaneous recurrence of breast cancer: a potential palliative alternative**
Hellen Rocha Luz, Luiz Henrique Alves Costa, Letícia Almeida Carvalho, Antônio Cláudio Tedesco, Leonardo Pereira Franchi, Elisângela de Paula Silveira Lacerda
- 80 999 – Influence of health literacy on adherence to mammographic screening**
Marina Elias Rocha, Carlos Henrique de Carvalho Andrade
- 81 1006 – Prognostic factors associated with survival in breast cancer patients**
Débora Nascimento Dias Neves, Juarez Antonio de Sousa, Matheus Gabriel Gontijo Silva, Carlos Eduardo Neves de Sá, Eduardo Souto Silva, Lucélia Gonçalves Vieira, Cynthia Arantes Vieira Tojeiro, Cayan Xavier de Paula
- 82 1012 – Cancer-related cognitive impairment in breast cancer: influence of the triple-negative subtype and therapeutic regimens**
Marina Elias Rocha, Isabella Ferreira Bonifácio, Edivando de Lima Sabino de Lima Sabino
- 83 1017 – Melatonin oncostatic mechanisms as an adjuvant strategy: a synthesis of molecular evidence**
Marina Elias Rocha, Isabella Ferreira Bonifácio, Edivando de Lima Sabino
- 84 1023 – Therapeutic advances of sacituzumab govitecan and trastuzumab deruxtecan in the treatment of metastatic breast cancer: a systematic review**
Izadora Fernandes Marques, Ana Clara da Costa Souza, Eduardo Carizzi Silva, Vyvian Paes de Oliveira, Higor Nogueira Paes
- 85 1031 – Male breast cancer: a case series in a philanthropic institution serving patients from the brazilian public health system in Salvador, Brazil**
Suelen Sampaio Jesus, Daniela Cristina Ribeiro
- 86 1042 – Molecules carried by nanoparticles with biological effects for the treatment of breast cancer: a systematic review**
Nichole Kayan Ferreira de Oliveira Lima, Ana Karolina Felizarda de Almeida, João Paulo Pereira Ramos
- 87 1055 – OCTABRAZIL – breast cancer in octogenarian women: a real-world study at a brazilian tertiary hospital**
Ana Luisa Ataíde Moraes, Ana Flavia Seixas Salomão, Bruna Salani Mota, Jonathan Yugo Masaeka, Yedda Nunes Reis, Theodora Karnakis, Laura Testa, José Roberto Filassi
- 88 1084 – Use of brentuximab vedotin in breast implant-associated anaplastic large cell lymphoma: a scoping review**
Ana Clara da Costa Souza, Izadora Fernandes Marques, Eduardo Carizzi Silva, Luiz de Paula Silveira Júnior, Luiz de Paula Silveira Neto, Maria Luiza Bessa de Paula
- 89 1085 – Prognostic impact of her2-low status in patients with breast cancer: a systematic review of the literature**
Deborah Abucarma Soares, Maria Eduarda Dias Mendes, Ana Clara Umeno Alves Carvalho, Júlia Balduino Cassiano, Vera Aparecida Saddi, Sebastião Alves Pinto, Deidimar Cássia Abreu
- 90 1099 – Chemotherapy for breast cancer during pregnancy: evaluation of maternal–fetal safety and therapeutic efficacy**
Maria Maria Sanches de Oliveira, Alberto Vilela Lopes Dávila, Geovanna Aires Silva, Maria Eduarda Pereira de Souza, Marina Ribeiro Castro
- 91 1102 – Innovations in oncoplastic surgery and breast reconstruction in breast cancer: a systematic review**
Maria Clara Sanches de Oliveira, Ana Karolina Servato de Oliveira, Daniele Firmina Silva Vieira, Lara Auad Forte, Leticia Moraes Brito Barros, Marina Ribeiro Castro
- 92 1118 – Proposed systematization of the clinical breast examination: a structured semiological approach**
Luiz Paula Silveira Junior, Luiz Paula Silveira Neto, Maria Luiza Bessa Paula, Vyvian Paes Oliveira
- 93 1120 – The use of probiotics during chemotherapy for breast cancer: a scoping review**
Marcus Mahler Borges, Ana Elisa de Figueiredo Miranda Mundim, Luiz de Paula Silveira Junior

- 94 1121 – Advances in breast cancer screening: the role of artificial intelligence**
Marina Ribeiro Castro, Maria Eduarda Machado de Araújo Silva, Ana Clara Garcia Santana, Maria Clara Sanches de Oliveira, Amanda Fonseca Andrade da Silva
- 95 1123 – Omission of the sentinel lymph node after neoadjuvant chemotherapy in breast cancer**
Maria Eduarda Dias Mendes, Elisa de Araújo Meireles Lewergger, Sophia Fonseca Chagas, Sebastião Alves Pinto, Deidimar Cássia Abreu, Vera Aparecida Saddi
- 96 1130 – Artificial intelligence in the early detection of breast cancer**
José Alttmar da Silva Filho, Mariana Lemos Almeida, Pedro Carvalho Roncato Rodrigues, Maria Luiza Machado Bertoldo, Vera Aparecida Saddi, Deidimar Cássia Abreu, Sebastiao Alves Pinto
- 97 1134 – Targeted therapies and immunotherapies in the treatment of triple-negative breast cancer**
Maria Clara Sanches de Oliveira, Augusto Gregório Fernandes da Mota, Igor de Almeida Caires, Marina Ribeiro Castro, Sofia Reis de Oliveira Crispim
- 98 1143 – Genetic and model-based risk stratification reshapes clinical management in women considering hormone replacement therapy**
Jennifer Thalita Targino dos Santos, Daniela Borges da Rocha Macedo, Pilar Barreto de Araújo Porto, Isabela Bussade Coelho da Rocha, Alison Luis Eburneo Pereira, Rodrigo Santa Cruz Guindalini
- 99 1144 – Intratumoral heterogeneity and therapeutic response in breast cancer: a systematic review**
Maria Laura Abrão Morais, Vyvian Paes de Oliveira, Alessandra de Castro Tavares, Luísa Chediak Oliveira de Souza, Larissa Chediak Faraco
- 100 1146 – Analysis of breast histopathological results obtained by stereotactic-guided vacuum-assisted percutaneous biopsy (mammotomy) in women at the mastology service of the Hospital das Clínicas, Universidade Federal de Goiás/ EBSERH – CORA**
Danielle Teles Lima, Marcus Nascimento Borges, Bruna Lose de Godoy, Katyane Larissa Alves, Luis Fernando Pádua de Oliveira, Leonardo Ribeiro Soares, Thays Andressa Albuquerque Monteiro, Ruffo de Freitas-Júnior
- 101 1153 – Obesity and increased risk of the molecular subtype of breast cancer**
Ana Beatriz Bezerra Pinheiro, Edesio Martins, Nayara Alves de Freitas Lemos, Ruffo de Freitas-Junior, Tatiane Nunes da Silva Rodarte, Pedro Henrique Lessa de Oliveira
- 102 1174 – In vitro cytotoxicity and selectivity of arrabidaea chica, pereskia aculeata, gossypium barbadense and zingiber officinale against breast cancer cell lines**
Letícia Almeida Carvalho, Livia do Carmo Silva, Luis Felipe Lima Guimarães, Juliana Santana Curcio, Elisângela de Paula Silveira Lacerda, Lucilia Kato, Hellen Luz
- 103 1176 – Microrna dysregulation and endocrine disruptors in breast cancer: molecular implications for tumor progression**
Letícia Almeida Carvalho, Juliana Santana Curcio, Hellen Luz, Livia do Carmo Dilva, Elisagela de Paula Silveira Lacerda
- 104 1186 – Sexual dysfunction in climacteric women with breast cancer: prevalence and independent predictors in a cross-sectional study**
Bárbara Bizzo Castelo, Carolina Neves Buhl, Aline de Bastos Ferreira, Larissa Ferreira Vay, Laura Sousa Coelho de Sá, Cristina Laguna Benetti Pinto, Lucia Helena Simões da Costa Paiva, Luiz Francisco Cintra Baccaro
- 105 1193 – Molecular subtype conversion in recurrent breast cancer: a systematic review and clinical implications**
Gabriela da Rocha Branco Silveira, Mirella Laranjeira Nunes, João Esberard de Vasconcelos Beltrão Neto
- 106 1195 – The hidden scar revolution: clinical outcomes and applications of endoscopic breast surgery**
Gabriela da Rocha Branco Silveira, Mirella Laranjeira Nunes, João Esberard de Vasconcelos Beltrão Neto, Cinthya Roberta Santos de Jesus

CLINICAL RESEARCH SECTION

PRESENTATION: ORAL PRESENTATION (FAST PRESENTATION) - BEST CLINICAL RESEARCH STUDY

- 107 1080 – Efficacy of photobiomodulation in the prevention and reduction of the severity of radiodermatitis in people with breast cancer undergoing adjuvant radiotherapy: preliminary results**
Anke Bergmann, José Fontes Júnior, Suzana Sales Aguiar, Eloá Moreira-Marconi, Nathália Bordinhon Soares, Erica Alves Nogueira Fabro, Laura Ferreira de Rezende Franco, Marcelo Adeodato Bello

PRESENTATION: ORAL PRESENTATION (FAST PRESENTATION) – 2ND BEST CLINICAL RESEARCH STUDY

- 108 1060 – Low-intensity exercise during chemotherapy infusion for fatigue, functionality and neuropathy in women with breast cancer**
Brenda Taynara Costa, Carla Elaine Andrade, Simara Cristina Silva, Ana Claudia Tavares, Leonardo Hermenegildo Barato, Idam de Oliveira Junior

PRESENTATION: ORAL PRESENTATION (FAST PRESENTATION)

- 109 1189 – Prevalence of li-fraumeni syndrome in breast cancer patients in central Brazil**
Paula Francinate Faustino Silva, Rebeca Mota Goveia, Flávia Barreto Sousa, Igor Marques Cesário Calassa, Manuela Rocha Matos Rezende, Andréa Moreira Santos, Wendyson Duarte de Oliveira, Elisângela Paula Silveira-Lacerda
- 110 936 – Muscle strength improves independently of kinesiophobia in breast cancer patients undergoing neoadjuvant chemotherapy: a secondary analysis of a randomized trial**
Nathan Muci Aguiar, Anderson Garcia Silva, Rafael Ribeiro Alves, Douglas Silva, Lucian Júnio Antunes Ricarte, Vitor Andrade Maciel, Carlos Alexandre Vieira

PRESENTATION: ORAL PRESENTATION (GENERAL SESSION)

- 111 973 – Despatil study: a phase ii trial of de-escalated neoadjuvant chemotherapy for early-stage triple-negative breast cancer guided by tumor-infiltrating lymphocytes and radiologic response**
Renata Colombo Bonadio, Romualdo Barroso-Sousa, José Bines, Danielle Assad-Suzuki, Carlos Henrique dos Anjos, Gersa Tiburzio, Laura Testa

PRESENTATION: E-POSTER

- 112 890 – Restoring vaginal health after breast cancer: a randomized sham-controlled trial of microablative fractional radiofrequency for genitourinary syndrome of menopause**
Nicolí Serquiz de Azevedo, Natalie Rios Almeida, Ayane Sarmento, Camila Alexandre Silva, Pedro Fernandes Vital, Juliana Dantas de Araújo Santos Camargo, Pedro Ivo Raimundo Silva, Ana Katherine Gonçalves
- 113 895 – Involvement of nipple-areolar complex dermal graft in breast cancer: clinical, radiological, and pathological correlations in mastectomy specimens – preliminary results from 28 patients**
Gabriel Salum D'Alessandro, Jonathan Yugo Maesaka, Julizia Poloni May, Camila Pinto Brito de Figueiredo Guimarães, Daniela Zarus Guimarães, Roberta Amparado Miziara, Ariane Andrade Anacleto Bricks, Sergio Podgaec
- 114 903 – Effects of resistance and combined training on quality of life, anxiety, depressive symptoms, and kinesiophobia in women with breast cancer undergoing neoadjuvant chemotherapy: a randomized clinical trial**
Anderson Garcia Silva, Rafael Ribeiro Alves, Nathan Muci Aguiar Damasio, Douglas Silva, Lucian Júnio Antunes Ricarte, Vitor Andrade Maciel, Carlos Alexandre Vieira
- 115 929 – Combined intralesional and topical corticosteroids for idiopathic granulomatous mastitis: a prospective pilot case series**
Priscila de Medeiros Souza Nobre, Candice Barbosa Militao de Lira, Nicolí de Azevedo Serquiz, Danielly Silva Viegas, José Tarcísio Diógenes Júnior, Luiz Murillo Lopes de Britto
- 116 934 – Improved survival in breast cancer over two decades in southern Brazil: a retrospective cohort study of 2,247 patients**
Nathalia Cruz Costa, Brenda Carrera Merlini, Julia Lipert Pazzim, Andréa Pires Souto Damin
- 117 960 – TROFUSE-032: a phase 3, randomized study of pembrolizumab plus sacituzumab tirumotecan or chemotherapy followed by pembrolizumab plus chemotherapy for early-stage triple-negative breast cancer or hr+/her2– breast cancer**
Ruffo Freitas-Junior, Peter Schmid, Jing Wei, Francisco Beca, Usha Malhotra, Nadia Harbeck
- 118 972 – Analysis of lipid, physical, and inflammatory profiles in obese breast cancer patients at a tertiary hospital in Paraná**
Lara Mensato Döring, Ana Luiza Gugel Maciel, Amanda Claro dos Santos Nunes Pereira, Lucas Roskamp Budel, Vinicius Milani Budel
- 119 1032 – Vacuum-assisted percutaneous excision after neoadjuvant systemic therapy for breast cancer: VAE breast 02 project**
Katyane Larissa Alves, Ruffo Freitas-Júnior, Maria Paula Curado, Marcus Nascimento Borges, Henrique Lima Couto, Thays Andressa Albuquerque Monteiro, Gabriela Moura de Paula, Amanda Lopes Faria Queiroz
- 120 1037 – Impact of support groups based on positive psychology and coaching on psychosocial well-being in women with breast cancer: a quasi-experimental study**
Isabela Rodrigues Neves de Oliveira, Silvana Soares dos Santos, Gisele de Cassia Sales Gengo, Maria das Graças Silva Matsubara, Fabiana Baroni Alves Makdissi
- 121 1054 – Predictors of axillary response after neoadjuvant chemotherapy in breast cancer: a clinicopathological analysis**
Thais Oliveira Dupin, Thais Gomes Sala, Mônica Duarte Pimentel, Clecio Enio Murta Lucena, Keyla Daniele Lacerda Rodrigues, Rodrigo Otávio Teixeira Moreira, Clara Costa Resende, Patrícia Bittencourt Marques Lauria
- 122 1076 – Feasibility of a self-management strategy for breast cancer-related lymphedema in the volume reduction phase: a pilot study**
Anke Bergmann, Jessica Malena Pedro Silva, Nathália Bordinhon Soares, Maria Alice Costa Veiga, Rejane Medeiros Costa, Erica Alvez Nogueira Fabro, Eloa Moreira-Marconi, Suzana Sales Aguiar
- 123 1081 – Effects of mindfulness on women with breast cancer undergoing chemotherapy: integrative review (2019–2025)**
Míriam Gomes Avelar de Moraes, Rosemar Macedo Sousa Rahal, Maria Alves Barbosa, Cíntia Márcia de Magalhães, Jhenifer Gabriele Dourado Santolin

TRANSLATIONAL RESEARCH SECTION

PRESENTATION: ORAL PRESENTATION (FAST PRESENTATION) – BEST STUDY AS A YOUNG RESEARCHER

- 124 1094 – Prognostic value of androgen receptor expression in triple-negative breast cancer: a systematic review and meta-analysis**
Vyvian Paes de Oliveira, Deborah Abucarma Soares, Maria Eduarda Dias Mendes, Lucas Diniz da Conceição, Sebastião Alves Pinto, Deidimar Cássia Abreu, Vera Aparecida Saddi

PRESENTATION: ORAL PRESENTATION (FAST PRESENTATION)

- 125 885 – Machine learning prediction of disease-free survival in breast cancer using blood cell counts and clinicopathological features: a multicentre, retrospective cohort study**
Sara Socorro Faria, Maria Sílvia Petty Moutinho, Ugo de Giorgi, Michal Mego, Pablo Mandò, Daniel Guimaraes Tiezzi, Sumadi Luckman Anwar, Afonso Celso Nazario

126 964 – Molecular signature of circulating miRNAs 21 and 145 in predicting chemotherapy response in breast cancer: a systematic review

Julia Vieira Lipert Pazzin, Daisy Crispym, Nathalia Cruz Costa, Brenda Carrera Merlini, Andréa Pires Souto Damin

PRESENTATION: E-POSTER

127 1194 – Importance of reclassification of variants of uncertain significance in patients with breast cancer using multigene panel testing

Joanine Fernandes Tavares, Paula Francinete Faustino da Silva, Bruno Eduardo Feitosa Nascimento, Wendyson Duarte Oliveira, Elisângela de Paula Silveira Lacerda

128 899 – Psychological resilience in women undergoing radical mastectomy: preliminary results

Maria Fernanda de Matos Maluf, Andre Mattar, Miguel Sabino Neto

129 916 – Development of biobanks for precision medicine in breast cancer: a platform for molecular and immunological biomarker research

Gabriela Fogaca Schneider, Betina Vollbrecht

130 935 – Expression of microRNAs 10b and 125b as markers of aggressiveness and lymph node dissemination in breast cancer

Brenda Carrera Merlini, Nathalia Cruz Costa, Julia Lipert Pazzin, Andrea Pires Souto Damin

131 1016 – Rapid test for the detection of a specific breast cancer biomarker in human serum samples

Nicole Anita Brito Madurro, Izabella Campos Ferreira, Donizeti Wiliam Santos, Carlos Eduardo Paiva, Yara Cristina Paiva Maia

132 1044 – Screening for the brazilian founder variant p.Arg337His in the tp53 gene and its co-segregation with XAF1-E134* in breast cancer patients treated by the unified health system in the midwest of Brazil

Flávia Barreto de Sousa, Paula Francinete Faustino da Silva, Rebeca Mota Goveia, Késsila Macedo Veiga, Manuela da Rocha Matos Rezende, Lilian Marcassine Sampaio, Wendyson Duarte de Oliveira, Elisângela de Paula Silveira Lacerda

133 1058 – Reclassification of variants of uncertain significance in genes associated with hereditary breast cancer in patients treated at referral hospitals in the state of Goiás

Bruno Eduardo Feitosa Nascimento, Igor Marques Cesario Calassa, Luiz Henrique Alves Costa, Hellen Rocha Luz, Andréa Moreira dos Santos, Rosemar Macedo Sousa Rahal, Paula Francinete Faustino da Silva, Elisângela de Paula Silveira Lacerda

134 1175 – HER2MtGx score predicts high risk of recurrence and death in luminal breast cancer

Laura de Martin Coletti, Anastácia de Souza Freias, Joao Paulo Cheles de Lima, Isabela Panzeri Carlotti Buzatto, Daniel Guimarães Tiezzi

SCREENING SECTION

PRESENTATION: E-POSTER

135 944 – Analysis of fake news about mammography in the Vale do Itajaí: perceptions and implications for public health

Guilherme Gamba, Ana Gabriela de Souza Barbosa, Maria Eduarda de Campos Lemos da Silva, Rebeca Neves Heinzen

136 963 – Artificial intelligence in mammography for breast cancer detection: a systematic review

Manuela Bernardes de Góes, Ana Carolina Marques Magalhães, Gabriela Bastos Mesquita, Mel de Oliveira e Silva, Sofia de Souza Barbosa Carneiro, Victoria Eugenia da Mota Sanhueza, Vitor Bastos Mesquita, Walter Johnatha dos Santos Pereira

137 998 – Effectiveness of mammographic screening for reducing breast cancer mortality in women aged 40 to 49 years

Nícolas Marques Barros, Igor Diniz Alves, Walter Johnatha dos Santos Pereira, Sofia Souza Prudente, Heloísa Samartino Costa, Guilherme Rodrigues Cavalcante

138 1045 – Artificial intelligence for mammographic positioning – impact on diagnostic accuracy and clinical applicability: a prisma-based systematic review (2021–2026)

Letícia Matsuno da Costa, Nauane Gabriela da Silva Lopes, Ronaldo Martins da Costa

139 1059 – Hybrid architecture for a mastology clinical decision support system post-content validation and in compliance with the general data protection law

Beatriz Daou Verenhitch, Simone Elias, José Augusto Christianini Filho, Ana Carolina Cucato Christianini

140 1064 – Comparison of average glandular dose between full-field digital mammography and digital breast tomosynthesis

Bruna Lose de Godoy, Marcus Nascimento Borges, Katyane Larissa Alves, Rosemar Macedo Sousa Rahal, Luís Fernando Pádua Oliveira, Ana Paula Rodrigues, Danielle Teles de Lima, Ruffo Freitas-Junior

141 1065 – Breast density in mammography and its influence on cancer detection: an audit study from a population-based breast cancer screening program in Brazil

Erika Marina Negrão, Livia Conz, Emanuele Françoiso Cardoso, Janaina Alves Hora, Rodrigo Menezes Jales, Julia Yoriko Shinzato, Cassio Cardoso-Filho, Diamo Bhadra Vale

142 1087 – Mammography AI-based breast cancer risk prediction versus traditional clinical risk calculators: a systematic review and comparative evidence synthesis

Frederico Nassif Gomes, Talita Mariane Franco, Julia Cristina Ferreira, Maria de Lourdes Nassif, Jan Pawel Andrade Pachnicki

- 143 1101 – High co-segregation of TP53 R337H and XAF1 e134* variants in Brazilian li-fraumeni syndrome families identified through cascade screening**
Lilian Marcassine Sampaio, Kessila Macedo Veiga, Flávia Barreto Souza, Paula Francinete Faustino Silva, Rosemar Macedo de Sousa Rahal, Wendyson Duarte Oliveira, Elisângela Paula Silveira Lacerda
- 144 1126 – Incidental breast carcinoma as a finding in reduction mammoplasty: a systematic review**
Vyvian Paes de Oliveira, Luiz de Paula Silveira Neto, Maria Luiza Bessa de Paula, Luiz de Paula Silveira Júnior
- 145 1165 – Identification of a novel pathogenic germline variant in the BRCA2 gene in patients with hereditary breast and ovarian cancer syndrome**
Andréa Moreira dos Santos, Ingrid França Matos, Paula Francinete Faustino da Silva, Luiz Henrique Alves Costa, Igor Marques Cesário Calassa, Rosemar Macedo de Sousa Rahal, Wendyson Duarte de Oliveira, Elisângela de Paula Silveira-Lacerda
- 146 1181 – Cascade genetic testing and early detection in families with hereditary breast and ovarian cancer within the brazilian public health system**
Elisângela de Paula Silveira-Lacerda, Lis de Paula Lacerda, Luiz Henrique Alves Costa, Igor Marques Cesário Calassa, Amanda Santos Limongi Santos Limongi, Rasivel dos Reis Junior, Délio Marques Conde, Rosemar Macedo Sousa Rahal

LOCOREGIONAL TREATMENT SECTION

PRESENTATION: ORAL PRESENTATION (GENERAL SESSION) – BEST LOCOREGIONAL TREATMENT STUDY

- 147 997 – Economic impact of omitting sentinel lymph node biopsy in early breast cancer: a secondary analysis of the randomized venus trial**
Amanda Maria Sacilotto Detoni, Giuliano Mendes Duarte, Danielle Cristina Miyamoto Araujo, Rodrigo Menezes Jales, Maria Beatriz de Paula Leite Kraft, Sabas Carlos Vieira, Luis Otavio Sarian

PRESENTATION: ORAL PRESENTATION (GENERAL SESSION) – 2ND BEST LOCOREGIONAL TREATMENT STUDY

- 148 1025 – Precise study: postmastectomy radiotherapy in breast cancer patients achieving nodal complete pathologic response after neoadjuvant chemotherapy – a systematic review and meta-analysis**
Marcelo Antoninni, Andre Mattar, Francisco Pimentel Cavalcante, Felipe Zerwes, Eduardo Camargo Millen, Fabricio Palermo Brenelli, Antonio Luis Frasson, Ruffo Freitas-Junior

PRESENTATION: ORAL PRESENTATION (GENERAL SESSION)

- 149 1041 – Quality of life associated with extreme oncoplasty: a matched case-control study**
Luiz Carlos Navarro de Oliveira, Rene Aloisio da Costa Vieira
- 150 1072 – Oncologic and aesthetic outcomes of extreme versus standard oncoplastic breast surgery: a matched cohort study**
Aline Regina Nunes-Reis, Regis Resende Paulinelli, Rosemar Macedo Sousa Rahal

PRESENTATION: ORAL PRESENTATION (FAST PRESENTATION)

- 151 886 – Sentinel and axillary lymph node marking with charcoal suspension in breast cancer after neoadjuvant chemotherapy: a systematic review with meta-analysis**
Rebeca Ferreira de Souza, Ana Carolina Bosch Ximenes, Caroline Vidal, Lara de Holanda Jucá Silveira, Lorrany Larisse Costa Rodrigues, Matheus Hissa Lourenço Ferreira, Leonardo Ribeiro Soares, Danielle Laperche-Santos
- 152 994 – Multimodal interventions for sexual dysfunction in breast cancer survivors: a systematic review of randomized controlled trials**
Antonio Carlos Queiroz de Aquino, Nicoli Serquiz, Pedro Fernandes Vital, José Arthur Freitas, André Souza de Lima, Raphael Lucas de Araújo Teixeira, Ayane Cristine Alves Sarmento, Ana Khatherine Gonçalves

PRESENTATION: E-POSTER

- 153 881 – Quality indicators in the surgical treatment of breast carcinoma within the brazilian public health system in a tertiary oncology hospital**
Polyana da Silva Caçador, Mateus Augusto de Souza Santos, Luiz Carlos Navarro de Oliveira, René Aloisio da Costa Vieira
- 154 887 – Glucagon-like peptide-1 receptor agonists as agents affecting breast cancer recurrence in women survivors: a systematic review**
Paulo Gustavo Tenorio do Amaral, Giuliano Tavares Tosello, Leonardo Fleury Orlandini, Rafael Pelorca, Eliana Aguiar Petri Nahas, Daniel de Araujo Brito Buttros
- 155 907 – Do surgical techniques influence survival in early breast cancer? A retrospective cohort study of 1,517 patients in Brazil**
Natalie Rios Almeida, Nicoli Serquiz de Azevedo, Fabricio Palermo Brenelli, Maria Beatriz de Paula Leite Kraft, Cesar Cabello dos Santos, Renato Zocchio Torresan, Giuliano Mendes Duarte, Luiz Carlos Zeferino
- 156 922 – Oncoplastic surgery versus total breast reconstruction in locally advanced and multicentric carcinomas: a matched comparative cohort study of oncologic and aesthetic outcomes**
Aline Regina Nunes-Reis, Regis Resende Paulinelli, Rosemar Macedo Sousa Rahal, Luiz Fernando Jubé Ribeiro, Ruffo Freitas-Junior

- 157 930 – Association between upper limb dysfunction, phase angle, and body composition in breast cancer survivors**
 Naiany Pereira Silva, Vitor Alves Marques, Fernando Silva, Eduarda Padilha Arruda, Flavia Batista Noleto, Talita Rosa Morais, Tatiane Nunes Rodarte, Carlos Alexandre Vieira
- 158 937 – Can a physical exercise session immediately after chemotherapy reduce adverse effects in breast cancer patients? A pilot study**
 Evandro Luiz Cardoso da Silva, Leonardo Fleury Orlandini, Debora Alves Guariglia
- 159 948 – Papillary breast cancer: therapeutic and prognostic real-world data on a rare histologic type**
 Wesley Antonio Lopes Lima, Iara Garcia Nakashima, Yedda Nunes Reis, Aniceto Lopes Silva Neto, Jose Roberto Filassi, Renata Colombo Bonadio, Laura Wesley Testa
- 160 953 – Adherence to sentinel lymph node biopsy guidelines in breast cancer: temporal trends in a real-world public reference center cohort**
 Marcelo Antonini, Luana Medrado Vitorino Oliveira, Andre Mattar, Felipe Zerwes, Francisco Pimentel Cavalcante, Eduardo Camargo Millen, Fabricio Palermo Brenelli, Antonio Luis Frasson
- 161 976 – Breast-conserving surgery after neoadjuvant chemotherapy: which patients are eligible?**
 Renata Brandão Santos, Marina de Paula Canal, Anna Gabriela Lacerda Santos, Fabiana Baroni Alves Makdissi, Renato Cagnacci-Neto, Fabiana Kain de Moura
- 162 987 – Oncoplastic breast-conserving surgery enables wider resections without compromising oncologic outcomes in a public hospital cohort**
 Bianca Rodrigues Silva, Gabriel Salum D'Alessandro, Fernanda de Angelis Morandi Ometto, Jonathan Yugo Maesaka, Ariane Andrade Anacleto Bricks, Roberta Amparado Miziara
- 163 1024 – Correlation between phase angle, anxiety, and quality of life in women breast cancer survivors**
 Vitor Alves Marques, Fernando Silva, Naiany Pereira Silva, Eduarda Padilha Arruda, Flavia Batista Noleto, Talita Rosa Morais, Tatiane Nunes Rodarte, Carlos Alexandre Vieira
- 164 1027 – Wire guided localization associated with target axillary dissection after neoadjuvant chemotherapy for breast cancer: real-world data and clinical implications**
 Angélica Pereira de Almeida, Bertha Andrade Coelho, Geraldo Felício Cunha Junior, Aleida Nazareth Soares, Eduardo Carvalho Pessoa, Henrique Silva Bartels, Tereza Cristina Ferreira de Oliveira, Henrique Lima Couto
- 165 1088 – Regional nodal irradiation versus omission in clinically node-positive breast cancer converted to complete axillary response: a systematic review and meta-analysis**
 João Victor Alves Alencar, Juarez Antônio de Sousa
- 166 1091 – Laparoscopic sleeve gastrectomy following early breast cancer treatment: a retrospective case series**
 Jakeline Ferreira de Sousa Sampaio Borba, Geórgia Ferreira de Carvalho Linhares, Fernanda Caroline Leite Dias Moraes, Breno Dias Lima Ribeiro, Pedro José Aroucha Bringel Carvalho, Romerito Neiva Fonseca, Ozimo Pereira Gama Filho
- 167 1096 – Oncological safety of sentinel lymph node biopsy with single mapping tracer in cN+/ypN0 breast cancer women post-neoadjuvant chemotherapy: a real-world data study**
 Maria Beatriz Kraft, Arthur Chaves de Almeida, Fabricio Palermo Brenelli, Renato Zocchio Torresan, Julia Yoriko Shinzato, Giuliano Mendes Duarte, César Cabello dos Santos, Luis Otávio Zanatta Sarian
- 168 1104 – Factor analysis in a Brazilian population of breast-q questionnaires associated with breast cancer**
 Antonio Bailão Junior, Idam de Oliveira-Junior, Guilherme Novita Garcia, João Bosco Ramos Garcia, Vivian Aparecida Brancaglioni, Carlos Eduardo Paiva, René Aloisio da Costa Vieira
- 169 1109 – Mastectomy with immediate reconstruction versus breast-conserving surgery for breast cancer treatment: quality of life assessment**
 Mirella Laranjeira Nunes, Roberta Helena Rodrigues de Oliveira Moura, Nathália Valois Montarroyos de Moraes, Ana Carolina Ferraz Pascoal, João Esberard Vasconcelos Beltrão Neto
- 170 1116 – Breast reconstruction patient profile patterns in oswaldo cruz university hospital: partial results of a retrospective study with 89 cases**
 Mirella Laranjeira Nunes, Amanda Carla Corrêa Viana, Maria Carolina da Trindade Henriques Assunção, Priscila Correia de Queiroz e Silva, Vidianna Barbosa Sampaio, Carlos Eduardo Caiado Anunciação, João Esberard de Vasconcelos Beltrão Neto
- 171 1117 – Approach to neuropathic pain in breast cancer patients undergoing mastectomy**
 Carolina Polo Salvador Vesentini, Izabelle de Fátima Frankiu, Melissa Polo Salvador Vesentini, Michele Neves Tomson Delazari, Bethina Piva Marafon, Nicole Lopes Alves
- 172 1124 – The post-mastectomy breast reconstruction outcomes: are we doing great from the patients' perspective?**
 Mirella Laranjeira Nunes, Amanda Carla Corrêa Viana, Maria Carolina da Trindade Henriques Assunção, Priscila Correia de Queiroz e Silva, Vidianna Barbosa Sampaio, Carlos Eduardo Caiado Anunciação, Gabriela Rocha Branco Silveira, João Esberard de Vasconcelos Beltrão Neto
- 173 1128 – Lifestyle matters – how physician behavior shapes patient adherence to exercise: a systematic review**
 Karimi Botelho Amaral, Leonardo Santos, Yasmin Ornellas
- 174 1140 – Comparative performance of indocyanine green across tracer strategies in sentinel lymph node biopsy for breast cancer: a systematic review**
 Matheus Ávila Marques Sandre, Ana Carolina Siqueira Bueno, Felipe Neres Siqueira Pires, Arthur Crisóstomo Basso de Paula, Marcelo Antônio Adad de Araújo Filho, Luiz de Paula Silveira Júnior, Luiz de Paula Silveira Neto, Maria Luiza Bessa de Paula

- 175 1168 – De-escalation of axillary management in breast cancer: analysis of real-life data from a mastology service**
Stephani da Costa e Sousa Freire da Silva, Giulia Severini Lazarini, Fernanda Mayumi Tengan, Rodrigo Macedo da Silva, Vinicius Miranda Borges, Carlos Elias Fristachi, Fábio Francisco Oliveira Rodrigues
- 176 1173 – Short incision for immediate breast reconstruction with fat-grafted latissimus dorsi flap after mastectomy: case series**
Lígia Maria Teixeira Pereira Porciuncula, Gláucia Mesquita Cordeiro, Camila Fernanda Antunes Castanho Cavaleiro de Macedo Loureiro, Luciana Naira de Brito Lima Limongi, Aline Carvalho Rocha, Pedro Henrique de Jesus Cerqueira, Paula Cristina Saab, Maria Nagime Barros Costa Yunes
- 177 1177 – Oncologic outcomes of breast-conserving surgery following neoadjuvant versus adjuvant chemotherapy: a brazilian multicenter cohort study**
Anne Dominique Nascimento Lima, Andre Matter, Francisco Pimentel Cavalcante, Felipe Pereira Zerwes, Marcelo Antonini, Fabricio Palermo Brenelli, Antonio Luiz Frasson, Eduardo Camargo Milleb

SYSTEMIC TREATMENT SECTION

PRESENTATION: ORAL PRESENTATION (GENERAL SESSION) – BEST CONGRESS STUDY; BEST SYSTEMIC TREATMENT STUDY

- 178 941 – Prognostic impact of residual ductal carcinoma in situ following neoadjuvant chemotherapy for invasive breast cancer: a systematic review and meta-analysis**
Augusto Ostermann Magalhães, Maria Beatriz de Paula Leite Kraft, Renato Torresan, Monique Possari Minari, Cassio Cardoso Filho, Luis Otávio Zanatta Sarian, Giuliano Mendes Duarte

PRESENTATION: ORAL PRESENTATION (GENERAL SESSION) – 2ND BEST SYSTEMIC TREATMENT STUDY

- 179 974 – The relationship between tumor-infiltrating lymphocytes, pathologic complete response, and event-free survival in patients with early-stage triple-negative breast cancer treated with the KEYNOTE-522 regimen in a real-world scenario**
Renata Colombo Bonadio, Mariana Ribeiro Monteiro, Wesley Antonio Lopes Lima, Matheus Oliveira Andrade, Mayana Lopes Brito, Debora Melo Gagliato, Maria Marcela Fernandes Monteiro, Romualdo Barroso-Sousa

PRESENTATION: E-POSTER

- 180 912 – Impact of delays in updating breast cancer brazilian clinical protocols and therapeutic guidelines on pathologic complete response**
Daniela Cristina Camarotti, Edson Duarte Moreira Junior, Mauro Froes Assunção

PRESENTATION: ORAL PRESENTATION (GENERAL SESSION)

- 181 933 – Impact of metabolic syndrome on survival outcomes in breast cancer: real-world evidence from a tertiary cohort**
Marcelo Antonini, Amanda Leal Guimaraes, Andre Mattar, Francisco Pimentel Cavalcante, Felipe Zerwes, Fabricio Palermo Brenelli, Eduardo Camargo Millen, Antonio Luis Frasson
- 182 1068 – Adjuvant capecitabine in residual triple-negative breast cancer after carboplatin-based neoadjuvant chemotherapy: a real-world cohort**
Grazielle Morais Tavares, Susana Oliveira Botelho Ramalho, Leonardo Roberto Silva, Guilherme Defante Telles, Geisilene Russano Paiva Silva, Renato Zocchio Torresan, Sophie Francoise Mauricette Derchain
- 183 1074 – Human epidermal growth factor receptor 2-low is not a distinct subgroup in breast cancer patients undergoing neoadjuvant chemotherapy**
Daniel Guimarães Tiezzi, Laura de Martin Coletti, Gustavo Motta Cabello dos Santos, Anastácia de Souza Freias, Maria Fernanda Imperio Pereira, Renato Pontes Sader, Joao Paulo Chales de Lima, Isabela Panzeri Carlotti Buzatto

PRESENTATION: ORAL PRESENTATION (FAST PRESENTATION)

- 184 1062 – Breast pathologic complete response fails while axillary response persists: a bbreast multicenter study developing a nomogram for predictive accuracy across luminal subtypes**
Marcelo Antonini, Andre Mattar, Francisco Pimentel Cavalcante, Felipe Zerwes, Fabricio Palermo Brenelli, Eduardo Camargo Millen, Antonio Luis Frasson, Luiz Henrique Gebrim

PRESENTATION: E-POSTER

- 185 946 – Predictors of four versus six cycles of adjuvant docetaxel–cyclophosphamide in hormone receptor-positive early breast cancer**
Wesley Antonio Lopes Lima, Rafaela Lopes da Silva Naves, Renata Colombo Bonadio, Beatriz Pego Damasceno, Carla Araujo Vieira Cavalcanti, Lucas Amorim Gouvea, Gabriela Junqueiro Filho, Laura Testa
- 186 967 – Tumor-infiltrating lymphocytes predict pathologic complete response in human epidermal growth factor receptor 2 (HER2)-positive breast cancer treated with neoadjuvant therapy**
Karen Lorena Morocho España, Cinthya Abigail Apolo Carrion, Martina Parenza Arenhardt, Cassio Fernando Paganini, João Pattussi Bertinatti, Tomás Reinert

- 187 975 – The high unmet need among patients with early relapse after the KEYNOTE-522 regimen: evidence from the Neo-Real/GBECAM-0123 study**
Renata Colombo Bonadio, Natalia Cristina Cardoso Nunes, Wesley Antonio Lopes Lima, Matheus Oliveira Andrade, Mayana Lopes Brito, Debora Melo Gagliato, Maria Marcela Fernandes Monteiro, Romualdo Barroso-Sousa
- 188 977 – Dose adjustments and adherence to adjuvant abemaciclib in a brazilian real-world scenario**
Renata Colombo Bonadio, Livia Maria Gruber Holland, Carla Araujo Vieira Cavalcanti, Jordana Faria Bessa, Paulo Henrique do Amor Divino, Rafaela Lopes da Silva Naves, José Bines, Laura Testa
- 189 978 – The impact of axillary lymph node dissection on the indication of adjuvant abemaciclib in high-risk hormone receptor-positive breast cancer: real-world analysis from a multicenter cohort in Brazil**
Livia Maria Gruber Holland, Laura Testa, Carla Araujo Vieira Cavalcanti, Jordana Faria Bessa, Karolina Cayres, Rafaela Lopes Silva Naves, José Bines, Renata Colombo Bonadio
- 190 1019 – Psychosocial and behavioral map of patients for decision-making and quality of life in breast cancer treatment**
Gisele Sales Gengo, Solange Moraes Sanches, Silvana Soares Santos, Fabiana Baroni Makdissi
- 191 1022 – Glucagon-like peptide-1 receptor agonists and breast cancer: current evidence and clinical perspectives**
Isabella Azevedo Queiroz, Letícia Martins de Araújo Campos Linhares, Letícia Pereira Mendonça, Ana Claudia Barros de Laurentys, Waldeir José de Almeida Junior, Anna Dias Salvador, José Tadeu Campos de Avelar, Renata Capanema Saliba Franco
- 192 1034 – Molecular reclassification after neoadjuvant chemotherapy in breast cancer: a preliminary analysis from a breast oncology service**
Stephani da Costa e Sousa Freire da Silva, Giulia Severini Lazarini, Fernanda Mayumi Tengan, Rodrigo Macedo da Silva, Vinicius Miranda Borges, Carlos Elias Fristachi, Fábio Francisco Oliveira Rodrigues
- 193 1066 – Pathologic complete response and survival outcomes after carboplatin-based neoadjuvant chemotherapy in triple-negative breast cancer: a real-world cohort**
Grazielle Morais Tavares, Susana Oliveira Botelho Ramalho, Leonardo Roberto Silva, Guilherme Defante Telles, Geisilene Russano de Paiva Silva, Renato Zocchio Torresan, Sophie Francoise Mauricette Derchain
- 194 1075 – Translating phase III trials into real-world practice: evaluation of pathologic complete response in HER2-positive breast cancer and the potential impact of antibody–drug conjugates in the neoadjuvant setting**
Marina Sanches Montemor, Felicia Peterson Cavalher, Guilherme Rossato de Almeida, Fabiana Baroni Makdissi, Monique Celeste Tavares, Solange Moraes Sanches
- 195 1095 – Impact of neoadjuvant systemic therapy on axillary surgical decision-making in node-positive invasive breast cancer: evidence from a tertiary public hospital in the federal district, Brazil**
Érica Batista Morais, Mauro Pinto Passos, Carolina de Miranda Fuschino, Osvaldo de Alcântara Braga Aidar, Pedro Henrique Ferreira Gonzatti, Leticia Sousa Amancio da Costa, Amanda Gomes dos Santos, Miriam Monteiro Alvares Vilela
- 196 1182 – Potential clinical impact of pembrolizumab incorporation for triple-negative breast cancer in Brazil's public health system: a 5-year survival modeling study**
André Mattar, Marcelo Antonini, Guilherme Novita Garcia, Franklin Fernandes Pimentel, Felipe Pereira Zerwes, Ruffo Freitas-Júnior
- 197 1191 – The use of denosumab in the treatment of osteoporosis in postmenopausal women with breast cancer: a systematic review (2015–2026)**
Luiz Paula Silveira Júnior, Luiz Paula Silveira Neto, Maria Luiza Bessa Paula, Vyvian Paes Oliveira

ONCOLOGICAL CLINICAL TRIALS SECTION

PRESENTATION: ORAL PRESENTATION (GENERAL SESSION)

- 198 938 – TROFUSE-011: a phase 3, randomized, open-label study of sacituzumab tirumotecan with or without pembrolizumab versus treatment of the physician's choice for previously untreated, locally recurrent, unresectable, or metastatic triple-negative breast cancer with PD-L1 CPS<10**
Pedro José Galvão Freire, Hope S. Rugo, Peter Schmid, Javier Cortés, Toshimi Takano, Peter A. Fasching, Yeon-Hee Park, Giampaolo Bianchini, Sandra Ximena Franco, Cynthia Villarreal Garza, Olivier Tredan, Yongmei Yin, Romualdo Barroso Sousa, Xuan Pen
- 199 1197 – OPERA-02: a phase 3, randomized, double-blind, active-controlled study of palazestrant with ribociclib versus letrozole with ribociclib for the first-line treatment of ER+, HER2– advanced breast cancer**
Gustavo Werutsky, Barbara Pistilli, Virginia F Borges, Wolfgang Anni, Komal L. Jhaveri, Peter Schmid, Kenneth Caldwell, Sara M. Tolaney
- 200 1170 – Randomized clinical trial: breast cancer screening based on physical examination performed by community health workers – ReBEC (RBR-39vm2nd)**
Danielle Cristina Netto Rodrigues, Rosângela da Silveira Corrêa, Luana Vieira Martins, Christina Souto Cavalcante Costa, Douglas Euclides da Silva, Priscila Dias Watanabe, Marcella Rezende de Mendonça, Ruffo Freitas-Junior

CASE REPORTS SECTION

BEST CASE REPORT – HONORABLE MENTION

- 201 1111 – A rare case of a paraneoplastic neurological syndrome secondary to a her2-positive microinvasive breast carcinoma: the impact of coordinated clinical and surgical oncological care**
Ana Carolina Pires, Lucas Zanetti Albuquerque, Felipe da Rocha Schmidt, Pedro Luiz Serrano Usón Junior, Gustavo Bretas, Carlos Frederico Freitas Lima, Aline Coelho Gonçalves

PRESENTATION: E-POSTER

202 928 – Intracystic papillary carcinoma of the breast: a case report

Bruna Martins Rodrigues Neves, Carla Letícia Carius Ferreira, Carlos Vinicius Pereira Leite, Gabriela Noel Ratto, Rosivania Maria Albino, Roberta Nogueira Furtado Buçard

203 982 – Phyllodes tumor in an adolescent: case report and literature review

Marina Nobrega Augusto, Felipe Eduardo Andrade, Matheus Piccin, Mariela Degan

204 992 – Silicone axillary lymphadenopathy caused by gel hemorrhage with intact breast implants, mimicking occult breast carcinoma: a case report

Júlia Eduarda Feijó Belluco, Aline Feitosa Pessoa, Carlucio Pereira Leal Junior, Luiza Rocha de Souza, Gabriel Piau de Castro, Isabella Toscano Hayasaki, Camila Gomes de Sousa, Rosana Zabulon Feijó Belluco

205 993 – Late metastasis of papillary serous cystoadenocarcinoma to an axillary lymph node simulating occult breast carcinoma: a case report

Carolina Martins Coelho, Letícia Araujo Ferreira, Talita Trindade França, Isabella Toscano Hayasaki, Jullia Eduarda Feijó Belluco, Letícia Sousa Amancio da Costa, Fernanda Cristina Afonso Salum, Rosana Zabulon Feijó Belluco

206 1029 – Simultaneous BRCA1 and PALB2 pathogenic variants in a patient with triple-negative breast cancer

Samuel Castro Campos, Sabas Carlos Vieira

207 1030 – Seventeen-year survival in BRCA1-mutated stage IV ovarian cancer with subsequent breast ductal carcinoma in situ: a case report

Samuel Castro Campos, Sabas Carlos Vieira

208 1108 – A hidden survivorship challenge: non-cirrhotic portal hypertension after adjuvant t-dm1 in breast cancer

Ana Carolina Pires, Lucas Zanetti Albuquerque, Gustavo Bretas, João Marcello Neto, Pedro Luiz Serrano Uson Junior, Aline Coelho Gonçalves

209 1156 – Giant epidermoid cyst in the breast as a differential diagnosis of locally advanced neoplasia: are we aware of this entity?

Geovanna Almeida Barros, Luizi Carolina Bigarella Alves, Talita Trindade França, Jullia Eduarda Feijó Belluco, Ana Laura de Queiroz Pereira, Fernanda Cristina Afonso Salum, Camila Gomes de Souza, Rosana Zabulon Feijó Belluco

210 1196 – Discovery of a novel variant in the BRCA2 gene related to breast cancer in a patient with early diagnosis

Manuela Rocha Matos Rezende, Paula Francinete Faustino Silva, Flávia Barreto Sousa, Elisangela Paula Silveira-Lacerda

Two Congresses in a Single Event: A Milestone in Both the Quantity and Quality of Scientific Studies

René Aloisio da Costa Vieira^{1*}, Leonardo Ribeiro Soares², Ruffo Freitas-Junior²,
 Andréa Pires Souto Damin³, Darley de Lima Ferreira-Filho⁴, Daniel Guimarães Tiezzi⁵,
 Franklin Fernandes Pimentel⁵, Gil Facina⁶, Giuliano Mendes Duarte⁷, Heloisa Maria de Luca Vespoli¹,
 Idam de Oliveira-Junior⁸, Luiz de Paula Silveira-Junior⁹, Marcelo Antonini¹⁰, Natalia Polidorio Machado¹¹,
 Rafael Henrique Szymanski Machado¹², Ricardo Caponero¹³, Simone Elias⁶,
 Susanne Crocamo Ventilari da Costa¹⁴, Vinicius Milani Budel¹⁵, Guilherme Novita Garcia¹⁶

This volume features the studies presented at the 28th Brazilian Congress of Mastology/ Brazilian Breast Cancer Symposium — BBCS 2026, compiled in this supplement to acknowledge their scientific merit. Bringing together two congresses into a single event represented a significant milestone, not only in terms of the number of studies submitted but also of their overall quality. Over time, scientific contributions have become increasingly sophisticated, with improvements in methodological rigor, broader coverage of breast health, greater focus on clinically relevant questions encountered in daily practice, and wider geographic representation across the country.

The evaluation process has evolved, adopting more robust methodologies founded on the principles of transparency, fairness, and ethical integrity. Below, we outline the chronological evolution of the entire process, including the submission of studies, the evaluation methodology, and final results. To be included in this volume, all studies had to comply with Brazilian National Health Council Resolution 466/2012¹ and applicable Research Ethics Committee/ National Commission of Ethics in Research (CEP/CONEP) regulations¹.

The study submission process involved the prior development of an online platform. Through this platform, authors could choose to submit either an original article or a case

report. For original articles, authors could choose among different sections: Epidemiology, Image, Basic research, Clinical research, Translational research, Screening, Locoregional treatment, Systemic treatment and Ongoing clinical trials. After entering authorship and institutional affiliation data, authors were directed to a section requiring information on funding and approval or waiver by an institutional Research Ethics Committee (REC), before uploading an abstract limited to 300 words.

The evaluation criteria used to assess these studies represent an evolution of previously published² frameworks and are provided in the [Supplementary Material](#). A dedicated software tool was developed to manage the evaluation process. This tool displayed the study's primary metadata, including REC approval and funding, alongside the abstract and evaluation criteria established for each study type.

A record-breaking 276 studies were submitted, an influx likely driven by the merging of these two national events. Due to this high volume, the evaluation committee was divided into two groups, and the studies were randomly assigned to different committees. The evaluation committee consisted of specialists holding at least a doctoral degree. The groups were balanced by gender, highest academic rank, including associate and full

¹Universidade Estadual Paulista "Júlio de Mesquita Filho" – Botucatu (SP), Brazil.

²Universidade Federal de Goiás – Goiânia (GO), Brazil.

³Universidade Federal do Rio Grande do Sul – Porto Alegre (RS), Brazil.

⁴Universidade Federal de Pernambuco – Recife (PE), Brazil.

⁵Universidade de São Paulo – Ribeirão Preto (SP), Brazil.

⁶Universidade Federal de São Paulo – São Paulo (SP), Brazil.

⁷Universidade Estadual de Campinas – Campinas (SP), Brazil.

⁸Hospital de Câncer de Barretos – Barretos (SP), Brazil.

⁹Hospital de Câncer Araujo Jorge – Goiânia (GO), Brazil.

¹⁰Hospital do Servidor Público Estadual – São Paulo (SP), Brazil.

¹¹Hospital Sírio Libanês – Brasília (DF), Brazil.

¹²Hospital Federal da Lagoa – Rio de Janeiro (RJ), Brazil.

¹³Hospital Alemão Oswaldo Cruz – São Paulo (SP), Brazil.

¹⁴Instituto Nacional de Câncer – Rio de Janeiro (RJ), Brazil.

¹⁵Universidade Federal do Paraná – Curitiba (PR), Brazil.

¹⁶Sociedade Brasileira de Mastologia – Rio de Janeiro (RJ), Brazil.

*Corresponding author: reneacv@gmail.com

professors, and affiliation with postgraduate programs, ensuring a homogeneous distribution regarding scientific publication records. To maintain neutrality, only the committee coordinator was aware of the group assignments.

The evaluation process was entirely blinded; evaluators were unaware of the authors' names and institutional affiliations. In the first phase, 138 studies were distributed to each group. The submissions were evaluated and selected according to submission type and distributed across ten categories. If a potential conflict of interest arose, the respective evaluator recused himself or herself from reviewing that study.

The top three studies from each category within a group were selected for a comprehensive evaluation by the full committee. Consequently, the 25 highest-ranked studies from each group were cross-evaluated by the opposing group, resulting in a final score based on 16 independent evaluations. The studies were then ranked for oral presentation in either the General Session, consisting of 10-minute presentations, or the Fast Presentation session, consisting of 4-minute presentations. The top 3 Ongoing clinical trials were reported for the first time in a special oral presentation. The highest-scoring case report with prior ethics approval was selected as the best-case report and did not require an oral presentation.

The final results were released using a score cutoff of 5 for event presentation. In total, 208 original articles and 30 case reports were initially approved, representing acceptance rates of 93.3% and 53.6% of submissions, respectively. Based on these evaluations, 15 studies were selected for the General Session, ten for Fast Presentations, three for Ongoing clinical trials and the remaining accepted works were assigned as e-posters.

The oral presentations underwent a subsequent round of evaluation focusing specifically on presentation performance and study quality. The evaluation committee rotated during this third phase, yielding an average of nine evaluations per study,

with a range of 5 to 11. In cases involving a potential conflict of interest, the evaluator abstained from scoring the individual study concerned.

The data were compiled into a spreadsheet with entries sorted by score, study type, and original article category. This ranking process was conducted blindly, as only numerical data were visible. Tie-breaking and final ranking were based on score, prospectively defined tie-breaking criteria, the original study category, and the best-case report designation. The top studies were selected for awards; when available, runner-up awards were also granted to the second-best studies in each category. A summary of the methodology is illustrated in Figure 1.

Overall, the awarded studies were characterized by exceptional quality and innovation. The remaining accepted works were presented as digital e-posters across six dedicated electronic totems, where authors and congress attendees could view them, as shown in Figure 2b.

The specialty was also highlighted through an interactive "Inside the Journal" booth, where congress members could participate in an immersive experience, as shown in Figure 2c.

In compiling this volume, we only selected studies that had undergone prior approval by a research ethics committee or those for which such evaluation had been formally waived under applicable CEP/CONEP regulations¹. Ongoing clinical trials previously presented at other Congress were included, reporting its reference. Case reports without ethics committee approval were discarded. Ethical review was performed for original articles, and the authors were contacted. Studies for which no response was obtained were excluded. We conclude this volume with 207 studies, 197 original articles and ten case reports. The original studies were separated into their respective categories, with the award-winning and orally presented ones coming first. We are pleased to present the main scientific contributions from this event, and to highlight the award-winning research.

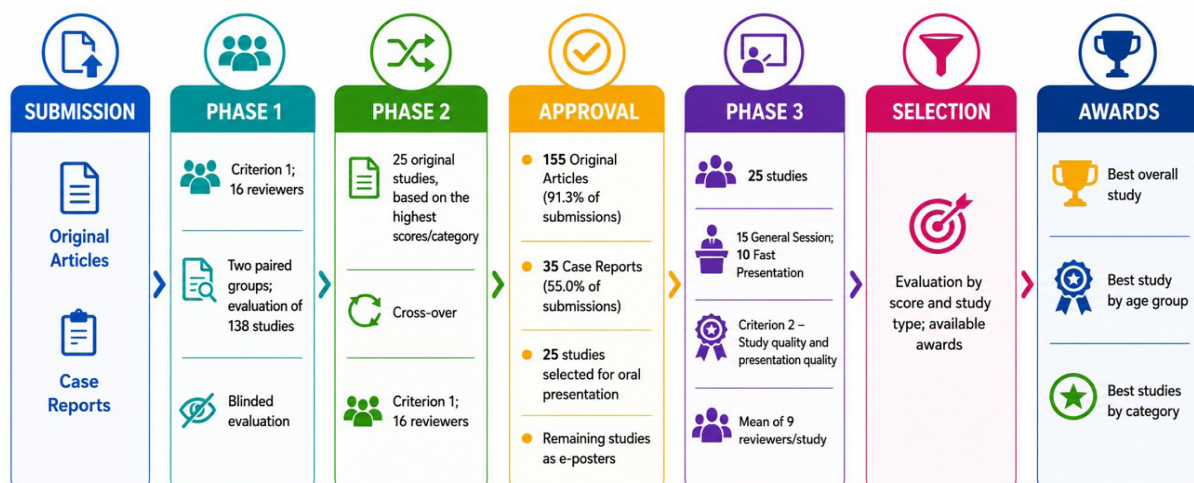


Figure 1. Study evaluation flowchart.



Figure 2. (a) Prof. Freitas-Junior's invitation to BCS 2026; (b) e-poster; (c) Mastology – “Inside the Journal”; (d) part of the Evaluating Committee; (e) Best BCS Paper; (f) Best Paper as a Young Researcher; (g) Ending BCS/ 28th CBM - Group associated to the best Paper

ACKNOWLEDGMENTS

The authors would like to thank Alexander de Azevedo Aguiar for organizing the submission system and managing the Phase 1

evaluation; Taina Miura for coordinating the Phase 2 organization and evaluation; and Flavia Vidal for organizing the “You Inside Mastology” interactive booth.

REFERENCES

1. Padilha ARS. Resolução nº 466, de 12 de dezembro de 2012 [Internet]. Brasília: Conselho Nacional de Saúde; 2012 [accessed on May 5, 2026]. Available at: <http://www.conselho.saude.gov.br/resolucoes/2012/Reso466.pdf>
2. Vieira RAC, Bonetti TCS, Marques MMC, Facina C. Criteria for evaluation studies at scientific medical events. *Mastology*. 2020;30:e20200031. <https://doi.org/10.29289/259453942020200031>

PRESENTATION: ORAL PRESENTATION (GENERAL SESSION) –
BEST STUDY IN EPIDEMIOLOGY

<https://doi.org/10.29289/25945394V36S10904>

904 – The paradox of perceived cost and free access: determinants of willingness to undergo hereditary breast cancer genetic testing in Brazil

Amanda Vitoria de Oliveira Lima¹, João Victor Martins Bordigoni¹, Isadora Alves Gamboa¹, Pedro Henrique Paulino Pereira de Souza¹, Ysabelle de Oliveira Saraiva¹, Daniel Castro dos Santos¹, Ana Carolina de Carvalho Vilela¹, Jalsi Tacon Arruda¹

¹Universidade Evangélica de Goiás – Anápolis (GO), Brazil.

Introduction: While genetic testing enables critical preventive strategies for breast cancer, access in middle-income settings remains challenging. Despite a state law in Goiás, Brazil, ensuring free BRCA1/2 testing for eligible women, structural and personal barriers persist. This study evaluated factors influencing the willingness of adults to undergo genetic risk assessment.

Methods: A population-based cross-sectional study was conducted with 239 adults residing in Goiás. Data concerning sociodemographics, cancer history, and perceived barriers to genetic testing were gathered through a structured online survey. Determinants of testing willingness were initially assessed using bivariate analysis, followed by multivariate logistic regression to estimate adjusted odds ratios (aOR) and 95% confidence intervals (CI). Ethical approval was obtained (CAAE 84082424.9.0000.5076).

Results: A strong overall willingness to undergo genetic testing was observed, with 74.9% of respondents expressing acceptance. Bivariate analysis revealed significant associations between willingness and perceived cost ($p<0.001$), lack of test prioritization ($p<0.001$), and sex ($p=0.039$). Following multivariate adjustment, the perception of cost as a barrier (aOR=4.49; 95%CI 2.18–9.27; $p<0.001$) and a lack of personal prioritization (aOR=0.26; 95%CI 0.12–0.55; $p<0.001$) remained independent predictors of the willingness to pursue genetic testing.

Conclusion: Despite existing legislative support for free testing, perceived financial barriers and personal prioritization significantly dictate the willingness to undergo hereditary cancer risk assessment. Bridging the gap between public health policy and community health literacy is critical to optimizing genetic testing uptake in resource-constrained settings.

Ethics: Research Ethics Committee Approval (CAAE 84082424.9.0000.5076).

Keywords: genetic testing; breast neoplasms; early detection of cancer; BRCA1 protein; BRCA2 protein.

PRESENTATION: ORAL PRESENTATION (GENERAL SESSION)

<https://doi.org/10.29289/25945394V36S11180>

1180 – Net and overall survival of breast cancer patients by age group: a population-based study in Porto Alegre, Brazil

Patricia Klarmann Ziegelmann¹, Laura Clezar Rodrigues¹, Alessandra Borba¹

¹Universidade Federal do Rio Grande do Sul – Porto Alegre (RS), Brazil.

Introduction: Overall survival (OS) is the most frequently reported endpoint in oncology; however, it can be confounded by cancer-related mortality. Net survival (NS) adjusts for background mortality, providing a cancer-specific survival estimate, though it is not routinely adopted in clinical research as it requires population-level data.

Objective: To estimate and compare 5-year OS and NS among women with breast cancer, stratified by age group.

Methods: A retrospective cohort study was conducted among women aged 15-99 years, diagnosed with breast cancer between 2016 and 2018 in Porto Alegre. Data were sourced from the Porto Alegre Population-Based Cancer Registry and medical records from the city's eight primary oncology hospitals. Patient follow-up was performed through medical record reviews and probabilistic linkage with the Rio Grande do Sul mortality database in August 2024, ensuring a minimum follow-up of five years for all patients. OS and NS were estimated using the Kaplan-Meier method and the Pohar-Perme estimator respectively, adjusted by Porto Alegre life tables.

Results: A total of 1,934 women were included in this study. For the entire cohort, the 5-year NS was 90.8% and OS was 83.9%. As expected, differences between NS and OS increase according to age group: 86.5% vs. 86.0% (ages 15–39), 91.2% vs. 90.0% (40–49), 91.0% vs. 85.1% (50–79) and 87.3% vs. 65.5% (80–99).

Conclusion: This study provides the first survival estimates for breast cancer among women diagnosed in Porto Alegre. Net survival estimates, which account only for cancer-specific mortality, were consistently higher than OS, with the difference increasing in older age groups. These findings highlight the importance of distinguishing between these two metrics in clinical and epidemiological research.

Ethics: UFRGS (66274522.0.0000.5347); PMPA (66274522.0.3003.5338); GHC (66274522.0.3004.5530); HCPA (66274522.0.3001.5327); HED (66274522.0.3007.5304); HMD (66274522.0.3005.5328); HMDV (66274522.0.2002.5330); HSL (66274522.0.3006.5336); ISCMPA (66274522.0.2001.5335).

Funding: FAPERGS (24/2551-0001379-2).

Keywords: breast neoplasms; survival analysis; Kaplan-Meier estimator.

PRESENTATION: E-POSTER

<https://doi.org/10.29289/25945394V36S10902>

902 – Breast cancer incidence and mortality among women in Latin America: A Systematic Review of Epidemiological Trends (2015–2025)

Anna Laura de Paula Rego¹, Maria Carolina Martins da Conceição¹, Stefany Cristina de Jesus Alves¹, Keytinane Kássia de Araújo Ferreira¹

¹Universidade do Estado de Mato Grosso – Cáceres (MT), Brazil.

Introduction: Breast cancer is the most frequently diagnosed malignancy among women worldwide and represents a major public health concern in Latin America. Despite advances in early detection and treatment, significant disparities persist among countries regarding incidence, mortality, and access to healthcare services. Understanding regional epidemiological patterns is essential to guide cancer control strategies and improve outcomes for women.

Methods: A systematic review without meta-analysis was conducted following PRISMA guidelines and methodological recommendations from the EQUATOR Network. The research question was structured using the PICTOS framework. A comprehensive literature search was performed across three electronic databases: PubMed/MEDLINE, Scopus, and LILACS. Studies published between January 2015 and December 2025 that evaluated epidemiological indicators of breast cancer among women in Latin America were included. The search strategy combined the descriptors “Breast Neoplasms,” “Breast Cancer,” “Epidemiology,” “Incidence,” “Mortality,” and “Latin America” using Boolean operators. A total of 715 records were identified. After removing duplicates and screening titles and abstracts, 87 articles underwent full-text evaluation. Twenty-nine studies fulfilled the eligibility criteria and were included in the final qualitative synthesis.

Results: Breast cancer was consistently identified as the most common malignancy among women in Latin America and a leading cause of cancer-related mortality. Age-standardized incidence rates ranged from approximately 40 to 95 cases per 100,000 women, while mortality rates varied between 10 and 25 deaths per 100,000 women. Several studies reported increasing incidence trends in the last decade, associated with an aging population and lifestyle changes. A high proportion of cases were diagnosed at advanced stages, often exceeding 40% of diagnoses.

Conclusion: Breast cancer remains a major public health challenge in Latin America. Strengthening screening programs and expanding equitable access to diagnosis and treatment are essential to reduce mortality and improve outcomes among women in the region.

Ethics: Public data.

Keywords: breast neoplasms; Epidemiology; Latin America.

<https://doi.org/10.29289/25945394V36S10908>

908 – Survival implications of non-organized breast cancer screening in a Brazilian tertiary women's health center: a retrospective cohort study of 1,517 patients

Natalie Rios Almeida¹, Nicoli Serquiz de Azevedo¹, Fabricio Palermo Brenelli¹, Maria Beatriz de Paula Leite Kraft¹, Cesar Cabello dos Santos¹, Renato Zocchio Torresan¹, Giuliano Mendes Duarte¹, Luiz Carlos Zeferino¹

¹Universidade Estadual de Campinas – Campinas (SP), Brazil.

Introduction/Justification: Breast cancer is the most common malignancy among Brazilian women, and advanced-stage diagnosis remains frequent, partly due to limited access to organized screening and timely treatment. Although screening is nationally recommended, implementation is largely opportunistic, and its prognostic impact in real-world public settings warrants quantification beyond conventional survival estimates. Prognostic outcomes were compared between clinically detected and opportunistically screened breast cancers to quantify the impact of clinical stage on survival and disease-free survival expectancy.

Methods: Retrospective cohort of 1,517 women with unilateral, invasive, nonmetastatic breast cancer who underwent surgery at a tertiary public hospital in Brazil (2012–2016). Patients were classified as symptomatic (clinically detected) or asymptomatic (opportunistically screen-detected). Clinicopathological characteristics, treatments, and outcomes were compared using Chi-square, Fisher's exact, and Kruskal-Wallis tests. Overall survival and disease-free survival were analyzed using Kaplan-Meier estimates and Cox regression. Years of Life Lost (YLL) and Years of Disease-Free Life Lost (YDFL) were derived from Weibull survival models using stage I as the reference.

Results: Most patients were symptomatic at diagnosis (69.5%), and 94.3% presented with palpable tumors. Compared with asymptomatic cases, symptomatic women were younger, had more advanced clinical stage and more aggressive tumor features, and underwent mastectomy and neoadjuvant chemotherapy ($p < 0.001$) more frequently. YLL and YDFL increased progressively with advancing stage, exceeding 15 years in stage III.

Conclusion: In this public Brazilian cohort, opportunistic screening detected a minority of cases, while symptomatic presentation predominated and was associated with more advanced-stage and intensive treatment. Advanced-stage disease translated into substantial loss of lifetime and disease-free years, reinforcing the prognostic value of early-stage detection.

Ethics: Research Ethics Committee Approval (CAAE 84450518.9.0000.5404).

Keywords: breast cancer; clinical diagnosis; screening; mammography; life expectancy.

<https://doi.org/10.29289/25945394V36S10915>

915 – Recent increase in breast cancer mortality rates among young women in Brazil

Luiz Henrique Alves Costa¹, Hellen Rocha da Luz¹, Igor Marques Cesário Calassa¹, Elisângela de Paula Silveira Lacerda¹

¹Universidade Federal de Goiás – Goiânia (GO), Brazil.

Breast cancer is the leading cause of cancer-related death among women in Brazil. Understanding the regional and temporal trends in mortality from this disease, particularly in recent years and among young women aged 20–49 years, is essential for identifying inequities in healthcare access and supporting public policies focused on screening and early diagnosis in this age stratum, which generally presents with more aggressive tumors. Data on breast cancer deaths from 2011 to 2024 were retrieved from the Mortality Information System (SIM/DATASUS), and female population figures were obtained from the IBGE (Brazilian Institute of Geography and Statistics) annual estimates updated in 2024. These data were stratified by geographic region and age groups 20–29, 30–39, and 40–49 years. Crude mortality rates per 100,000 women were calculated, and trends analyzed using joinpoint regression to estimate the Annual Percent Change (APC) with $p < 0.05$ considered statistically significant. Since 2011, breast cancer mortality has shown significant upward trends in Brazil among women aged 20–29 (APC=3.33) and 30–39 (APC=2.16). For the 40–49 age group, rates remained stable until 2022, followed by a sudden increase (APC=4.70). In the North and Southeast regions, significant trends were observed only for the 30–39 age range, with an APC of 2.55% in the North region, while the Southeast exhibited a 5.91% increase from 2014, which stabilized after 2018. In the remaining regions, increases in mortality emerged, starting in 2021/2022. The Northeast demonstrated sharp rises of 23.71% (20–29 years) and 8.24% (30–39 years) per year. In the South and Central-West, the 40–49 age bracket rose 4.77% and 5.94%, respectively. In conclusion, this study demonstrates significant shifts in breast cancer mortality rates, with increases among young women since 2021/2022 in some Brazilian regions. These results underscore the urgent need for targeted public policies to improve early diagnosis and reverse the current upward trends.

Ethics: Public data.

Funding: Fundação de Amparo à Pesquisa do Estado de Goiás (FAPEG), processo nº 202510267000695.

Keywords: breast neoplasms; mortality; health inequities; regression analysis.

<https://doi.org/10.29289/25945394V36S10923>

923 – Breast cancer associated with gynecological neoplasms: a retrospective case series

Guilherme Coelho Carvalho¹, Sabas Carlos Vieira²

¹Universidade Federal do Ceará – Fortaleza (CE), Brazil.

²Oncocenter – Teresina (PI), Brazil.

Introduction: Breast cancer is the most frequently diagnosed malignancy in women worldwide, and improved survival has led to an increasing incidence of multiple primary tumors. The association between breast cancer and gynecological neoplasms, including cervical cancer, remains clinically relevant and may reflect both shared and independent etiological mechanisms.

Methods: This retrospective case series included patients treated at an oncology center in Brazil between 2012 and 2021 with histopathologically confirmed breast cancer associated with a primary gynecological neoplasm. Tumors were classified as synchronous when diagnosed within six months and metachronous otherwise. Clinical, pathological, therapeutic, and follow-up data were collected and analyzed descriptively.

Results: Fourteen patients were included, with ages ranging from 26 to 78 years. Endometrial neoplasms (42.9%) and cervical neoplasms (35.7%) were the most frequent. A metachronous pattern predominated (78.6%), with gynecological neoplasia preceding breast cancer in most cases, highlighting a consistent temporal pattern in clinical practice. Invasive breast tumors were observed in 78.6% of patients, with luminal subtypes in 50.0%, as well as a predominance of early-stage disease (64.3%). All patients underwent surgical treatment, frequently combined with systemic and locoregional therapies. Germline mutations were identified in a limited subset (14.3%), with non-systematic testing. At the last follow-up, 50.0% of patients remained free of disease.

Conclusion: The association between breast cancer and gynecological neoplasms is heterogeneous but demonstrates a predominance of metachronous presentation, suggesting clinically relevant temporal patterns beyond incidental coexistence. These findings support the role of longitudinal oncological surveillance and highlight the need for individualized follow-up strategies in patients at risk for multiple primary tumors.

Ethics: Research Ethics Committee Approval (CAAE 77671324.3.0000.5209).

Keywords: breast neoplasms; genital neoplasms female; neoplasms multiple primary; uterine cervical neoplasms.

<https://doi.org/10.29289/25945394V36S10924>

924 – Breast cancer with low estrogen receptor expression: an epidemiological study at a referral university hospital in southern Brazil

Rebeca Neves Heinzen¹, Julia Carolina Avil¹, Érica Eliane Traebert Simezo¹, Daniella Serafin Couto Vieira¹, Júlia Soares Leite¹

¹Hospital Universitário Polydoro Ernani de São Thiago – Florianópolis (SC), Brazil.

Introduction/Justification: The Estrogen Receptor (ER) has a crucial role in the treatment and prognosis of breast cancer. Its status is determined by the percentage of tumor cell nuclei positive for ER on immunohistochemistry: negative (<1%) or positive (>1%). ER-positive tumors tend to exhibit slower growth, better response to hormone therapy, and lower recurrence rates. Recently, tumors with 1%–10% ER expression (ER-low) have been recognized as having intermediate biological behavior and response to hormone therapy. Given the recent understanding of these data, a gap remains regarding their clinical and epidemiological profile, which prompted the present study.

Methods: Cross-sectional study based on medical records from the Hospital Universitário Polydoro Ernani de São Thiago (HU/UFSC) between December 2019 and 2024. Were excluded: male patients; ductal carcinoma in situ; metastatic, bilateral, or recurrent tumors; inaccessible or incomplete records.

Results: Among 279 identified patients, 176 comprised the final sample. Estrogen Receptor (ER) positivity was 81.81%, progesterone receptor (PR) positivity was 67.61%, while HER2 negativity was 18.93%. ER-low occurred in 3 patients (1.89%). Among ER-low cases, PR positivity (66.66%) and HER2 negativity (66.66%) predominated. Mean age was similar in the total sample (56.84 years) and ER-low cases (54.33 years). Menopause predominated in ER-positive tumors (ER-low: 66.66%; ER-high: 66.38%), while premenopause predominated in ER-negative patients (56.66%). According to the 8th edition of the American Joint Committee on Cancer (AJCC), ER-low cases were mainly stage III (66.66%). Tumor size T3–T4 occurred in 33.33% of ER-low tumors, intermediate between ER-negative (58.06%) and ER-high (18.69%). Regional lymph node stage N2–N3 occurred in 33.33% of ER-low, higher than ER-negative (19.35%) and ER-high (13.11%).

Conclusion: The frequency of ER-low was low (1.89%), but associated with more aggressive disease than other ER-positive tumors, and potentially associated with a worse prognosis.

Ethics: Research Ethics Committee Approval (CAAE 88545525.6.0000.0121).

Keywords: breast neoplasms; estrogen receptors; Epidemiology.

<https://doi.org/10.29289/25945394V36S10931>

931 – Racial and regional disparities in access to post-mastectomy breast reconstruction in Brazil

Guilherme Kripka¹, Lauren Kratky¹, João Neno¹, Paulo Henrique Moreira Melo¹, Beatriz Westphalen Pomianowski¹, Cristina Pires Camargo¹

¹Program in Global Surgery and Social Change – Porto Alegre (RS), Brazil.

Introduction: Breast reconstruction after mastectomy is legally guaranteed within Brazil's public health system (SUS), yet access remains limited and uneven. Although previous Brazilian studies have described national trends, formal comparisons across geographic and racial groups remain scarce.

Methods: A retrospective observational study was conducted using SIH-SUS/DATASUS data on female patients hospitalized with ICD-10 C50 between January 2014 and December 2024. Procedures were grouped into mastectomy and breast reconstruction categories and stratified by hospital macro-region, year, and race (White, Black, Brown, and Other). The primary outcome was the reconstruction-to-mastectomy ratio (RMR), defined as the number of breast reconstructions divided by the number of mastectomies within the same stratum. Descriptive analyses were performed for procedure counts and temporal trends, and one-way ANOVA was used to compare mean RMR across regions and racial groups.

Results: Between 2014 and 2024, 172,297 mastectomies and 36,301 breast reconstructions were recorded within the SUS, corresponding to an overall RMR of 0.21. The Northeast had the highest RMR (0.246), whereas the North had both the lowest reconstruction volume and the lowest RMR (0.065). The Southeast accounted for the highest surgical volume (86,060 mastectomies; 19,825 reconstructions), with an RMR of 0.230. Although RMR increased over time in all macro-regions, differences in mean regional RMR were not statistically significant, suggesting that large differences in surgical volume can coexist with similar proportional patterns. In contrast, mean RMR differed significantly across racial groups ($p < 0.001$), with lower reconstruction ratios among Brown patients and especially in the heterogeneous "Other" category, which includes hospitalizations with missing race data.

Conclusions: Access to post-mastectomy breast reconstruction in Brazil remains insufficient despite legal guarantees. The low national RMR and the racial disparities highlight a substantial gap between policy and real-world delivery of reconstructive care within the SUS. Improving race data completeness is essential for more accurate equity analyses.

Ethics: Public data.

Keywords: mammoplasties; breast reconstruction; mastectomy.

<https://doi.org/10.29289/25945394V36S10932>

932 – Sexual dysfunction and quality of life in breast cancer survivors: a cross-sectional study

Nicoli Serquiz de Azevedo¹, Cibelle de Araújo Medeiros¹, Giovanna Canário de Araújo¹, Sara Dantas Nascimento Duarte¹, Camila Alexandre Silva¹, Natalie Rios Almeida¹, Ayane Sarmento¹, Ana Katherine Gonçalves¹

¹Universidade Federal do Rio Grande do Norte – Natal (RN), Brazil.

Introduction: Advances in breast cancer management have increased survivorship, shifting clinical priorities toward late effects of treatment. Sexual dysfunction, particularly symptoms consistent with the genitourinary syndrome of menopause (GSM), is a major and frequently overlooked determinant of impaired quality of life in this population. This study investigated the prevalence of sexual dysfunction and associated factors among breast cancer survivors in remission.

Methods: A cross-sectional study was conducted from March to December 2025 at the Januário Cicco Maternity School (MEJC/UFRN), Natal, Brazil. The protocol was approved by the institutional research ethics committee, and all participants provided written informed consent. Eligible participants were breast cancer survivors in remission, aged 40 to 65 years, sexually active, and reporting GSM symptoms. Exclusion criteria included metastatic disease, degenerative disorders, and cognitive impairment that could compromise questionnaire comprehension. Sexual function was assessed using the Female Sexual Function Index (FSFI), and quality of life was evaluated using the twelve-item Short Form Health Survey (SF-12). Data were collected in a single 45-minute session and recorded in Research Electronic Data Capture (REDCap) for subsequent analysis. Results were summarized using descriptive statistics, and bivariate associations were examined using Pearson's chi-square test or Fisher's exact test.

Results: A total of eighty-six women were included, with a mean age of 50.1 years, and mean age at breast cancer diagnosis of 44.3 years. Most participants had received chemotherapy (81.6%) and long-term endocrine therapy (89.7%), and mean age at menopause was 43.8 years. Sexual dysfunction was highly prevalent, affecting 89.2% of participants. Quality of life was frequently reduced, with physical and mental component scores <50 in 74.7% and 81.3% of participants, respectively.

Conclusion: Breast cancer survivors with GSM demonstrated a substantial burden of sexual morbidity and impaired physical and mental quality of life, supporting routine screening and proactive management of genitourinary and sexual health concerns during survivorship care.

Ethics: Research Ethics Committee Approval (CAAE 81973618.2.0000.5292).

Keywords: breast neoplasms; survivors; menopause; quality of life; psychosexual disorders.

<https://doi.org/10.29289/25945394V36S10943>

943 – Regional inequalities in breast cancer across Brazil: an ecological study with correlation analysis (2019–2024)

Daniel Higor da Silva Barros¹, Lucas Inacio de Sousa¹, Flávia Vidal Cabrero¹

¹Universidade Católica de Brasília – Brasília (DF), Brazil.

Introduction: Breast cancer is the leading cause of cancer death among Brazilian women, yet access to screening and timely treatment varies sharply across the country's five macro-regions. This study examined whether lower mammographic coverage explains the paradox of lower apparent incidence but rising mortality in the North and Northeast.

Methods: Ecological study using Brazil's five macro-regions as analytical units (2019–2024). Data were drawn from verified primary sources: INCA Estimates 2023, INCA Breast Cancer Data and Figures 2025, SIA/SUS, the National Oncology Panel, and PNS 2019/IBGE. Spearman's correlation between mammographic coverage and age-adjusted mortality was calculated with 95% confidence intervals using bootstrap resampling (5,000 iterations). The 2019–2023 exposure–outcome gap reflects the biological interval between diagnosis and death under limited-access conditions.

Results: Brazil projected 73,610 new breast cancer cases per year for 2023–2025 (adjusted rate: 41.89/100,000 women), with regional incidence ranging from 27.73/100,000 in the North to 52.83/100,000 in the Southeast. More than 20,000 deaths were recorded in 2023 (12.58/100,000), representing 16.6% of all female cancer deaths. Mammographic coverage among women aged 50–69 varied regionally, ranging from 43.2% in the North to 65.2% in the Southeast, while 24.2% had never undergone any type of screening. A strong inverse correlation between screening coverage and mortality was found (Spearman's $\rho = -0.90$; 95%CI -0.99 to -0.41 ; $p = 0.037$). Only 47.8% of patients began treatment within 60 days.

Conclusion: Brazil shows a clear epidemiological divide. The South and Southeast exhibited higher incidence rates alongside greater access to healthcare infrastructure, while the North and Northeast present a lower apparent incidence, likely driven by underdetection, late diagnosis, and rising mortality. The strong screening–mortality correlation, compounded by regional under-registration and stage migration, demands organized screening programs with active patient recall and elimination of diagnosis-to-treatment delays.

Ethics: Public data.

Keywords: breast neoplasms; Epidemiology; health inequalities; mammography; ecological study.

<https://doi.org/10.29289/25945394V36S10945>

945 – Breast cancer: from diagnosis to treatment initiation — an analysis of brazilian timelines using the prisma platform

Wesley Antonio Lopes Lima¹, Renata Colombo Bonadio¹, Anna Buehler¹, Nelson Teich¹, Luisa Canesin Dourado Figueiredo Costa¹, Maisa Maria Spagnol Trento¹, Marcela Jurioli Folquito¹, Laura Testa¹

¹Instituto do Câncer do Estado de São Paulo – São Paulo (SP), Brazil.

Introduction: Breast cancer is the most prevalent malignancy among women in Brazil, with early diagnosis and prompt treatment initiation being critical for reducing mortality. To improve care timelines, Brazil implemented two key laws: – Law No. 13.896/2019 (30-day Law): mandates diagnostic exams within 30 days of clinical suspicion or physician request. – Law No. 12.732/2012 (60-day Law): requires treatment initiation within 60 days after diagnosis. This study aims to describe real-time intervals in the breast cancer care pathway within the Brazilian Unified Health System (SUS) using PRISMA platform data.

Methods: PrismaOnco is a national platform consolidating data from official SUS databases. By cross-referencing administrative records via CPF/National Health Card, it reconstructs individual patient timelines in oncologic care. A comprehensive analysis was performed comparing 2013 and 2023 to evaluate trends in intervals between diagnosis and treatment initiation for breast cancer patients treated within the SUS over a decade.

Results: In 2013, only 39.5% of breast cancer patients initiated treatment within 60 days, while 45.4% experienced a delay of over 90 days. In 2023, only 37.7% of the patients started treatment within the legally mandated timeframe, with 44.7% beginning oncological care after 90 days. Treatment initiation beyond 90 days was the most prevalent interval across all disease stages (I–IV), regardless of hormone subtype. Among regions, the South showed the highest proportion of patients treated within 60 days, while the North had the lowest.

Discussion: Despite Brazil's legal framework to streamline oncologic care, delays persist over the past decade with little improvement, underscoring ongoing challenges in the healthcare system's ability to ensure timely cancer care, particularly in underserved areas. Limitations of this analysis include reliance on administrative data, which may contain inaccuracies or incomplete records, and unmeasured confounding factors affecting timelines. Future studies should better elucidate barriers to timely breast cancer care in Brazil's public health system.

Ethics: Public data.

Keywords: time do treatment; breast cancer; Epidemiology; public health system.

<https://doi.org/10.29289/25945394V36S10955>

955 – Independent sociodemographic and healthcare determinants of advanced-stage invasive breast cancer in Brazil

Luana Mendes Nogueira¹, José Pereira Guará¹

¹Hospital do Câncer Aldenora Bello – São Luís (MA), Brazil.

Introduction: The diagnosis of breast cancer at advanced stages remains a persistent challenge in Brazil, with approximately one-third of the cases being identified late. Despite advances in screening, sociodemographic inequalities contribute to delays in diagnosis and treatment initiation. This study aimed to identify sociodemographic and healthcare factors associated with late diagnosis of breast cancer in Brazilian women.

Method: An observational, analytical, and retrospective study using data from the Brazilian Hospital Cancer Registry, including women with breast cancer diagnosed between 1990 and 2021. Staging was categorized into early (I–II) and advanced (III–IV) stages, and its associations with sociodemographic and healthcare variables were assessed using descriptive analyses, chi-square test, and multivariate logistic regression. The analysis was conducted using IBM SPSS Statistics 27.0, with results expressed as odds ratios (OR) and 95% confidence intervals.

Results: Approximately 42,1% of the 170,052 breast cancer cases analyzed were diagnosed at advanced stages. A higher chance of diagnosis at an advanced stage was detected among non-white women treated by the Brazilian public health system (SUS). On the other hand, a lower chance of this outcome was identified among women with higher education, with a partner, residing in rural areas, and with a family history of cancer. The overall model was statistically significant, with a Nagelkerke pseudo R^2 of 0.043.

Conclusion: The diagnosis of breast cancer at advanced stages in Brazil was associated with sociodemographic and healthcare factors, with emphasis on ethnic-racial inequalities. The findings reinforce the need for public policies aimed at expanding screening and reducing inequities in access to health services, targeting early detection of the disease.

Ethics: Public data.

Keywords: breast neoplasms; health services accessibility; treatment delay; clinical diagnosis.

<https://doi.org/10.29289/25945394V36S10968>

968 – Younger women with breast cancer present with more aggressive disease but similar early survival: real-world data from a Brazilian public referral center

Marcelo Antonini^{1,2}, Diana Pereira Cavallo¹, Andre Mattar¹, Felipe Zerwes¹, Francisco Pimentel Cavalcante¹, Eduardo Camargo Millen¹, Fabricio Palermo Brenelli¹, Antonio Luis Frasson¹

¹Brazilian Breast Cancer Association Team – São Paulo (SP), Brazil.

²Hospital do Servidor Público Estadual – São Paulo (SP), Brazil.

Background: Breast cancer in younger women is often associated with more aggressive tumor biology, but real-world data across age groups remain limited, particularly in middle-income settings. This study evaluated clinicopathological features, treatment patterns, and outcomes according to age at diagnosis in women treated at a Brazilian public referral center.

Methods: A retrospective observational cohort study was conducted including women with invasive breast cancer who underwent surgical treatment at Hospital do Servidor Público Estadual “Francisco Morato de Oliveira,” São Paulo, Brazil, between 2020 and 2024. The study was approved by the Research Ethics Committee via Plataforma Brasil (CAAE 87347725.8.0000.5463). Clinicopathological, molecular, therapeutic, and oncologic variables were compared across age groups. Statistical analysis included descriptive methods, comparative tests, Kaplan–Meier curves, and multivariable models.

Results: Among 1,665 women included, 54 were aged ≤ 40 years, 276 were aged 41–50 years, and 1,335 were aged 51–69 years. Younger women presented a more aggressive disease profile, with higher Ki-67 values (33.3% vs. 29.9% vs. 23.6%; $p=0.017$), a higher prevalence of triple-negative tumors (33.3% vs. 9.8% vs. 8.8%; $p<0.001$), more T4c tumors (11.1% vs. 1.0% vs. 1.6%; $p=0.0017$), and greater N2 nodal involvement (27.8% vs. 6.5% vs. 9.0%; $p=0.006$). Neoadjuvant chemotherapy was also more frequently used in this group (61.1% vs. 37.0% vs. 28.3%). Despite these unfavorable features, no significant differences were observed in overall survival (86.88% vs. 93.57% vs. 87.62%; $p=0.321$) or disease-free survival (86.88% vs. 93.67% vs. 87.61%; $p=0.320$). In multivariable analysis, neoadjuvant endocrine therapy and radiotherapy were associated with better outcomes, whereas axillary lymph node dissection, positive axillary sampling, and T2/T4 tumors were associated with worse prognosis.

Conclusions: Younger women with breast cancer showed a higher-risk clinicopathological profile, but not worse survival. Treatment intensification and limited follow-up may explain this dissociation. Longer follow-up is needed to clarify the prognostic impact of age at diagnosis.

Ethics: Research Ethics Committee Approval (CAAE 87347725.8.0000.5463).

Keywords: breast neoplasms; young adult; prognosis; Ki-67 antigen; triple negative.

<https://doi.org/10.29289/25945394V36S10979>

979 – Occult breast carcinoma in elective breast surgery: prevalence and characteristics in 4,476 patients

Mariele dos Santos Dutra Rech¹, Rogério Grossmann¹, Iataí José de Freitas¹, Charles Berres¹, Rodrigo Wobeto¹, Lucas Dutra Rech¹, Bruna Wainstein¹

¹Blanc Hospital – Porto Alegre (RS), Brazil.

Introduction: Elective breast surgeries such as reduction mammoplasty and mastopexy are frequently performed world-wide. Although these procedures are not intended for cancer diagnosis, histopathological examination of resected tissue may reveal occult breast malignancies. Estimating the prevalence of incidental breast carcinoma in this population contributes to epidemiological knowledge and supports strategies for early detection of subclinical disease.

Methods: A retrospective epidemiological study including 4,476 female patients who underwent reduction mammoplasty or mastopexy between 2018 and 2024 at a private surgical center. Clinical characteristics, preoperative imaging results, and histopathological findings were reviewed. All surgical specimens were routinely submitted to systematic histopathological evaluation. Prevalence rates were calculated, and descriptive statistical analysis was performed to characterize demographic variables associated with diagnosis.

Results: Fifteen cases of incidental breast carcinoma were identified, corresponding to a prevalence of 0.33% (3.35 cases per 1,000 procedures). The mean age of affected patients was 49.5 years, with a higher frequency observed in women aged 40 years or older. Most tumors were classified as carcinoma in situ and measured ≤ 1 cm. No patient had clinical or radiological suspicion of malignancy preoperatively. All patients diagnosed with malignancy were referred for oncological management following histopathological confirmation.

Conclusion: Incidental breast carcinoma detected in elective breast surgery presents low prevalence but significant epidemiological relevance due to the potential for early diagnosis of clinically occult disease. The findings reinforce the importance of systematic histopathological evaluation of surgical specimens and highlight elective breast procedures as an opportunity for opportunistic detection of breast cancer, contributing to improved population health outcomes.

Ethics: Research Ethics Committee Approval (CAAE 89595925.9.0000.0412).

Keywords: breast neoplasms; mammoplasty; mastopexy; incidental findings.

<https://doi.org/10.29289/25945394V36S10980>

980 – OncoAI: artificial intelligence for recurrence prediction and clinical decision support in breast cancer

Mariana Zuliani Theodoro de Lima¹, Jaqueline Alvarenga¹, Silveira, Alexandre Ray Silva¹, Daniela Gregolin Gusmão¹, Andrea Kazumi Shimada¹, Jefferson Mazzei¹, Rodrigo Macedo Silva¹, Fabio Francisco Oliveira Rodrigues¹

¹Dr Arnaldo's Cancer Institute – Sao Paulo (SP), Brazil.

Introduction: Breast cancer remains the most incident malignant neoplasm among women in Brazil and worldwide, representing a significant challenge in risk stratification, therapeutic decision-making, and longitudinal follow-up. The biological heterogeneity of the disease complicates individualized recurrence prediction, potentially leading to over or under-treatment. In this context, OncoAI has developed an artificial intelligence platform in collaboration with the Gynecologic Oncology and Mastology Service of the Dr. Arnaldo Cancer Institute, aimed at predicting recurrence risk and supporting clinical decision-making in breast cancer.

Methods: The solution integrates structured clinical data, anatomopathological variables, tumor characteristics, and therapeutic information to generate predictive models based on machine learning, using epidemiological data from a retrospective cohort covering 20 years of care for breast cancer patients treated at the Dr. Arnaldo Cancer Institute.

Results: The objective is to provide mastologists and the multidisciplinary team with a quantitative estimate of individualized risk, assisting in the definition of adjuvant therapies and follow-up planning. The architecture was designed to prioritize interpretability, enabling the identification of variables that most impact predictions, thereby promoting greater transparency and safety in clinical practice. Currently, the project is in the testing phase at the Dr. Arnaldo Cancer Institute, where predictive performance, clinical applicability, and integration into the care workflow are being evaluated. Preliminary results demonstrate promising performance, with 82% recall in identifying recurrence cases, indicating high sensitivity in detecting higher-risk patients. These findings suggest potential impact on optimizing therapeutic strategies and personalizing clinical follow-up.

Conclusion: OncoAI represents an innovative initiative in mastology by incorporating artificial intelligence in an ethical, safe, and clinically oriented manner, promoting personalized medicine and improving oncological outcomes.

Ethics: Research Ethics Committee Approval (CAAE 58533622.9.1001.0084).

Keywords: breast cancer; artificial intelligence; machine learning.

<https://doi.org/10.29289/25945394V36S10983>

983 – Ten-year epidemiological profile of breast cancer recurrence in a private institution

Letícia Martins de Araujo Campos Linhares¹, Marcela de Oliveira Sá¹, Isabella Azevedo Queiroz¹, Letícia Pereira Mendonça¹, Ana Cláudia Barros de Laurentys¹, Waldeir José de Almeida Júnior¹

¹Rede MaterDei de Saúde – Belo Horizonte (MG), Brazil.

Introduction: Breast cancer is highly prevalent among women, with recurrence rates varying according to molecular subtype, stage at diagnosis and treatment. Identifying factors associated with recurrence is essential to optimize management strategies. This study evaluated tumor and demographic characteristics of recurrent cases in a private hospital and identified variables associated with a higher risk of recurrence.

Methods: A retrospective, descriptive, observational study approved by the Institutional Review Board (CAAE 74936623.0.0000.5128). A total of 454 breast cancer patients were monitored for 10 years. Among the 51 patients who experienced tumor recurrence, the following variables were analyzed: age at diagnosis, histological subtype, stage, menopausal status, use of neoadjuvant therapy, time to recurrence, and metastatic site.

Results: A total of 51 recurrences (11.2%) were identified, with a mean age of 55.1 years (± 14.6). Recurrence rates varied by histological subtype: invasive ductal carcinoma (11.3%), invasive lobular carcinoma (20.4%) and others (5.3%). Among molecular subtypes, recurrence rates were 6.9% for Luminal A, 12.9% for Luminal B, 18.6% for Triple-negative, 7.2% for Luminal hybrid and 6.2% for HER2. Most recurrences (60.7%) occurred within the first five years, more frequently in triple-negative tumors (81%) and less frequently in Luminal A (50%). The most common metastatic sites were bone (43%), lung (41%), liver (29%) and the central nervous system (17%). Recurrence increased with stage, from 7.2% in stage I to 27.8% in stage III. Patients receiving neoadjuvant therapy had higher recurrence rates (15.4%) than those undergoing upfront surgery (9.5%).

Conclusion: The recurrence rate observed was consistent with the previous literature. A higher recurrence risk was observed within the first five years in patients with advanced disease, triple-negative subtype, or those who underwent neoadjuvant therapy. These findings reinforce the importance of tumor biology and stage stratification to guide individualized follow-up and therapeutic strategies.

Ethics: Research Ethics Committee Approval (CAAE 74936623.0.0000.5128).

Keywords: breast neoplasms; neoplasm recurrence; local; risk factors.

<https://doi.org/10.29289/25945394V36S10986>

986 – Age-related differences in treatment and outcomes among women with breast cancer: a real-world cohort study

Marcelo Antonini^{1,2}, Luana Brandão Campanha Silva², Andre Mattar¹, Felipe Zerwes¹, Francisco Pimentel Cavalcante¹, Eduardo Camargo Millen¹, Frabricio Palermo Brenelli¹, Antonio Luis Frasson¹

¹Brazilian Breast Cancer Association Team – São Paulo (SP), Brazil.

²Hospital do Servidor Público Estadual – São Paulo (SP), Brazil.

Background: As the breast cancer population ages, understanding how age influences treatment decisions and survival in real-world settings becomes increasingly relevant. Age-related differences in clinicopathological features, treatment patterns, and outcomes were evaluated among women with surgically treated invasive breast cancer at a Brazilian public high-complexity referral center.

Methods: This retrospective cohort study included women aged 50 years or older with invasive breast cancer treated surgically between 2020 and 2024. Patients were stratified into three age groups: 51–69 years, 70–74 years, and ≥75 years. Clinicopathological variables, treatment patterns, recurrence, overall survival (OS), and disease-free survival (DFS) were compared across groups using standard statistical methods. The study was approved by Plataforma Brazil (CAAE 87347725.8.0000.5463).

Results: A total of 2,148 patients were analyzed: 1,335 aged 51–69 years, 405 aged 70–74 years, and 408 aged ≥75 years. Treatment intensity declined progressively with age. Rates of neoadjuvant chemotherapy were 28.3%, 20.7%, and 10.3%, respectively; adjuvant chemotherapy, 28.3%, 22.2%, and 6.6%; and radiotherapy, 85.8%, 63.0%, and 36.0% (all $p < 0.001$). In contrast, the oldest group showed the worst outcomes, with higher locoregional recurrence (2.2%, 3.0%, and 8.1%; $p = 0.001$), overall recurrence (2.2%, 3.0%, and 7.4%; $p = 0.004$), and death rates (4.0%, 2.2%, and 10.3%; $p = 0.005$). OS and DFS were significantly poorer with advancing age (OS, $p = 0.002$; DFS, $p < 0.001$). In multivariable analysis, triple-negative subtype, mastectomy, and axillary dissection were associated with higher mortality, while radiotherapy showed a protective effect.

Conclusions: Women aged 75 years or older had more unfavorable outcomes and received less intensive treatment, suggesting that advanced age remains strongly associated with poorer real-world breast cancer outcomes. These findings highlight the need for more individualized, evidence-based treatment strategies to avoid undertreatment in older patients.

Ethics: Research Ethics Committee Approval (CAAE 87347725.8.0000.5463).

Keywords: breast neoplasms; aged; middle aged; treatment outcome; survival analysis.

<https://doi.org/10.29289/25945394V36S10990>

990 – Prevalence and risk factors for breast cancer, focusing on family history, in women treated at the mastology outpatient clinic of a public hospital in the Distrito Federal

Aline Feitosa Pessoa, Luiza Rocha de Souza, Carlucio Pereira Leal Junior, Júllia Eduarda Feijó Belluco, Samantha Silva Tavares Reis, Isabella Luisa Feijó Belluco, Gabriel Piau de Castro, Rosana Zabulon Feijo Belluco

¹Centro de Formação, Treinamento e Aperfeiçoamento da Câmara dos Deputados – Brasília (DF), Brazil.

²Escola Superior de Ciências da Saúde – Brasília (DF), Brazil.

³Hospital Regional da Asa Norte – Brasília (DF), Brazil.

⁴Universidade do Distrito Federal – Brasília (DF), Brazil.

Introduction: The familial risk of breast cancer refers to the occurrence of cases among family members. It can be influenced by shared factors such as lifestyle, environment, and genetics, but it does not occur necessarily due to an inherited genetic mutation. Therefore, women with a family history should be considered for better care with regard to appropriate screening and prevention. The objective of this study is to determine the prevalence of risk factors for breast cancer, focusing on family history.

Methods: This observational, analytical, and cross-sectional study evaluated 139 women with breast cancer. After applying the proper exclusion criteria, a total of 87 patients treated at a public hospital in the Federal District between 2019 and 2024 were included in the final analysis. The Family History Screen-7 was used. Data were analyzed using Pearson's Chi-Square and Student's t-tests.

Results: The average age was 54.5 years-old and 50.4 years-old for women without and with a family history of breast cancer, respectively. Among the family history group, 55.2% of women had a risk of breast cancer; however, only 14.3% underwent genetic testing. Of these, 25% had a genetic mutation. An analysis between a positive family history of cancer and hormone replacement therapy indicated no statistical association. The molecular subtypes were Luminal A (28.7%), Luminal B (26.4%), Her2-positive (20.7%), and Triple-negative (19.5%). There was a high prevalence of family history (55.2%), which is higher than that found in literature (20.1%). However, 85.7% of these patients did not undergo genetic testing.

Conclusion: The results highlight the complexity of the clinical, hereditary, and behavioral factors associated with the disease. Access barriers and possible referral failures were revealed, even in a scenario with specific legislation. Despite the limitations, this study contributes to epidemiology, reinforces the need to expand access to genetic testing, and structure public policies.

Ethics: Research Ethics Committee Approval (CAAE 83101524000005553).

Keywords: breast cancer; risk factors; family history.

<https://doi.org/10.29289/25945394V36S10995>

995 – Clinical factors associated with death and recurrence in invasive breast carcinoma patients: penalized logistic regression analysis in a hospital cohort

Debora Nascimento Dias Neves¹, Juarez Antonio Sousa¹, Cayan Xavier Paula¹, Jessica Assis Bispo¹, Laura Sousa Sousa¹, Cynthia Arantes Vieira Tojeiro¹, Jefferson Dias Neves¹, Matheus Gabriel Gontijo Silva¹

¹Universidade Federal de Goiás - Goiânia (GO), Brazil.

Introduction: Identifying clinical predictors of death and recurrence in breast cancer is essential for prognostic stratification. In cohorts with few events, conventional statistical methods are inadequate, requiring penalized approaches such as Firth's regression.

Objective: To identify clinical factors associated with death and tumor recurrence in patients with invasive breast carcinoma in a private hospital cohort from Central-West Brazil, using Firth's penalized logistic regression.

Methods: A retrospective cohort study with 97 patients with confirmed invasive breast carcinoma (2 ductal carcinoma in situ cases excluded). Univariate analysis used Fisher's exact test. Firth's penalized logistic regression models were fitted for death and recurrence outcomes. A multivariable exploratory model for recurrence was adjusted for staging, axillary approach, and HER2. Discriminatory capacity was assessed by ROC curve (AUC).

Results: Six deaths (6.2%) and 9 recurrences (9.3%) were recorded. Advanced staging (III–IV) was strongly associated with death (OR=57.67; 95%CI: 9.39–643.91; $p<0.001$) and recurrence (OR=73.29; 95%CI 14.05–544.21; $p<0.001$). T3–T4 component exhibited associations of similar magnitude across both outcomes. In the multivariable model, staging III–IV maintained independent association with recurrence (adjusted OR=39.99; 95%CI 7.41–290.74; $p<0.001$). Patients with stage III–IV and T3–T4 tumors had death rates of 50% and recurrence rates of 70%. The adjusted model reached AUC=0.942.

Conclusion: Advanced clinical staging and T3–T4 component are the main determinants of adverse prognosis in invasive breast carcinoma. Firth's penalized logistic regression proved appropriate for analyzing rare outcomes in small cohorts.

Ethics: Research Ethics Committee Approval (CAAE 76523123.1.0000.5083).

Keywords: carcinoma; invasive ductal; breastbreast neoplasms; prognosis.

<https://doi.org/10.29289/25945394V36S10996>

996 – Epidemiological analysis of patients with invasive ductal breast cancer treated at A.C. Camargo Cancer Center from 2000 to 2024

Anna Gabriela Lacerda Santos¹, Fernanda Perez Magnani Leite¹, Renata Brandão Santos¹, Fabiana Baroni Alves Makdissi¹, Renato Cagnacci Neto¹, Fabiana Kain Moura¹

¹A.C. Camargo Cancer Center – São Paulo (SP), Brazil.

Introduction: Breast cancer is the most frequent malignant neoplasm among women and remains an important public health problem. Understanding the clinical-epidemiological profile of patients treated at referral centers is essential to evaluate temporal trends, stage at diagnosis, and therapeutic strategies adopted.

Objective: To analyze the clinical-epidemiological profile of patients with invasive ductal carcinoma, no special type (NST), treated at A.C. Camargo Cancer Center between 2000 and 2024.

Methods: A retrospective cohort study based on secondary data obtained from the Hospital Cancer Registry. Patients diagnosed with invasive ductal carcinoma NST and treated at the institution during the study period were included. The variables analyzed were age at diagnosis, year of diagnosis, clinical stage, and treatment modalities (surgery, chemotherapy, radiotherapy, and hormone therapy). Descriptive statistical analysis was performed.

Results: A total of 10,528 patients were analyzed. Most diagnoses occurred in women aged 50 years or older, with a mean age at diagnosis of 53.9 years; however, 26.7% of cases occurred among women aged 40-49 years. A progressive increase in the number of diagnoses was observed throughout the study period, particularly from the 2010s onward. Most patients were diagnosed at early stages (I and II). Regarding treatment, 89.3% underwent surgical treatment, with extensive use of adjuvant therapies, including chemotherapy, radiotherapy, and hormone therapy.

Conclusion: The findings demonstrate a clinical-epidemiological profile consistent with contemporary clinical practice, characterized by a predominance of early-stage diagnosis and a multidisciplinary therapeutic approach. Nevertheless, the occurrence of cases among younger women and at advanced stages highlights the need for continuous improvement in screening strategies, early diagnosis, and organization of oncological care.

Ethics: Research Ethics Committee Approval (CAAE 05704819.3.0000.5432).

Keywords: breast neoplasm; Epidemiology; neoplasm.

<https://doi.org/10.29289/25945394V36S11000>

1000 – Factors associated with survival in bilateral breast cancer: a retrospective case series

Sabas Carlos Vieira¹, Isabela Cristina Carvalho Bandeira Coelho¹, Walberto Monteiro Neiva Eulálio Filho¹

¹Oncocenter – Teresina (PI), Brazil.

Introduction: Bilateral breast cancer (BBC) represents 2%–12% of breast cancer cases, and can be synchronous or metachronous, accounting for approximately 2.9–3.9% and 4.1–4.6% of all new cases, respectively. Factors associated with a worse prognosis include mutations in the BRCA1 and BRCA2 genes, biomarker expression, and lymph node involvement.

Methodology: A retrospective case series study, including 17 patients treated at the Oncocenter Clinic between 2004 and 2026. Survival curves were estimated using the Kaplan-Meier method and compared using the Log-rank test, considering a significance level of 5% ($p < 0.05$). Variables such as age, histological classification, recurrence, genetic predisposition, interval between diagnoses, and current clinical status were analyzed. This study is part of a project approved by the UESPI Ethics Committee under CAAE 30154720.0.0000.5209.

Results: The mean age at the time of the first diagnosis was 53 years. The metachronous form accounted for 76% of cases, showing a higher average survival (189 months) compared to the synchronous form (66 months, $p = 0.006$). An association was observed between the pathological staging of the initial tumor and survival ($p = 0.024$), with a prevalence of stage IA in cases of death. The other variables analyzed were not relevant to survival.

Conclusions: Survival in patients with bilateral breast cancer in this case series was high and metachronous, with early-stage tumors demonstrating higher survival rates.

Ethics: Research Ethics Committee Approval (CAAE 30154720.0.0000.5209).

Keywords: breast neoplasm; neoplasm staging; survival analysis.

<https://doi.org/10.29289/25945394V36S11001>

1001 – Epidemiological profile of breast cancer in elderly women in the Brazilian center-west: a 10-year analysis of mortality, staging, and treatment delay

Nicole Marques Santos¹, Jean Karlus Rocha de Souza¹, Marina Elias Rocha¹

¹Centro Universitário Goyazes – Trindade (GO), Brazil.

Introduction/Rationale: Breast cancer in elderly women presents significant challenges. This study analyzes the epidemiological profile of breast cancer in women aged 60 years or older in the Center-West region of Brazil, focusing on mortality, clinical staging, and time to treatment initiation. Methods: An ecological time-series was conducted using public data from the Brazilian Ministry of Health. Data from 2015 to 2024 were extracted from the Mortality Information System, Hospital Cancer Registry, and Oncology Panel. The population comprised women aged 60 years and older residing in the Center-West region diagnosed with breast cancer (International Classification of Diseases, Tenth Revision - ICD-10: C50). Artificial intelligence tools were utilized solely for mathematical calculations and English translation of this abstract.

Results: Throughout the decade, 5,998 deaths were recorded in the region, showing an upward trend from 489 deaths in 2015 to 731 in 2024. Regarding hospital admission staging among 4,229 analytical cases, 1,207 patients were diagnosed at advanced stages (III and IV). Analysis of the legal sixty-day treatment initiation timeframe for 10,582 cases revealed severe delays. A total of 5,812 patients waited more over sixty days to start treatment, whereas only 3,526 were treated within the legal limit.

Conclusion: The elderly population in the Center-West faces a critical scenario regarding breast cancer care. Late-stage diagnoses combined with alarming treatment delays contribute to an increasing mortality trend, highlighting the urgent need for targeted public health strategies to prioritize geriatric screening and expedite access to oncological therapy.

Ethics: Public data.

Keywords: breast neoplasms; aged; Epidemiology; time-to-treatment; mortality.

<https://doi.org/10.29289/25945394V36S11002>

1002 – Overall survival according to molecular subtypes and clinical staging in invasive breast carcinoma patients: Kaplan-Meier analysis in a hospital cohort

Débora Nascimento Dias Neves¹, Juarez Antonio dde Sousa¹, Carlos Eduardo Neves de Sá¹, Eduardo Souto Silva¹, Lucélia Gonçalves Vieira¹, Cynthia Arantes Vieira Tojeiro¹, Matheus Gabriel Gontijo Silva¹, Cayan Xavier de Paula¹

¹Universidade Federal de Goiás – Goiânia (GO), Brazil.

Introduction: Overall survival analysis according to molecular subtypes and clinical staging is essential for predicting prognostic outcomes in breast cancer. The Kaplan-Meier method estimates the survival function in cohorts with variable follow-up.

Objective: To estimate and compare overall survival of patients with invasive breast carcinoma according to clinical staging and main molecular subtypes in a private hospital cohort from Central-West Brazil.

Methods: A retrospective cohort study was conducted among 97 patients with confirmed invasive breast carcinoma. Kaplan-Meier curves were constructed and compared by the log-rank test, stratified by staging (I–II vs. III–IV), triple-negative subtype, hormone receptor status (HR+ vs. HR–), and HER2 status. The mean estimated follow-up was 3.9 years.

Results: Six deaths (6.2%) and 9 recurrences (9.3%) were recorded. Advanced staging (III–IV; n=10) was associated with significantly worse survival vs. early staging (n=87): death rate 50.0% vs. 1.1% (log-rank $p=2.22 \times 10^{-10}$). Triple-negative subtype (n=15) showed worse survival vs. non-triple-negative (n=82): 26.7% vs. 2.4% deaths (log-rank $p=6.32 \times 10^{-4}$). Hormone receptor negativity identified a higher-risk subgroup: 22.7% vs. 1.3% deaths (log-rank $p=6.27 \times 10^{-4}$). HER2 status showed no significant difference between groups (log-rank $p=0.983$).

Conclusion: Advanced staging, triple-negative subtype, and hormone receptor negativity were associated with worse overall survival. HER2 status did not impact survival differently, possibly reflecting the use of anti-HER2 therapies at the institution. These findings reinforce the importance of molecular stratification and early diagnosis in breast oncology.

Ethics: Research Ethics Committee Approval (CAAE 76523123.1.0000.5083).

Keywords: breast neoplasms; survival analysis; Kaplan-Meier analysis; prognosis.

<https://doi.org/10.29289/25945394V36S11003>

1003 – Impact of the COVID-19 pandemic on breast cancer mortality rates: a temporal analysis from 2020 to 2024

Jean Karlus Rocha de Souza¹, Nicole Marques Santos¹, Marina Elias Rocha¹

¹Centro Universitário Goyazes – Trindade (GO), Brazil.

Introduction/Justification: The COVID-19 pandemic severely disrupted oncology screening and care. This study evaluates the impact of the pandemic on breast cancer diagnostic staging and waiting times for initial treatment among Brazilian women.

Methods: A retrospective ecological study was conducted using public data from the Brazilian Ministry of Health (DATASUS, INCA Hospital Cancer Registry – RHC, and Oncology Panel). Extracted data included female population estimates and breast cancer mortality (2015–2024), clinical staging of analytical cases (2015–2023), and time to first treatment (2021–2024). AI tools (Gemini) were used exclusively for mathematical percentage calculations and English translation.

Results: Between 2015 and 2024, 179,917 deaths from breast cancer were recorded. Analysis of the INCA RHC database revealed that the proportion of advanced-stage diagnoses (Stages III and IV) rose from 28.6% in the pre-pandemic period (2015–2019) to 30.6% during and after the peak of the pandemic (2020–2023). Furthermore, regarding the 60-day legal limit for starting treatment, the Oncology Panel data showed that 46.1% of patients waited more than 60 days for their first oncological treatment in 2021, compared to 55.4% in 2024.

Conclusion: The pandemic period was associated with a higher proportion of late-stage breast cancer diagnoses and significant, progressive delays in treatment. These findings highlight a critical bottleneck in the public health system and the urgent need for strategic policies to reduce the accumulated pent-up demand for oncological care.

Ethics: Public data.

Keywords: breast neoplasms; COVID-19; Epidemiology; delayed diagnosis; time-to-treatment.

<https://doi.org/10.29289/25945394V36S11004>

1004 – Clinical-pathological and therapeutic profile of breast cancer patients in a private hospital in central-west Brazil: a retrospective cohort study

Débora Nascimento Dias Neves¹, Juarez Antonio de Sousa¹, Jessica Assis Bispo¹, Cynthia Arantes Vieira Tojeiro¹, Andre Marocolo de Sousa¹, Izadora Caiado Oliveira¹, Jefferson Dias Neves¹, Eduardo Souto Silva¹

¹Universidade Federal de Goiás – Goiânia (GO), Brazil.

Introduction: Characterization of institutional cohorts is essential for planning regionalized diagnostic and therapeutic strategies. In Central-West Brazil, data from private oncology services are scarce in the indexed literature.

Objective: To describe the clinical-pathological, molecular, and therapeutic profile of patients with invasive breast carcinoma at a private hospital in Goiás, Brazil.

Methods: A retrospective cohort study comprising 97 patients with histologically confirmed invasive breast carcinoma (2 DCIS cases excluded). Data collected from electronic medical records. Descriptive analysis included absolute and relative frequencies for categorical variables and measures of central tendency for continuous variables.

Results: Mean age at diagnosis was 55.0 ± 11.2 years. Most patients were diagnosed at early stages (I–II: 89.7%). Invasive ductal carcinoma was the predominant histological type (82.5%), with G2 tumors being the most prevalent (71.1%), as well as exhibiting a mean size of 2.4 ± 1.3 cm. Triple-negative subtype accounted for 15.5% and HER2 was positive in 19.6%. Mean Ki-67 was 21.7% (median: 10%). Lumpectomy was the most performed procedure (67.0%), with breast reconstruction in 89.7%. Chemotherapy, hormone therapy, and radiotherapy were performed in 57.7%, 76.3%, and 77.3%, respectively. Six deaths (6.2%) and 9 recurrences (9.3%) were recorded, concentrated in patients with advanced staging and triple-negative subtype.

Conclusion: The cohort profile is consistent with private referral services, with predominantly early-stage diagnosis and broad use of multimodal therapies. The concentration of adverse outcomes in patients with advanced disease and triple-negative subtype reinforces the importance of early diagnosis and molecular stratification in regional clinical practice.

Ethics: Research Ethics Committee Approval (CAAE 76523123.1.0000.5083).

Keywords: breast carcinoma; breast diseases; classification; neoplasm proteins.

<https://doi.org/10.29289/25945394V36S11005>

1005 – Triple-negative versus non-triple-negative invasive breast carcinoma: a comparison of clinical-pathological characteristics, therapeutic profiles, and outcomes in a hospital cohort

Débora Nascimento Dias Neves¹, Juarez Antonio de Sousa¹, Cynthia Arantes Vieira Tojeiro¹, Lucélia Gonçalves Vieira¹, Laura Sousa de Sousa¹, Luiza Sousa de Sousa¹, Andre Marocco de Sousa¹, Izadora Caiado Oliveira¹

¹Universidade Federal de Goiás – Goiânia (GO), Brazil.

Introduction: Triple-negative breast carcinoma (TNBC), defined by the absence of estrogen receptor, progesterone receptor, and HER2 expression, is the molecular subtype with the worst prognosis, with therapeutic options limited to chemotherapy and immunotherapy.

Objective: To compare clinical-pathological characteristics, therapeutic profile, and outcomes between TNBC and non-triple-negative (non-TNBC) patients in a private hospital cohort from Goiás, Brazil.

Methods: A retrospective cohort study with 97 patients with confirmed invasive breast carcinoma (2 DCIS excluded). TNBC (n=15) and non-TNBC (n=82) groups were compared by Fisher's exact test (categorical variables) and Mann-Whitney test (continuous variables). Overall survival was estimated by Kaplan-Meier and compared by the log-rank test.

Results: TNBC accounted for 15.5% of the cohort. The TNBC group had significantly higher mean Ki-67 ($54.0 \pm 19.9\%$ vs. $15.5 \pm 12.8\%$; $p < 0.001$) and a higher proportion of grade 3 tumors (40.0% vs. 9.8% ; $p = 0.007$). Chemotherapy was performed in 93.3% of TNBC vs. 51.2% of non-TNBC ($p = 0.003$), predominantly neoadjuvant (93.3% vs. 22.0% ; $p < 0.001$). No TNBC patient received hormone therapy vs. 90.2% in the non-TNBC group ($p < 0.001$). Death rates were significantly higher in TNBC (26.7% vs. 2.4% ; $p = 0.005$), as were recurrence rates (26.7% vs. 6.1% ; $p = 0.030$). Kaplan-Meier curves demonstrated inferior overall survival in TNBC (log-rank $p = 6.32 \times 10^{-4}$).

Conclusion: Triple-negative breast carcinoma was associated with higher tumor proliferation, near-universal use of neoadjuvant chemotherapy, and worse clinical outcomes. These findings reinforce the need for specific diagnostic and therapeutic strategies for this subgroup within regional oncological practice.

Ethics: Research Ethics Committee Approval (CAAE76523123.1.0000.5083).

Keywords: triple negative breast neoplasms; biomarkers; tumor prognosis; neoadjuvant chemotherapy.

<https://doi.org/10.29289/25945394V36S11018>

1018 – Characterization of breast cancer in young women treated at the Hospital Regional of Pedro Juan Caballero, 2020–2025

Jorge David Davalos Almiron¹, Vynicius Antonio Ferreira¹, Karina Pedra¹, Nicolly Christine Aureliano¹, Maria Carolina Chaves¹, Jaime Vester¹

¹Universidad Sudamericana – Pedro Juan Caballero, Paraguay.

Breast cancer is one of the leading causes of oncological morbidity among women both worldwide and nationally; in young women, its clinical and epidemiological behavior presents particular characteristics that justify differentiated analysis. However, in Paraguay, available information is limited and generally aggregated, with no specific local data from Pedro Juan Caballero. The aim of this study was to characterize cases of breast cancer in young women treated at the Regional Hospital of Pedro Juan Caballero during the period of 2020–2025. A quantitative, observational, descriptive, and retrospective study was conducted based on the documentary review of institutional clinical records. The study population consisted of 92 cases of breast cancer registered in the hospital during the study period, corresponding to a census analysis. Within this population, 17 cases in women under 40 years of age were identified and analyzed according to age group, histological grade, and immunohistochemical profile. Statistical analysis included absolute frequencies and percentages. The study was submitted to and approved by an Ethics-Scientific Committee in Paraguay and was conducted in accordance with the principles of the Belmont Report: respect for persons, beneficence, and justice, ensuring confidentiality through anonymization of records and exclusive use of data for scientific and academic purposes. The results showed that cases in women under 40 years accounted for 18% of the total. In this group, high histological grade tumors, particularly grade 3, predominated. The triple-negative subtype was the most frequent (41%), followed by Luminal A and Luminal B subtypes. It was concluded that breast cancer in young women showed a predominance of tumors with greater biological aggressiveness, providing local evidence to support clinical surveillance and early detection strategies.

Ethics: The study was submitted to and approved by an Ethics-Scientific Committee in Paraguay.

Keywords: breast neoplasms; age factors; immunohistochemistry; Epidemiology.

<https://doi.org/10.29289/25945394V36S11020>

1020 – Sarcopenia (including normal-weight obesity), its impact on prognosis and treatment outcomes in patients with breast cancer: a systematic review

Bruna Alves de Sousa Santos¹, Karimi Botelho Amaral¹, Fernanda Almeida de Souza¹

¹Universidade Católica de Brasília – Brasília (DF), Brazil.

This article presents a systematic review on the impact of sarcopenia, including normal-weight obesity, on the prognosis and treatment outcomes in breast cancer patients. The research highlights that body composition, rather than just Body Mass Index (BMI), is a crucial prognostic factor. Sarcopenia, characterized by the loss of skeletal muscle mass, and sarcopenic obesity, which combines low muscle mass with excess adiposity, are conditions that significantly affect therapeutic outcomes. This review, conducted according to PRISMA guidelines, analyzed five articles selected from the 18 initially identified, published between 2012 and 2026. The findings indicate that sarcopenia is associated with a significantly increased overall mortality in breast cancer survivors, even in individuals with normal or elevated BMI. Sarcopenic obesity, frequently observed in normal-weight patients, is linked to reduced survival, poorer quality of life, and a higher risk of unexpected toxicity during chemotherapy, especially with taxanes, due to muscle attenuation. The study emphasizes the importance of early identification of patients with normal-weight obesity to mitigate treatment-related toxicity. Furthermore, resistance training is highlighted as an effective non-pharmacological intervention to preserve muscle integrity and improve clinical outcomes. The incorporation of imaging-based body composition assessment into routine oncology practice is recommended for a more precise and individualized treatment approach.

Ethics: Public data.

Keywords: breast cancer; sarcopenia; body mass index.

<https://doi.org/10.29289/25945394V36S11026>

1026 – Spatiotemporal analysis of mortality from malignant neoplasm of the breast in Brazil (2001–2021)

Fernanda Ritt Souza¹, Leonardo Moreira Dias¹, Isadora Reichmann Garcia¹, Gabrielle Zabloski Araújo¹, Maria Julia Carvalho¹, Sofia Canan Chas Montana¹, Lara Mensato Döring¹, Jan Pawel Pachnicki¹

¹Faculdade Evangélica Mackenzie do Paraná – Curitiba (PR), Brazil.

Introduction: Breast cancer remains a public health challenge in Brazil, requiring detailed geographical and epidemiological monitoring to guide health policies. This study aims to analyze the spatial distribution and epidemiological profile of mortality from malignant breast neoplasm in Brazilian municipalities between 2001–2021.

Methods: An epidemiological study was conducted using death data from the Mortality Information System (SIM/DATASUS) and population data from IBGE (ICD-10: C50). Crude and standardized mortality rates were calculated for all 5,570 municipalities. Temporal analysis was performed using the Joinpoint software. Spatial analysis, including the creation of thematic maps smoothed by the local empirical Bayesian method and the identification of clusters through Global and Local Moran's Indices, was conducted using GeoDa 1.22.

Results: Between 2001–2021, a total of 283,196 deaths from malignant breast neoplasm were registered in Brazil. The highest mortality rate was found in individuals between 50–59 years old (24.04%), followed by the 60–69 age group (21.45%). There was a predominance of the female sex, representing 98.91% of the cases. Most victims were white (61.09%) and married (39.03%). There is a spatial dispersion of mortality from malignant breast neoplasm in Brazil, with the South and Southeast regions identified as the main incidence hotspots, along with some areas in the Northeast and Central-West. The five municipalities with the highest mortality rates were São João do Polêsine, RS (41.43/100,000 inhab.), Santa Tereza, RS (38.75/100,000 inhab.), Guabiju, RS (36.38/100,000 inhab.), Santa Mercedes, SP (36.24/100,000 inhab.), and Queluzito, MG (35.95/100,000 inhab.).

Conclusion: High-mortality municipalities and significant spatial clusters were identified, primarily in the South and Southeast. These findings highlight the need for regionally tailored public health strategies that consider local socio-epidemiological particularities to reduce breast cancer mortality in Brazil.

Ethics: Public data.

Keywords: spatio-temporal analysis; breast neoplasms; mortality registries; Epidemiology.

<https://doi.org/10.29289/25945394V36S11028>

1028 – Germline mutations and clinical outcomes in hereditary breast cancer: a retrospective cohort from northeastern Brazil

Samuel Castro Campos¹, Sabas Carlos Vieira²

¹Universidade Federal do Piauí – Teresina (PI), Brazil.

²Oncocenter – Teresina (PI), Brazil.

Introduction: Germline mutations in breast cancer susceptibility genes are associated with aggressive tumor biology and specific therapeutic vulnerabilities. Epidemiological data on mutation carriers diagnosed with breast cancer in northeastern Brazil remain scarce.

Methods: A retrospective cohort of 42 women with germline pathogenic or likely pathogenic variants and breast cancer, treated at Oncocenter, Teresina, Brazil. Records were reviewed between November 2025 and March 2026. Clinical, genetic, pathological, treatment, and outcome variables were analyzed descriptively. This study was approved by the Research Ethics Committee of the State University of Piauí (UESPI) under CAAE 30154720.0.0000.5209.

Results: Median age at diagnosis was 40.5 years; half of the patients were aged 40 years or younger. Family history of breast cancer was present in 92.9%. BRCA1 was the most frequently mutated gene (50%), followed by BRCA2 (26.2%); 90.5% of variants were classified as pathogenic. The predominant molecular subtype was triple negative breast cancer (TNBC; 51.4%). Neoadjuvant chemotherapy was administered in 75% of the cases; complete pathological response (pCR) was achieved in 44.4% of evaluable patients. Poly (ADP-ribose) polymerase (PARP) inhibitors were used in 20.6% of patients, predominantly olaparib in the adjuvant setting. At final follow-up, 87.8% were alive and disease-free; disease-related mortality was 7.3%.

Conclusion: The cohort shows a predominance of BRCA1 mutations and triple negative tumors in young women, consistent with the known biology of hereditary breast cancer. The 44.4% pCR rate reflects platinum sensitivity associated with homologous recombination deficiency. PARP inhibitor use was low, pointing to underutilization in this regional setting. These data characterize hereditary breast cancer in a population with limited published data from northeastern Brazil.

Ethics: Research Ethics Committee Approval (CAAE 30154720.0.0000.5209).

Keywords: breast neoplasms; neoadjuvant therapy; germ-line mutation.

<https://doi.org/10.29289/25945394V36S11043>

1043 – Neoadjuvant endocrine therapy in breast cancer: a single-institution epidemiological and clinicopathological analysis from southern Brazil

Michelle Bortolotto Cichelero¹, Betina Vollbrecht¹

¹Santa Casa de Porto Alegre – Porto Alegre (RS), Brazil.

Introduction: Breast cancer accounts for approximately 11.6% of all oncologic diagnoses, with hormone receptor-positive (HR+) and HER2 negative (HER2-) tumors representing a significant proportion of cases. In this context, neoadjuvant endocrine therapy has emerged as a therapeutic alternative, with potential benefits in tumor downstaging and increased rates of breast-conserving surgery. The aim of this study was to describe the epidemiological and clinicopathological profile of patients with HR+/HER2- breast cancer undergoing neoadjuvant endocrine therapy in a public healthcare setting, as well as to analyze treatment response rates.

Methods: An observational, analytical, retrospective study was conducted including patients treated between January 2019 and October 2025 who underwent surgery after neoadjuvant therapy. Clinical, pathological, and outcome variables were assessed.

Results: The cohort included 25 patients, with a mean age of 73.7 years and multiple comorbidities. There was a predominance of T2 tumors (64%), N0 disease (60%), and histological grade 2 (68%), with high expression of hormone receptors (mean ER 92.6% and median PR 60%) and a median Ki-67 of 15%. Anastrozole was used in 96% of cases, with a median treatment duration of 8 months. The breast-conserving surgery rate was 64%, with a reduction in mean tumor size from 3.2 cm to 2.7 cm. The PEPI score was calculated in eligible patients, with scores greater than 4 in 68% of cases, and 12% presenting high residual axillary burden (ypN3a). At a median follow-up of 27 months, no locoregional recurrences were observed.

Conclusion: In a real-world setting, neoadjuvant endocrine therapy proved to be safe and feasible for the treatment of HR+/HER2- breast cancer, particularly regarding tumor control and treatment timing. Proper patient selection may optimize surgical outcomes and support individualized treatment strategies.

Ethics: Research Ethics Committee Approval (CAAE 92207025.0.0000.5335).

Keywords: breast neoplasms; neoadjuvant therapy; aromatase inhibitors.

<https://doi.org/10.29289/25945394V36S11048>

1048 – Changes in the diagnostic pattern of breast cancer in the Brazilian Public Health System in Minas Gerais: analysis of the transition from surgical biopsy to core biopsy (2020–2025)

Maria Gabriela Bezerra de Souza, Marianne Alves Rodrigues, Lucas Xavier Boareto, Valentina Pinheiro Marion, Arthur de Sousa Silva, Caio Murilo dos Santos Pilicério, Cícero Felipe de Oliveira Xavier, Jhonny Sobreira Farias

¹Universidade Federal de Alfenas – Alfenas (GO), Brazil.

²Universidade Federal de Goiás – Goiânia (GO), Brazil.

Introduction: The diagnosis of breast cancer requires histopathological confirmation, and the core needle biopsy is the gold-standard method due to its precision and lower invasiveness. This study analyzes the transition from surgical biopsy to core biopsy in the Brazilian Public Health System (SUS) in Minas Gerais, in addition to investigating differences in its implementation among health macroregions.

Methods: An ecological, cross-sectional, and retrospective study using data from SIA/SUS (TABNET/DATASUS). The population included breast diagnostic procedures: core needle biopsy and breast nodule biopsy/excision. The analyzed outcome was the core biopsy rate (percentage of the total procedures). The variables included health macroregion, time period, and approved quantity. For statistical analysis, linear regression (for temporal trends) and the Kruskal-Wallis test (for regional comparison) were used, considering $p < 0.05$. The study was exempt from Research Ethics Committee approval (CNS Resolution No. 510/2016).

Results: The analysis revealed 42,305 core biopsies and 3,858 surgical biopsies between 2020 and 2025. An expressive growth of 143% in punctures was observed, jumping from 3,960 in the base year (2020) to 9,627 at the end of the study (2025). The percutaneous route was consolidated, with its prevalence rising from 44.29% in 2020 to 89.97% in 2025. Linear regression confirmed this strong upward trend (an increment of 12.2% per year; $p = 0.029$). In the spatial analysis, the Kruskal-Wallis test evidenced a profound geographic disparity in access ($p < 0.001$). The Central Macroregion concentrated the largest volume, maintaining 86.2% of the percutaneous route. The Northwest Macroregion demonstrated strong modernization, jumping to 68%. In contrast, the South Triangle region presented severe technological stagnation, reaching only 42.2% of core biopsy usage in 2025.

Conclusion: The SUS in Minas Gerais showed expressive modernization and adherence to the gold-standard percutaneous breast diagnosis over the last five years. However, the study statistically proves the existence of disparities and healthcare gaps.

Ethics: Public data.

Keywords: biopsy; needle; breast neoplasms; Health Services Research.

<https://doi.org/10.29289/25945394V36S11049>

1049 – Incidental findings in risk reducing mastectomy: incidence and predictors in a real-world cohort

Thaysa Estevão Fernandes¹, Daniel Imbassahy Sá Bittencourt Câmara Silva¹, Augusto Ostermann Magalhães¹, Mariana Decco Faucz¹, Renato Torresan¹, Fabrício Pallermo Brenelli¹, Geisilene Russano Paiva Silva¹, César Cabello dos Santos¹

¹Universidade Estadual de Campinas – Campinas (SP), Brazil.

Purpose: Risk reducing mastectomy (RRM) is an established preventive strategy for women at high genetic and/or familial risk of breast cancer. Histopathological evaluation of RRM specimens may identify incidental findings (IFs), including occult malignancies and precursor lesions; however, their incidence and associated predictors remain insufficiently characterized. This study aimed to estimate the incidence of IFs and identify associated factors in a Brazilian cohort.

Methods: A retrospective cohort study was conducted among 154 women who underwent RRM at a tertiary public cancer center (Women's Hospital Professor José Aristodemo Pinotti CAISM/UNICAMP, University of Campinas, Brazil) between 2013 and 2025. Eligible patients carried pathogenic/likely pathogenic germline variants and/or met NCCN high-risk criteria, and had normal breast imaging within six months before surgery. Histopathological evaluation followed an institutional protocol with extensive tissue sampling. Multivariate logistic regression was used to evaluate demographic, clinical, and surgical predictors of IFs.

Results: IFs were identified in 35% (54/154) of the patients, including 10.4% malignant lesions (DCIS or invasive carcinoma) and 24.6% atypical proliferative lesions. Breast MRI was performed in 14 patients, where IFs were detected in 21.4% (3/14), compared with 36.4% (51/140) among those without MRI, with no significant association ($p=0.38$). In multivariable analysis, increasing age (OR 1.071) was an independent predictor of incidental findings (IFs). For invasive and DCIS outcomes, age remained the only significant predictor (OR 1.069). Genetic status was not significantly associated with IFs.

Conclusion: In this single-institution cohort, IFs were frequently identified in RRM specimens. Older age was the main clinical predictor, while genetic status and preoperative MRI were not significantly associated with IFs. These findings support individualized risk stratification and comprehensive pathological assessment when counseling patients undergoing RRM, particularly in resource-limited settings.

Ethics: Research Ethics Committee Approval (CAAE 54179621.1.0000.5404).

Keywords: mastectomy; breast neoplasms; incidental findings; risk assessment.

<https://doi.org/10.29289/25945394V36S11050>

1050 – Complications of breast implants in the Brazilian public health system: a cross-sectional analysis of surgical management patterns and economic impact (2020–2025)

Marianne Alves Rodruiges, Valentina Pinheiro Marion, Cícero Felipe de Oliveira Xavier, Lucas Xavier Boareto, Arthur de Sousa Silva, Jhonny Sobreira Farias, Maria Gabriela Bezerra de Souza, Caio Murilo dos Santos Pilicério

¹Universidade Federal de Alfenas - Alfenas (MG), Brazil.

²Universidade Federal de Goiás - Goiânia (GO), Brazil.

Introduction: Complications related to breast implants have become a health concern, particularly in light of the increase of aesthetic and reconstructive procedures. In this context, long-term complications such as capsular contracture, infection, and late seroma, frequently require surgical reintervention, imposing a burden on the healthcare system. Thus, this study aimed to evaluate the temporal evolution and economic impact of hospitalizations for breast implant removal due to complications within the Brazilian Public Health System (SUS), as well as to map disparities in their distribution between 2020 and 2025.

Methods: Across-sectional, ecological, and retrospective time-series analysis based on data extracted from the Hospital Information System (SIH/SUS) via DataSUS. Procedures were identified through correspondence to unilateral or bilateral implant removal due to complications. The Kruskal–Wallis test was applied to compare regional differences, considering the hospitalizations and costs; and Poisson regression was used to assess temporal evolution.

Results: During the period, 4,099 hospitalizations were observed. In accordance with the absolute variation between regions, evidenced by the predominance of the Southeast (2,434 cases) compared to the North (128 cases), the analysis revealed statistically significant differences between regions. The Kruskal–Wallis test indicated a strong effect ($H=25.6$; $p<0.001$; $\eta^2=0.883$), demonstrating that regional variation accounts for a large proportion of the observed disparities. Accordingly, Poisson regression showed a significant upward temporal trend in hospitalizations ($\chi^2=481$; $p<0.001$), with an incidence rate ratio (IRR) of 1.23 (95%CI 1.20–1.25), indicating an average annual increase of 23% in procedures.

Conclusion: Therefore, both statistical significance results and the absolute disparities highlight inequalities regarding specialized care. Furthermore, the trend in hospitalizations reflects a growing clinical and economic burden. These findings underscore the need for targeted public health strategies aimed at reducing inequalities and improving access to surgical management.

Ethics: Public data.

Keywords: breast implants; postoperative complications; health care costs; cross-sectional studies.

<https://doi.org/10.29289/25945394V36S11052>

1052 – Pharmacoeconomic analysis of second-line hormone therapy in advanced breast cancer in Brazil (2020-2025)

Lucas Xavier Boareto, Arthur de Sousa Silva, Marianne Alves Rodrigues, Maria Gabriela Bezerra de Souza, Valentina Pinheiro Marion, Jhonny Sobreira Farias, Caio Murilo dos Santos Pilicério, Cícero Felipe de Oliveira Xavier

¹Universidade Federal de Alfenas - Goiânia (GO), Brazil.

²Universidade Federal de Goiás - Goiânia (GO), Brazil.

Introduction: Endocrine resistance, operationalized as second-line endocrine therapy use in breast cancer, increases healthcare expenditure, yet its economic impact remains poorly characterized. This study evaluates the financial asymmetry between first- and second-line therapies in the Brazilian Public Health System (SUS), to quantify the economic burden of resistance.

Methods: Ecological, retrospective study following STROBE reporting guidelines using the DATASUS outpatient database (SIA-SUS/Oncology Panel) from 2020-2025. Procedure volumes and expenditures were analyzed for first (0304020346) and second-line therapies (0304020338/0304020354) per procedure. Trends were assessed using Joinpoint regression (Annual Percent Change, APC, with 95% confidence intervals). Differences in median cost per procedure (CPP), adjusted for inflation, were evaluated with the Mann-Whitney U test. A counterfactual analysis applied first-line median cost to second-line volume to estimate incremental expenditure.

Results: In total, 1,330,175 procedures were analyzed. First-line therapies accounted for 59.0% of the overall volume (n=784,992) and 27.6% of the total healthcare expenditures (R\$ 62.6 million), while second-line therapies represented 41.0% (n=545,183) yet consumed 72.4% (R\$ 164.3 million). Median CPP was R\$ 79.75 vs R\$ 301.51 (p=0.003). First-line use increased significantly (APC: +5.83%/year; 95%CI 4.47–7.23; p<0.001), while second-line therapies showed slower growth (APC: +1.84%/year; 95%CI 0.17–3.58; p=0.033). The incremental expenditure associated with second-line therapy was R\$ 120.9 million (mean annual: R\$ 20.2M).

Conclusion: Endocrine resistance imposes a substantial and disproportionate economic burden on the Brazilian Public Health System (SUS), with second-line therapies consuming most expenditures despite lower procedural volume. The incremental cost of R\$ 120.9 million reflects inefficiencies related to disease progression. These findings support prioritizing strategies to delay resistance, including optimization of first-line endocrine therapy, improved adherence, and cost-effective incorporation of novel agents. Interventions that prolong first-line effectiveness may reduce expenditures and improve sustainability in resource-constrained settings.

Ethics: Public data.

Keywords: hormone therapy; pharmacoeconomics; drug resistance; neoplasms; health care costs.

<https://doi.org/10.29289/25945394V36S11053>

1053 – Geographic disparities in access to post-mastectomy breast reconstruction in Brazil: a time-series analysis (2015–2025)

Arthur de Sousa Silva, Lucas Xavier Boareto, Valentina Pinheiro Marion, Jhonny Sobreira Farias, Caio Murilo dos Santos Pilicério, Marianne Alves Rodrigues, Maria Gabriela Bezerra de Souza, Cícero Felipe de Oliveira Xavier

¹Universidade Federal de Alfenas – Alfenas (MG), Brazil.

²Universidade Federal de Goiás – Goiânia (GO), Brazil.

Introduction: Breast reconstruction following mastectomy is essential for the physical and psychosocial rehabilitation of patients with breast cancer. However, access within the public healthcare system remains inequitable, influenced by the heterogeneous distribution of resources in Brazil. This study aims to analyze the regional disparities in access to post-mastectomy breast reconstruction and its financial impact between 2015 and 2025.

Methods: Anecological, retrospective, and descriptive time-series study using data from the DATASUS Hospital Information System (SIH/SUS). Procedures were identified by codes 0410010090 and 0410010219. The number of procedures and total approved costs were analyzed by geographic region using descriptive statistics and Poisson regression for temporal trend assessment.

Results: A total of 17,557 reconstructions were recorded. A markedly unequal distribution became evident: the Southeast accounted for 9,929 procedures (56.6%), whereas the North represented a minor fraction of 570, representing an over 17-fold difference. The remaining observed regions were the South, Northeast, and Central-West, which accounted for 19.6%, 14.7% and 5.9% of the procedures, respectively. Financial allocation followed a similar pattern (total cost: R\$ 35,865,886.86), with 56.3% concentrated in the Southeast and 3.1% in the North. Temporal analysis showed stability (2015–2019), a decline (2020–2021) likely associated with the COVID-19 pandemic, and a sharp increase from 2023 onward, with persistent disparities. Poisson regression showed significant effects of region and time ($p < 0.001$), with a positive association between year and approved costs ($\beta = 163,170.962$; 95%CI 80,376.301–245,965.623), indicating increasing trends without a reduction in regional inequalities.

Conclusion: Findings confirm significant geographic disparities in access to breast reconstruction in Brazil, concentrated in the Southeast. There is an evident need for decentralizing resources and strengthening healthcare in the North and Northeast, promoting equity in oncological care.

Ethics: Public data.

Keywords: breast reconstruction; mastectomy; health services accessibility; health inequalities; Epidemiology.

<https://doi.org/10.29289/25945394V36S11073>

1073 – Sociodemographic profile of breast cancer patients linked to a philanthropic institution in Jataí

Karoline Camargo Bragante, Vitória Soares, Ana Julia Toledo, Livia Cristina Izidoro

¹Associação FAVOS – Jataí (GO), Brazil.

²Universidade Federal de Jataí – Jataí (GO), Brazil.

Breast cancer is the most common malignant neoplasm among women in Brazil and is strongly influenced by sociodemographic determinants, which impact access to diagnosis and treatment. In this context, the analysis of local profiles can contribute to guiding health strategies. This study aimed to characterize the sociodemographic profile of oncology patients treated by a philanthropic institution in Jataí, Goiás, with an emphasis on associations related to breast cancer. This is a retrospective observational study, with a quantitative and descriptive approach, conducted among 362 patients with active registration. Data were obtained through the analysis of medical records and analyzed using descriptive statistics and association tests, adopting a significance level of 5%. The mean age was 62.2 years with a standard deviation of ± 15.0 years, with a predominance of females, as well as low levels of education, especially incomplete primary education, and a higher frequency of informal occupations, such as household chores. Most patients were married or in a stable relationship, with a predominance of individuals who self-identified as white or mixed-race. Breast cancer exhibited the highest incidence within the sample and predominantly affected female patients with a lower mean age, secondary education level, and domestic occupations. Variables such as marital status and race/ethnicity did not show a significant association with this neoplasm. Although the general profile of patients reflects sociodemographic characteristics of vulnerability, breast cancer presents specific patterns within this population, highlighting the importance of incorporating these determinants in the planning of prevention, screening and early diagnosis actions, especially in philanthropic care contexts.

Ethics: Institutional ethics committee approval number 7.509.253.

Keywords: breast neoplasms; socioeconomic factors; Epidemiology; women's health.

<https://doi.org/10.29289/25945394V36S11077>

1077 – Breast cancer mortality trends and sociodemographic inequalities in Brazil, 1996–2024: a nationwide joinpoint analysis

Beatriz Pereira de Morais¹, Arthur de Sousa Silva¹, Fernanda Dorneles de Morais¹, Amanda Moreira da Silva¹, Gustavo de Deus Costa Philocreon¹, Anne Victória Ribeiro da Costa¹, Gabriel dos Santos Leandro¹, Victor Bryan Caetano Andrade¹

¹Universidade Federal de Goiás – Goiânia (GO), Brazil.

Introduction/Justification: Breast cancer (BC) is the leading cause of cancer-related mortality among Brazilian women. Despite national screening efforts, profound socioeconomic disparities heavily influence mortality outcomes. This study aims to analyze the temporal trend, sociodemographic profile, and regional burden of BC mortality in Brazil over a 28-year period.

Methods: An ecological, retrospective, descriptive-analytical study following STROBE guidelines was conducted using Brazilian Mortality Information System (SIM/DataSUS) data. Female breast cancer (ICD-10: C50) deaths recorded from 1996 to 2024 were analyzed. Frequencies were calculated for regions, age, race, and education level. Temporal trends were evaluated using Joinpoint regression to estimate Annual Percent Change (APC). Exempt from CEP approval (CNS 510/2016).

Results: Between 1996 and 2024, Brazil registered 384,251 BC deaths, reflecting a mortality increase of approximately 195% over the study period. Joinpoint analysis demonstrated a continuous, significant upward mortality trend (APC=3.92%; $p<0.05$) without inflection points. The burden concentrated in the Southeast ($n=200,364$; 52.1%), Northeast (20.2%), and South (17.9%). Peak mortality occurred at 50–59 years (23.6%), alongside substantial premature mortality at 40–49 years (16.8%). While most deaths involved White women (58.8%), Black and Brown populations also faced a high burden (32.8%). Striking educational disparities were observed: mortality was highest among women with 4–11 years of schooling, 37.9% ($n=145,410$), whereas those with ≥ 12 years comprised only 11.9% ($n=45,614$).

Conclusion: Breast cancer mortality in Brazil has shown continuous growth over nearly three decades and reflects significant sociodemographic inequalities. The high mortality among women with a lower educational attainment and the substantial proportion of premature deaths highlight persistent barriers to early detection and timely treatment. The higher mortality burden observed in the Southeast region may be partially explained by more efficient reporting systems and lower reporting rates compared to other regions. These findings reinforce the need for targeted public health strategies focusing on vulnerable populations and improving cancer surveillance systems to reduce mortality trends.

Ethics: Public data.

Keywords: breast neoplasms; healthcare disparities; mortality; Epidemiology; public health.

<https://doi.org/10.29289/25945394V36S11082>

1082 – 3-years after SARS-CoV-2 pandemic: the lack of evident impact in breast cancer deaths in the state of São Paulo

Daniel Guimarães Tiezzi¹, Ana Laura Silva de Faria, Ana Carolina Santana Lima, Barbara Alves Baron, Laura Dante Silva, Priscila Longhin Bosquesi

¹Universidade de São Paulo, Faculdade de Medicina de Ribeirão Preto – Ribeirão Preto (SP), Brazil.

²Centro de Pesquisa Avançada em Medicina – São José do Rio Preto (SP), Brazil.

Introduction: The SARS-CoV-2 pandemic impacted breast cancer screening worldwide, leading to an increased late stage of diagnoses. Its impact on breast cancer death burden has not been investigated after the pandemic offset.

Methods: An ecological study based on official information databases (DATASUS, FOSP and IBGE) using the state of São Paulo as the unit of analysis. The number of mammograms performed (from 2017 to 2025), the distribution of breast cancer cases by stage (from 2017 to 2023) and demographic data (from the 2010 and 2022) was estimated. National Supplementary Health Agency (ANS) information regarding private health insurance coverage was used to adjust the target population (women aged 50 to 69 years) served by the Unified Health System (SUS). The Kruskal-Wallis test was used to compare monthly adjusted coverage across three periods of time: pre-covid, covid and post-covid. The Dunn post hoc test adjusted to multiple tests were used for one-by-one period comparisons as well as joint-point analysis and linear regression to estimate trends over time.

Results: The median mammogram coverage was 49%, 37% and 50% in the pre-covid, covid and post-covid periods ($p < 0.0001$), respectively. No difference is found when comparing the pre and post-covid periods ($p = 0.7$), however the prevalences of stage categories have varied significantly during the covid period. The median prevalence of EBC dropped during the covid period (adjusted $p = 0.001$), and there was a significant increase in the prevalence of LABC (57.7% vs. 62.1%; $p = 0.049$). With no inflection point in breast cancer deaths and prevalence, a continuous increasing trend in breast cancer mortality was observed ($B = 0.8$; 95%CI 0.6–1.0).

Conclusion: Despite the reduction in mammography coverage and increased number of advanced breast cancer diagnosis during pandemic, no evidence in breast cancer death was observed in the state of São Paulo.

Ethics: Public data.

Keywords: breast cancer; diagnostic screening programs; COVID-19; mortality registries.

<https://doi.org/10.29289/25945394V36S11086>

1086 – African ancestry is associated with early breast cancer onset in Brazilian women

Daniel Guimarães Tiezzi, Laura de Martin Coletti, João Paulo Cheles de Lima, Isabela Panzeri Carlotti Buzatto, Fabiana Buono de Oliveira, Helio Humberto Angotti Carrara, Jurandyr Moreira de Andrade

¹Universidade de São Paulo, Faculdade de Medicina de Ribeirão Preto – Ribeirão Preto (SP), Brazil.

²Hospital das Clínicas de Ribeirão Preto, Setor de Mastologia – Ribeirão Preto (SP), Brazil.

Introduction: The incidence and prevalence of breast cancer among young women are reportedly higher in developing nations, such as Brazil. The underlying reasons for this trend are not yet fully understood. This study aimed to investigate the genetic profile associated with early-onset breast cancer in Brazilian women.

Methods: A matched case-control study investigating the association of the prevalence of hereditary breast syndromes variants, genetic profile, and ancestry with early-onset breast cancer. 81 breast cancer cases were identified in young women (<40 years old) diagnosed between 2009 and 2019 at Hospital das Clínicas de Ribeirão Preto. A total of 81 controls (≥40 years old) were selected, matched by cancer subtype diagnosed during the same period based on clinical and pathological information retrieved from patients' files. A total of 42 young and 44 control blood samples were identified in the local biobank and genotyping was conducted using Illumina Global Screening Arrays for SNP association and ancestry analyses.

Results: 9 pathogenic/likely pathogenic germline variations (rs876659720 and rs80357089 in BRCA1; rs121912664 in TP53 (R337H); rs45494092, rs1057517585 and rs587778587 in PALB2; rs36053993, rs1114167685 and rs121908380 in MUTYH) were identified in 12 patients with a prevalence of 12.8% and 14.9% in case and control groups (OR=1.2, 95%CI 0.3–5.2). Association analysis identified only one significant single-nucleotide polymorphism (SNP) (rs2071498: MKI67). Ancestry analysis identified a significant association between African ancestry and early-onset breast cancer (OR=1.6, 95%CI 1.3–2.6).

Conclusion: Although breast cancer in young women in Brazil was not associated with higher frequency of pathogenic variants linked to breast cancer risk, there is an evident association between African ancestry and the early onset of breast cancer.

Ethics: 48425921.6.0000.5440.

Funding: CNPq: 307801/2025-0.

Keywords: hereditary breast cancer; genotype; young adult; ancestry.

<https://doi.org/10.29289/25945394V36S11093>

1093 – Breast cancer mortality among female physicians in Brazil (2019–2024): a nationwide analysis enhanced by artificial intelligence to identify hidden patterns and inform targeted awareness strategies

Marya Eduarda de Melo Camilo Mendanha¹, Bruna de Souza Ferreira¹, Maria Eduarda Ferreira de Moraes¹, Ana Luiza Naujorks Zimmer¹, Isabela Luiza Pacheco Rodrigues¹, Fabiano Inácio de Souza Souza¹, João Henrique Paz da Silva Ribeiro¹

¹Universidade Federal de Goiás – Goiânia (GO), Brazil.

Introduction: Breast cancer is one of the leading causes of female mortality worldwide, and it is the most common type of cancer among women in Brazil. Female physicians represent a unique group, as they care for others while also being at risk of the disease. Therefore, understanding epidemiological data related to the incidence of breast cancer among female physicians is essential for identifying possible patterns of incidence and coping strategies in this field.

Methods: An epidemiological study based on secondary data from DATASUS (Mortality Information System – SIM). Deaths among female physicians due to malignant neoplasm of the breast (CID-10: C50) from 2019 to 2024 were included. Data were analyzed using descriptive statistics, with support from Artificial Intelligence to assess the findings, calculate and compare the Proportionate Mortality Ratio (PMR), ensure unbiased interpretation, identify scientific gaps, and propose strategies based on the results.

Results: From 2019–2024, 143 of 2,236 deaths among Brazilian female physicians were attributed to breast cancer. Its 6.4% PMR significantly exceeded the general female population's 2.7% (comparative PMR of 2.37). Despite the pandemic (2020–2022) temporarily shifting mortality with 262 viral-related deaths, breast cancer remained the overall leading cause across most years. Other major causes included acute myocardial infarction (91), and pancreatic cancer (76).

Conclusion: Malignant breast neoplasm is a leading mortality cause among female physicians. Over the six-year study period, it significantly surpassed acute myocardial infarction, trailing only COVID-19. Excluding the pandemic, breast cancer represents the primary risk among female physicians, revealing a clinical paradox: despite their oncological knowledge, practical barriers hinder self-care. This exposes a literature gap, as studies view physicians as healthcare providers, not vulnerable patients. Mitigating this severity, systemic interventions are required, including institutional mammography campaigns (“D-days”) and mandating preventive appointments, to ensure female physicians are able to care for patients without neglecting their own health.

Ethics: Public data.

Keywords: breast neoplasms; mortality; female physicians; Brazil.

<https://doi.org/10.29289/25945394V36S11098>

1098 – A systematic review of the current literature on the prognostic implications of triple-negative breast cancer: its molecular aspects, metastatic patterns, and therapeutic strategies

Clara Quaresma Vieira¹, Isadora Freire Teixeira e Silva Brito¹, Sara Cristina Santos Correia¹,
Guilherme Fortes Ramos Filho¹, Camila Fernandes Magalhães¹, Larisse Silva Dalla Libera¹

¹Universidade Evangélica de Goiás – Anápolis (GO), Brazil.

Introduction: Triple-negative breast cancer (TNBC) is an aggressive and biologically heterogeneous subtype defined by the absence of estrogen and progesterone receptors as well as a lack of HER2 overexpression. Representing 10–15% of cases worldwide, it is associated with rapid progression, early recurrence, and poor prognosis. Identifying molecular determinants and metastatic patterns is essential to improve clinical outcomes. This study aimed to systematically review the molecular, prognostic, and therapeutic aspects of TNBC, focusing on metastatic behavior and clinical implications.

Methods: This systematic review followed PRISMA 2020 guidelines and was registered in PROSPERO (CRD420261291744). The PICO framework included women with TNBC exposed to contemporary therapies, with outcomes related to survival, recurrence, and metastatic patterns. A search was conducted in MEDLINE, LILACS, Scopus, and Web of Science using MeSH and DeCS descriptors. Observational studies and clinical trials from the last ten years were included. Study selection was performed independently by two reviewers using Rayyan, with disagreements being solved by a third reviewer. Methodological quality was assessed using the GRADE approach.

Results: A total of 350 studies were identified, with 52 duplicates removed. After screening, 48 studies underwent full-text review, and 15 studies with moderate to high certainty of evidence were included. Biomarker changes during metastatic progression were associated with worse progression-free survival. The central nervous system was identified as a frequent site of recurrence and marker of aggressive disease. Markers such as CXCR4, pN3, and Wnt5a were linked to tumor progression and therapeutic relevance.

Conclusion: TNBC remains a highly aggressive and complex disease with limited therapeutic options. The association between metastatic patterns, particularly central nervous system involvement, and biomarker alterations highlights their role in disease progression. These findings support integrating molecular and clinical parameters into prognostic assessment and individualized therapeutic strategies.

Ethics: Not applicable – systematic review.

Registry: PROSPERO/2026 CRD420261291744.

Funding: PIBIC – UniEVANGÉLICA (Institutional Scientific Initiation Program), no grant number available.

Keywords: triple negative breast neoplasms; prognosis; neoplasm metastasis; biomarkers; drug therapy.

<https://doi.org/10.29289/25945394V36S11100>

1100 – Quantitative comparison of breast cancer therapeutic modalities between 2018 and 2025: an ecological study

Marya Eduarda de Melo Camilo Mendanha¹, Pedro Henrique Lessa de Oliveira¹, Samella Soares Oliveira Medeiros¹, Felipe Rodrigues Resende¹, Ana Luiza Naujorks Zimmer¹, Eloah Vieira dos Santos¹, Giovana Vilas Boas do Prado¹, Nayara Alves de Freitas Lemos¹

¹Universidade Federal de Goiás – Goiânia (GO), Brazil.

Introduction: According to the World Health Organization (WHO), in 2022, approximately 2.3 million new cases and 670 thousand deaths from breast cancer (BC) were recorded among women worldwide. This elevated mortality rate indicates that not all patients have adequate access to optimal treatment, which depends on accurate BC diagnosis to differentiate among molecular subtypes and select appropriate therapy.

Method: An ecological time-series study using secondary epidemiological and morbidity data obtained from DATASUS through the Oncology Panel. Information on therapeutic modalities related to BC in women treated within the Brazilian Unified Health System (SUS) was collected for the 2018–2025 time period. Data were analyzed using descriptive statistics.

Results: Between 2018 and 2025, 432,564 BC treatments were recorded in the SUS, increasing from 43,966 (2018) to 63,431 (2023), stabilizing in 2024 (63,244), and declining in 2025 (46,685). Chemotherapy (CT) was the predominant therapeutic modality (267,795), rising until 2024 (39,870) and decreasing in 2025 (25,935). Surgeries totaled 53,588, peaking in 2019 (8,993) and declining to 2,000 by 2025. Radiotherapy accounted for 23,468 procedures, with slight variation and a final decrease (1,994 in 2025). Cases with missing information increased from 4,121 to 16,674, totaling 87,057.

Conclusion: There was an increasing trend in the total number of BC treatments in the SUS from 2018 to 2023, followed by stabilization in 2024 and a marked reduction in 2025. The predominance of CT highlights its central role in systemic management, while the reduction in surgeries may be associated with greater adoption of neoadjuvant treatment and a preference for less invasive approaches. Therefore, improving data collection and integration in health information systems, as well as policies ensuring equitable and continuous access to therapeutic modalities, is essential.

Ethics: Public data.

Keywords: breast neoplasms; drug therapy; radiotherapy; mastectomy.

<https://doi.org/10.29289/25945394V36S11106>

1106 – Regional disparities and the economic impact of mastectomy and breast reconstruction in the Sistema Único de Saúde (2015–2025)

Carolina Polo Salvador Vesentini, Izabelle de Fátima Frankiu, Melissa Polo Salvador Vesentini, Michele Neves Tomson Delazari, Bethina Piva Marafon

¹Hospital Universitário Evangélico Mackenzie – Curitiba (PR), Brazil.

²Máxxima Fisioterapia Oncológica – Curitiba (PR), Brazil.

³Pontifícia Universidade Católica do Paraná – Curitiba (PR), Brazil.

Introduction: Breast cancer is the most prevalent malignant neoplasm among women in Brazil and often requires a mastectomy, a procedure associated with significant physical, emotional, and psychosocial impacts. Breast reconstruction, guaranteed by national legislation, is a key component of comprehensive rehabilitation; however, its availability within the Brazilian Unified Health System (Sistema Único de Saúde - SUS) may be influenced by regional disparities and funding limitations. This study aimed to analyze regional disparities and the economic impact of hospital procedures related to mastectomy and breast reconstruction in the SUS between 2015 and 2025.

Methods: This ecological, descriptive, and retrospective epidemiological study was based on secondary data from the Hospital Information System of SUS (SIH/SUS), available through DATASUS. Variables included number of procedures, regional distribution, temporal trends, and hospital costs. The reconstruction rate was calculated as the ratio between reconstructions and mastectomies.

Results: A total of 88,400 mastectomies and 11,193 breast reconstructions were recorded, with a national reconstruction rate of 12.66%. Procedures were concentrated in the Southeast and South regions, while the North had the lowest reconstruction rate (6.32%). In 2020, there was a marked reduction in procedures, possibly related to the COVID-19 pandemic, followed by gradual recovery. Total investment exceeded BRL 227 million, with nearly half allocated to the Southeast.

Conclusion: Breast reconstruction coverage within SUS remains low, with marked regional disparities likely related to unequal distribution of resources and specialized services. The reduction in 2020 highlights the vulnerability of elective procedures during health crises. These findings reinforce the need for public policies aimed at decentralizing care, expanding access, and reducing inequalities in oncological treatment.

Ethics: Public data.

Keywords: breast neoplasms; mastectomy; breast reconstruction; healthcare disparities.

<https://doi.org/10.29289/25945394V36S11110>

1110 – Epidemiological study on breast surgery procedures in oncological patients

Erick Santos Aguiar, Felipe Rodrigues Resende, Ana Beatriz Bezerra Pinheiro, Diego Vinícius Gonçalves Santana

¹Universidade Federal de Goiás, Faculdade de Medicina – Goiânia (GO), Brazil.

²Universidade Federal de Goiás, Hospital das Clínicas – Goiânia (GO), Brazil.

Introduction: Breast cancer is a significant public health issue, with high morbidity and mortality, therefore surgical procedures are fundamental in its treatment. In this context, the epidemiological analysis of these interventions allows the identification of patterns and trends, contributing to healthcare planning and the improvement of diagnostic and treatment strategies.

Methods: An ecological time-series study using data collected from the DATASUS secondary database, specifically from the Hospital Information System. The number of procedures was obtained through approved Hospital Admission Authorizations (HAA), including simple mastectomy (SMO), radical mastectomy with axillary lymphadenectomy (RMALO), and quadrantectomy (QDTO) in oncological patients, covering the period from 2017 to 2025, both nationwide and stratified by regions, without distinction of age group or sex.

Results: Among the procedures, a total of 11,225 SMO, 55,762 RMALO, and 64,044 QDTO were recorded. The first increased in 2018 (1,283), then declined, reaching its lowest value in 2021 (1,109), and subsequently rising again, peaking in 2025 (1,346). The second peaked in 2017 (7,225) and has since shown a continuous decline, reaching its lowest values in 2022 (5,697) and 2025 (5,698). The third showed periods of decline starting in 2017, reaching its lowest point in 2021 (5,527), followed by accelerated growth, peaking in 2024 (9,143). The Brazilian region with the highest number of procedures was the Southeast (50.23%), followed by the South (18.85%), Northeast (16.45%), Midwest (7.44%), and North (7.03%).

Conclusion: The decline in RMALO indicates progress in early diagnosis and a shift toward less radical interventions, as postoperative complications are more prevalent in more invasive and radical procedures. Thus, advances in screening and treatment technologies favor the increase of less invasive approaches, with QDTO providing a better prognosis.

Ethics: Public data.

Keywords: breast cancer; breast surgery; axillary surgery; surgical procedures; epidemiological profile.

<https://doi.org/10.29289/25945394V36S11114>

1114 – Ecological study on the hospital mortality rate for breast cancer in brazilian regions (2017–2024)

Pedro Henrique Lessa de Oliveira, Ana Luiza Naujorks Zimmer, Nayara Alves de Freitas Lemos, Felipe Rodrigues Resende, Luís Patrício Santos Barros, Samella Soares Oliveira Medeiros, Maria Laura Faria Bernacchi

¹Centro Universitário Alfredo Nascier – Goiânia (GO), Brazil.

²Universidade Federal de Goiás – Goiânia (GO), Brazil.

Introduction: Breast cancer (BC) is the most common neoplasm among women in Brazil, representing a public health challenge. The hospital mortality rate reflects the quality of care and access to timely diagnosis and treatment. Therefore, this study aims to analyze the hospital mortality rate (HMR) for BC in Brazilian regions between 2017 and 2024, to identify patterns and inequalities in oncological care.

Method: An ecological study using data collected from the DATASUS secondary database, through the Hospital Information System (SIH), from 2017 to 2024. Data were analyzed nationally and stratified by region, then compiled in an electronic spreadsheet using descriptive statistics. Individuals of all ages and sexes were included, and the analyzed variables encompassed the number of hospitalizations, number of deaths, and hospital mortality rate (HMR).

Results: The North region generally presented the highest HMR throughout the analysis, remaining above the national average for most of the period. The Central-West region also presented high rates, with fluctuations throughout the time series. The Southeast and Northeast regions presented intermediate values, with relative stability over the years. The South region generally presented the lowest HMR. Regarding the temporal trend, a slight variation in rates was observed, without considerable changes, maintaining regional inequality throughout the study period.

Conclusion: The results highlight regional heterogeneity in hospital mortality due to congenital heart disease (CHD) in Brazil. The scenario in the North suggests the influence of inequalities in access to diagnosis and treatment, while the scenario in the South may reflect greater access to early diagnosis and a better network. The high rates observed in the Central-West are possibly related to weaknesses in healthcare, while the Southeast presents intermediate values associated with internal inequalities. These findings reinforce the need for public policies aimed at expanding access to diagnosis and treatment, while reducing regional inequalities.

Ethics: Public data

Keywords: breast neoplasms; Epidemiology; mortality; hospital information systems.

<https://doi.org/10.29289/25945394V36S11115>

1115 – Bilateral mastectomy in the gender-affirming process: a contemporary clinical and epidemiological overview

Felipe Rodrigues Resende, Samella Soares Oliveira Medeiros, Pedro Henrique Lessa de Oliveira, Erick Santos Aguiar, Mariana Sousa Melo, Josielly Leite Magalhães Oliveira, Nayara Alves de Freitas Lemos

¹Centro Universitário Alfredo Nasser – Aparecida de Goiânia (GO), Brazil.

²Universidade Federal de Goiás, Faculdade de Medicina – Goiânia (GO), Brazil.

³Universidade Federal de Goiás, Instituto de Patologia Tropical e Saúde Pública – Goiânia (GO), Brazil.

Introduction: Bilateral mastectomy in the gender-affirming process (BMGP) is an important intervention for gender affirmation and improvement of quality of life for transgender individuals, involving biopsychosocial aspects and access to public health policies. Therefore, analyzing its distribution and trends is justified to evaluate and improve planning and access to this type of care.

Methods: A descriptive, ecological study using secondary data extracted from the Hospital Information System of DATASUS. Data were collected from 2018 to 2025, with nationwide coverage, and compiled in an electronic spreadsheet using descriptive statistics, quantifying the number of procedures over the years. Individuals of all age groups were included, and the variable analyzed was the number of BMGP procedures.

Results: It was observed that the number of procedures remained low and stable from 2018 to 2022, with an annual average of 6.6 BMGPs. The year 2020 was an exception, showing an 85.7% decrease compared to 2019. In contrast, the period between 2023 and 2025 exhibited an increase from 24 surgeries in 2023 to 162 in 2025, representing a growth of 575%. Additionally, regarding geographic distribution, the data indicate the Northeast region as having the highest number of procedures (144 total cases), while other regions demonstrated a later but increasing growth trend. In total, the other regions recorded 68 (Southeast), 19 (South), 52 (Midwest), and 38 (North) surgeries.

Conclusion: BMGP in Brazil exhibited low numbers between 2018 and 2022, with a decline in 2020, followed by a significant increase starting in 2023. The recent rise suggests progress in access and public health policies. Therefore, it is necessary to support this upward trend by strengthening the healthcare network and ensuring equity in care.

Ethics: Public data.

Keywords: mastectomy; social reintegration; psychosocial impact; epidemiological profile; surgical procedures.

<https://doi.org/10.29289/25945394V36S11125>

1125 – Breast cancer navigation service at the Cristiano Varella Foundation: a retrospective observational study of an institutional experience

Luiz Carlos Navarro de Oliveira-Filho¹, Leonardo Salazar Portes Navarro de Oliveira², Maria Luiza Navarro Varella¹, Caroline Leite Sabioni de Paula¹, René Aloisio da Costa Vieira³, Luiz Carlos Navarro de Oliveira³

¹Faculdade de Medicina FAMINAS – Muriaé (MG), Brazil.

²Universidade de São Paulo, Faculdade de Medicina – São Paulo (SP), Brazil.

³Hospital de Câncer de Muriaé, Departamento de Cirurgia Oncológica, Divisão de Mastologia – Muriaé (MG), Brazil.

Introduction: The Patient Navigation Service (PNS) represents a patient-centered model of care. In the context of breast cancer management, the PNS can optimize care through a personalized approach. To mitigate the inherent complexities of cancer treatment, Bill No. 4,171/2021 and Law No. 12,732/2012 were enacted in the context of the Brazilian Unified Health System (SUS). These measures aim to reduce institutional, socioeconomic, and personal barriers that arise throughout the treatment pathway, ensuring comprehensive, equitable, and high-quality oncologic care, as well as guaranteeing treatment initiation within 60 days.

Methods: Institutional database data from Fundação Cristiano Varella (FCV) were used. All patients with breast cancer treated at the Breast Division between January 2024 and December 2025 were evaluated. Clinical characteristics were analyzed, along with variables related to time to surgery (initiation of first oncologic treatment within 60 days), surgical complications, surgical mortality (within 7 days after the procedure), and postoperative complications (within 90 days). A descriptive analysis was performed and the normality of continuous variables was assessed using the Shapiro-Wilk test. Statistical analyses were conducted using the R software, version 4.5.1 (R Core Team, 2025).

Results: A total of 1,172 patients were evaluated through the PNS, with a mean of 48.8 surgeries per month. Of these, 99.6% were female, with a mean age of 55.9 years and a surgical complication rate of 1.9%. It was observed that 92% of patients initiated treatment within 60 days, whereas 8% did not meet the timeframe established by Law No. 12,732/2012. Delays were associated with the need for further investigation of new breast lesions, inadequate clinical conditions, and delays in surgical authorization by the public health system (SUS).

Conclusion: Despite the limitations inherent to the Brazilian SUS, the results were satisfactory and support the effectiveness of the Patient Navigation Service in improving the quality of oncologic care.

Ethics: Public data.

Keywords: breast neoplasms; patient navigation; surgical navigation systems; healthcare quality indicators.

<https://doi.org/10.29289/25945394V36S11131>

1131 – Epidemiological profile of breast cancer in Brazil according to stage at diagnosis (2014–2021)

Pedro Henrique Lessa de Oliveira¹, Nayara Alves de Freitas Lemos¹, Heloísa Samartino Costa¹, Talles Bruno Torres Oliveira¹, Sâmella Soares Oliveira Medeiros¹, Wanderley Pereira da Silva Neto¹, Felipe Rodrigues Resende¹, Lara Marçal Machado¹

¹Universidade Federal de Goiás – Goiânia (GO), Brazil.

Introduction: This study aims to describe the epidemiological profile according to stage at diagnosis (2014–2021), based on data from the Hospital Cancer Registry (RHC/INCA). Although localized stages predominate, a considerable proportion of cases are diagnosed at advanced stages, highlighting limitations in screening. These findings demonstrate the need to expand access to timely diagnosis and strengthen early detection strategies. Thus, the objective of this study is to describe the epidemiological situation of breast cancer in Brazil, considering disease extent, in order to identify gaps in screening, early diagnosis, and access to healthcare services.

Methods: This ecological study used secondary data obtained by the Incidence Tabulator of the Hospital Cancer Registry (RHC). Data sourced during the period of 2014–2021 were analyzed with nationwide coverage. The findings were compiled in a spreadsheet and analyzed using descriptive statistics, allowing for the evaluation of breast cancer incidence according to disease extent (localized, metastatic, or undefined) and diagnostic method over time.

Discussion: The near equivalence between localized (n=11,877) and metastatic (n=11,824) breast cancer diagnoses underscores substantial deficiencies in early detection. The high proportion of cases with missing staging information (53%) compromises epidemiological surveillance and limits reliable disease burden assessments. Despite histopathological confirmation being the gold standard for incidence estimation, the reduction in case notifications in 2021 suggests systemic disruptions in healthcare delivery and reporting processes. These findings highlight the need for enhanced data quality to support surveillance and optimize clinical outcomes.

Conclusion: The epidemiological scenario reveals limitations in breast cancer screening and early diagnosis in Brazil, with a significant proportion of advanced-stage cases and incomplete records. Expanding access to timely diagnosis and improving oncology information systems are essential to strengthen surveillance and enhance clinical outcomes.

Ethics: Public data.

Keywords: breast neoplasms; Epidemiology; hospital information systems.

<https://doi.org/10.29289/25945394V36S11135>

1135 – Breast cancer trends and geographic inequalities in Sergipe, Brazil: evidence from 1996–2022

Renata Montarroyos Leite¹, Adriane Dórea Marques¹, Brenda Evelin Barreto da Silva¹, Larissa Miranda de Almeida¹, Alex Rodrigues Moura¹, Simone Soraia Silva Sardeiro¹, Angela Maria da Silva¹, Carlos Anselmo Lima¹

¹Universidade Federal de Sergipe – Aracaju (SE), Brazil.

Introduction: This study aimed to evaluate long-term temporal trends and spatial patterns of breast cancer incidence and mortality in Sergipe, Brazil, identifying regional inequalities in cancer control.

Methods: This population-based study used secondary, de-identified data of a broader research project approved by the Research Ethics Committee of the Federal University of Sergipe (CAAE 91685425300005546). Incidence data (1996–2017) was obtained through the Aracaju Cancer Registry and mortality data (1996–2022), from the Mortality Information System for the population of Sergipe. Age-standardized rates (ASR) were calculated using the World Standard Population, along with age-specific rates. Temporal trends were assessed using Join point regression, estimating the Annual Percent Change (APC) and Average Annual Percent Change (AAPC). Spatial analysis included Bayesian smoothing and Moran's Index to detect clusters and assess geographic inequalities. The mortality-to-incidence ratio (MIR) was calculated as a proxy for health service effectiveness.

Results: Between 1996 and 2017, the age-standardized incidence rate increased from 28.8 to 37.8 per 100,000 women. The age-standardized mortality rate also rose, from 7.1 (1996–2005) to 13.0 per 100,000 (2018–2022). Incidence trends showed a significant increase among women aged 15–39 years (APC=2.5%; $p<0.001$) and 50–69 years (APC=2.1%; $p<0.001$), with rates stabilizing among those aged 70 years or older. Mortality increased more sharply among women aged ≥ 70 years until 2010 (APC=8.4%; $p<0.001$), followed by stabilization. The MIR increased from 0.25 (1996–2005) to 0.34 (2013–2017), suggesting limited improvement in survival. Spatial analysis revealed significant regional disparities.

Conclusions: Breast cancer incidence and mortality rates have increased substantially in Sergipe. The rising MIR and marked spatial heterogeneity reinforce the urgent need for public health strategies. Future analyses using net survival are warranted to provide a more accurate assessment of survival outcomes.

Ethics: Research Ethics Committee Approval (CAAE 91685425300005546).

Keywords: breast neoplasms; incidence; mortality.

<https://doi.org/10.29289/25945394V36S11137>

1137 – Spatial distribution of mammography units and demographic density in Goiânia: an ecological study

Luiz Paula Silveira Junior¹, Pedro Henrique Siqueira Fleury Alves¹, Arthur Helou¹, Carolina Alves Paula¹, Guilherme Santos Ribeiro¹, Luis Filipe Gonçalves Venâncio¹, Luiz Paula Silveira Neto¹, Maria Luiza Bessa Paula¹

¹Pontifícia Universidade Católica de Goiás – Goiânia (GO), Brazil.

Introduction: Breast cancer is the leading cause of morbidity and mortality among women, and early detection through mammography is essential to reduce deaths. The effectiveness of screening programs depends on equitable access to healthcare, which may be influenced by the spatial distribution of diagnostic resources, particularly in urban areas with sociodemographic inequalities.

Methods: This ecological study used secondary data from DATASUS and the Health Surveillance Agency. A total of 88 facilities with mammography units in Goiânia were identified. An active search, including telephone surveys, collected information on service provision, such as coverage by private insurance and the Unified Health System (SUS). Data were correlated with the geographic distribution of the city's regions to analyze spatial patterns. The protocol was registered in PROSPERO (CRD420261349401). The PICO model defined facilities as the population; service availability and spatial distribution as exposure; areas with different population densities as reference groups; and access measures and inequalities as outcomes.

Results: Mammography services were predominantly offered by the private sector, with limited participation from the SUS. Distribution was heterogeneous, concentrated in wealthier areas, with lower availability in high-density regions. Of 34 facilities identified in both databases, 20 performed mammography, privately or through insurance, without free SUS provision, though 8 offered discounts. Among 51 facilities identified only in DATASUS, 21 performed exams (18 via insurance, 18 private, 6 through SUS, 2 with discounts). Three facilities from Health Surveillance lacked available data.

Conclusion: There is an unequal distribution of mammography services in Goiânia, with predominance of the private sector and gaps in public coverage. These findings highlight the need for improvement in equitable access, aligning resource distribution with population density.

Ethics: Public data.

Registry: PROSPERO CRD420261349401.

Keywords: mammography; mass screening; health services accessibility; population density; geographic information Goiânia.

<https://doi.org/10.29289/25945394V36S11147>

1147 – Regional inequalities in access to breast reconstruction in Brazil over the last five years

Mirella Laranjeira Nunes¹, Luan Fernandes Lins¹, Ana Carolina Ferraz Pascoal¹, Carlos Eduardo Caiado Anunciação¹, Cinthya Roberta Santos de Jesus¹, Vidianna Barbosa Sampaio¹, Deborah de Albuquerque Beltrão Amorim¹, João Esberard Vasconcelos Beltrão Neto¹

¹Hospital Universitário Oswaldo Cruz – Recife (PE), Brazil.

Introduction: Post-mastectomy breast reconstruction is a right guaranteed by the Brazilian Unified Health System (SUS) and represents an essential component of comprehensive breast cancer care, with a direct impact on patients' quality of life. Nevertheless, access to this procedure remains uneven across the Brazilian territory, reflecting structural disparities in the distribution of specialized services, healthcare workforce, and hospital infrastructure. This study aims to comparatively analyze the number of breast reconstruction procedures across different regions of Brazil in recent years.

Methods: An ecological, retrospective, and descriptive study based on secondary data from the Brazilian Hospital Information System (SIH/SUS), available through DATASUS/TABNET. The data included the number of hospitalizations for post-mastectomy breast reconstruction with implant placement between January 2021 and December 2025, stratified by geographic region. A descriptive analysis was performed, including absolute frequencies, annual means, and relative proportions by region, allowing for a comparative assessment of procedure distribution across the country.

Results: Between 2021 and 2025, a total of 6,160 hospitalizations for breast reconstruction were recorded in the SUS. Regionally, the Southeast concentrated the majority of procedures (55.9%), followed by the South (18.2%), Northeast (16.0%), Midwest (6.5%), and North (3.3%), demonstrating a marked concentration of breast reconstruction in regions with a higher density of specialized healthcare services.

Conclusion: There is a significant regional disparity in access to breast reconstruction in Brazil, with a high concentration of procedures in the Southeast and limited availability in the North and Midwest regions. These findings highlight the need for public health policies aimed at decentralizing mastology care, expanding the availability of specialized services, and reducing inequities in access to comprehensive breast cancer treatment.

Ethics: Public data.

Keywords: health inequities; breast reconstruction; health services accessibility

<https://doi.org/10.29289/25945394V36S11149>

1149 – Mammography coverage and breast cancer in Roraima from 2020 to 2024

Antonio Raylan Oliveira Gouvea¹

¹Universidade Estadual de Roraima – Boa Vista (RR), Brazil.

Introduction: Breast cancer is the leading cause of cancer-related death among Brazilian women and the most common cancer in this population. Early diagnosis is crucial, offering up to a 95% survival rate. The Instituto Nacional de Câncer (INCA) estimated approximately 73,610 new cases in Brazil for 2025. The state of Roraima presents one of the highest mortality rates in the country, with 17.38 deaths per 100,000 women in 2023. Screening mammography for women aged 50–69 years (extended up to 74 years according to recent public health guidelines) is recommended every two years and remains the most effective strategy to reduce mortality, enabling early detection in asymptomatic women.

Objective: To evaluate screening mammography coverage and breast cancer mortality from 2020 to 2024, and to assess the effectiveness of public health policies aimed at early detection in the state of Roraima.

Methods: A descriptive study using secondary data from the Outpatient Information System of the Brazilian Unified Health System (SIA/SUS) and INCA. Data on screening mammography (women aged 50–69 years) and mortality were analyzed. Coverage rates were calculated as the ratio between approved exams and the target population defined by the Brazilian Institute of Geography and Statistics (IBGE).

Results: Breast cancer mortality rates in Roraima showed a significant upward trend, increasing from 7.92 per 100,000 women in 2020 to 15.58 per 100,000 in 2024 ($\approx 97\%$ increase). Screening mammography coverage declined over the same period, with 2,326 exams performed in 2020 to 1,391 in 2024. A total of 8,761 exams were performed during the study period.

Conclusion: The increase in mortality associated with reduced screening coverage suggests low adherence to early detection and possible inefficiencies in local public health policies. Strengthening screening strategies and expanding access to early diagnosis are essential to improve women's health outcomes in Roraima.

Ethics: Public data.

Keywords: breast cancer; mammography; screening; Roraima

<https://doi.org/10.29289/25945394V36S11150>

1150 – Analysis of the number of simple and radical mastectomy procedures in the Sistema Único de Saúde between 2018 and 2025

Pedro Henrique Lessa de Oliveira, Nayara Alves de Freitas Lemos, Ana Luiza Naujorks Zimmer, Henry Barese Santos de Oliveira, Geovana Neves da Costa, Lara Julia Evangelista Mineiro, Felipe Rodrigues Resende, Samella Soares Oliveira Medeiros

¹Centro Universitário Alfredo Nascier – Goiânia (GO), Brazil.

²Universidade Federal de Goiás – Goiânia (GO), Brazil.

Introduction: Breast cancer treatment includes breast-conserving surgery or mastectomy. Efforts are made to minimize surgical trauma, considering disease extent and the technical capacity of healthcare services, in order to preserve quality of life and enable, when indicated, breast reconstruction. In this context, the objective is to analyze the temporal trend of hospitalizations for simple and radical mastectomy in Brazil (2018–2025).

Method: An ecological, descriptive, and retrospective study was conducted using secondary data from the Hospital Information System, available through DATASUS. Hospital admissions for simple mastectomy (SM) and radical mastectomy with lymphadenectomy (RML) were analyzed from 2018 to 2025 in Brazil. Variables included the year of hospitalization and the number of procedures performed. Data were extracted through the TABNET platform and compiled into spreadsheets for descriptive analysis.

Results: Between 2018 and 2025, a total of 10,396 procedures were recorded, including 5,452 RML and 4,944 SM. A reduction in total procedures was observed from 2018 to 2021, decreasing from 1,703 to 1,100, with the greatest annual variation occurring between 2019 and 2020, when there was a reduction of 500 procedures. From 2022 onward, there was an upward trend until 2023, when the total reached 1,404, without returning to initial levels. Between the years of 2023 and 2025, a new decline occurred, from 1,404 to 894. Radical mastectomy predominated from 2018 to 2021. In 2022 and 2024, SM was more frequent, whereas in 2023 and 2025, RML predominated once more. By the end of the period, both procedures exhibited a decline.

Conclusion: Fluctuation occurred between RML and SM in the SUS, without a clear pattern of substitution. The decrease in RML may be associated with neoadjuvant chemotherapy. In the North region, the predominance of radical procedures suggests late diagnosis and inequality in access to specialized care.

Ethics: Public data.

Keywords: breast neoplasms; mastectomy; surgical oncology; public health surveillance; Epidemiology.

<https://doi.org/10.29289/25945394V36S11155>

1155 – The evolution of the mortality rate from malignant breast neoplasm in Brazil over the last five years (2020–2024)

Mirella Laranjeira Nunes¹, Luan Fernandes Lins¹, Ana Carolina Ferraz Pascoal¹,
Nathália Valois Montarroyos de Moraes¹, Larissa Cabral Marques¹, Gabriela da Rocha Branco Silveira¹,
Deborah de Albuquerque Beltrão Amorim¹, João Esberard Vasconcelos Beltrão Neto¹

¹Hospital Universitário Oswaldo Cruz – Recife (PE), Brazil.

Introduction: Malignant breast neoplasm is a major public health challenge, ranking as the most frequently diagnosed cancer among women in Brazil, excluding non-melanoma skin cancer. It also remains the leading cause of female cancer-related mortality. Screening is vital for early diagnosis and is predominantly performed via mammography, the only imaging method consistently proven to reduce disease-specific mortality. Although recent epidemiological data suggest a downward trend, absolute numbers remain significant. Therefore, this study aims to analyze the evolution of breast cancer mortality rates in Brazil over the last five years (2020–2024).

Methods: A retrospective cross-sectional cohort study was conducted using data from the Brazilian Hospital Information System (SIH/SUS), provided by the Department of Informatics of the Unified Health System (DATASUS). Nationwide breast cancer mortality rates were collected from 2020 to 2024. The temporal trend analysis was performed using Pearson's correlation coefficient, and the statistical significance was assessed via Student's t-test. The significance level was set at 5% ($p < 0.05$). Statistical analyses were executed using the PSPP software.

Results: The Brazilian breast cancer mortality rate showed a continuous decline throughout the evaluated period, decreasing from 8.62 in 2020 to 7.16 in 2024. Statistical analysis revealed a robust, highly significant inverse correlation between the years analyzed and breast cancer mortality rate ($r = -0.994$; $p = 0.0015$), confirming a solid downward trend. The greatest absolute decline occurred in the most recent interval, between 2023 and 2024, with a reduction of 0.50 points in the national mortality rate.

Conclusions: The analyzed data demonstrate a statistically significant downward trend in breast cancer mortality in Brazil from 2020 to 2024. This favorable epidemiological shift is likely associated with advancements in early diagnosis, greater adherence to mammographic screening, improved targeted therapies, and better access to specialized treatment. To sustain this decline, it remains essential to continuously expand national prevention strategies and comprehensive oncological care.

Ethics: Public data.

Keywords: mortality; breast cancer; healthcare disparities.

<https://doi.org/10.29289/25945394V36S11157>

1157 – The root of inequality: the regional systemic disruption in access to screening mammography in Brazil

Mirella Laranjeira Nunes¹, Deborah de Albuquerque Beltrão Amorim¹, Luan Fernandes Lins¹, Maria Luiza de Carvalho Guilherme da Rocha¹, Gabriela da Rocha Branco Silveira¹, João Esberard Vasconcelos Beltrão Neto¹

¹Hospital Universitário Oswaldo Cruz – Recife (PE), Brazil.

Introduction: The inequity in clinical staging of breast cancer in the Unified Health System (SUS) raises questions regarding the primary efficiency of screening. Structural barriers and the COVID-19 pandemic critically impacted the prevention network. The objective of this study was to analyze the evolution of screening mammography volume in the country and correlate the per capita exam supply with each geographic macroregion.

Methods: A retrospective ecological study using data from the Cancer Information System (SISCAN/DATASUS) between 2019 and 2024. The procedure “Bilateral Mammography” was analyzed, strictly filtered by the clinical indication of “Screening”. The absolute volume of exams (n=17,423,029) was cross-referenced with population data from the IBGE Census (2022) to calculate annual exams per 100,000 inhabitants. The pandemic’s impact on system productivity and distributive inequities were also evaluated (Chi-square test).

Results: A severe regional asymmetry in preventive exam supply was identified ($p<0.0001$). The South region stood out with the highest coverage, performing 2,111 screening mammograms per 100,000 inhabitants annually. In drastic contrast, the North region performed only 737 exams per 100,000 inhabitants (representing nearly one third of the volume of screening mammograms observed in the South), followed by the Central-West (1,185). Historically, it was observed that the COVID-19 pandemic caused a systemic disruption in the preventive system: the country suffered a 39.3% drop in screenings in 2020, resulting in an absolute deficit of 1,173,409 unperformed exams compared to 2019.

Conclusion: The high rates of late-stage diagnosis in Brazil are a direct reflection of the systemic failures in screening coverage. The extreme deficit in the supply of preventive mammograms in the North and Central-West regions suggests the failure of decentralized policies. Furthermore, the abrupt decline of exams in 2020 left a chronic deficit that can increase advanced-stage diagnosis rates.

Ethics: Public data,

Keywords: breast cancer; mammography; diagnostic screening programs.

<https://doi.org/10.29289/25945394V36S11160>

1160 – Breast cancer diagnosis outside the screening age range: an analysis of nearly 400,000 cases in the oncology panel

Mirella Laranjeira Nunes¹, Luan Fernandes Lins¹, Deborah de Albuquerque Beltrão Amorim¹, Gabriela da Rocha Branco Silveira¹, Larissa Cabral Marques¹, Ana Carolina Ferraz Pascoal¹, Thiago Lourenço Apolinário¹, João Esberard Vasconcelos Beltrão Neto¹

¹Hospital Universitário Oswaldo Cruz – Recife (PE), Brazil.

Introduction: The perceived increase in breast cancer among young women conflicts with Brazilian policies. While the Ministry of Health (MS) traditionally recommends screening from age 50 — with a recent deliberation allowing individualized screening for ages 40–49 — the Brazilian Society of Mastology (SBM) advocates starting at 40. This study analyzes the temporal trend of young women diagnosed within the Unified Health System (SUS).

Methods: An ecological study evaluated 396,648 breast cancer diagnoses (ICD-10 C50) from the Oncology Panel (2019–2025). Patients were grouped by age: <40, 40–49, and ≥50 years. Temporal variations and the effects of the pandemic were assessed using the Chi-square test for proportions.

Results: Of the total sample, 33.8% of the women were under 50 years old. Contrary to the empirical perception of disease “rejuvenation”, the proportion of Early-onset breast cancer diagnosed (<40 years) did not show a progressive increase, presenting a temporally significant reduction from 11.9% in 2019 to 10.9% in 2024 ($p<0.0001$). However, the COVID-19 pandemic period in 2020 recorded a statistically significant increase in the proportion of young women (<50 years), jumping from 33.9% to 34.8% ($p=0.002$) diagnosed with the disease. This phenomenon occurred due to the temporary halt in preventive exams for the older group (≥50 years), which proportionally inflated the share of symptomatic young women.

Conclusion: Breast cancer “rejuvenation” reflects overall oncological volume growth and COVID-19 notification biases, where screening interruptions artificially inflated symptomatic young cases. Nonetheless, finding that 33.8% of SUS-diagnosed women fall outside the traditional universal screening target highlights the importance of the recent MS deliberation for the 40–49 group and the ongoing need to align policies with SBM guidelines.

Ethics: Public data.

Keywords: breast cancer; breast reconstruction; young adult.

<https://doi.org/10.29289/25945394V36S11162>

1162 – The impact of the COVID-19 pandemic on breast reconstruction in the Brazilian public health system: a pre- and post-pandemic analysis

Mirella Laranjeira Nunes¹, Ana Carolina Ferraz Pascoal¹, Gabriela da Rocha Branco Silveira¹, Deborah de Albuquerque Beltrão Amorim¹, Luan Fernandes Lins¹, João Esberard Vasconcelos Beltrao Neto¹

¹Hospital Universitario Oswaldo Cruz – Recife (PE), Brazil.

Introduction: Post-mastectomy breast reconstruction is a fundamental component of comprehensive care for breast cancer patients and is mandatorily covered by the Brazilian Unified Health System (SUS). The COVID-19 pandemic significantly disrupted the performance of these procedures, potentially compromising the functional, aesthetic, and psychosocial recovery of these patients. This study aims to perform a comparative analysis across pre-pandemic, pandemic, and post-pandemic periods in Brazil to evaluate the association between the health crisis and the reduction in breast reconstructive procedures.

Methods: An ecological, retrospective study using secondary data from the Brazilian Hospital Information System (SIH/SUS) via DATASUS/TABNET. The analysis included hospital admissions for post-mastectomy breast reconstruction with implant placement from January 2016 to December 2025, stratified by geographic region. The timeline was divided into three periods: pre-pandemic (2016–2019), pandemic (2020–2021), and post-pandemic (2022–2025). Descriptive analysis was performed using absolute frequencies, annual means, and percentage variations.

Results: A total of 12,600 hospitalizations for breast reconstruction were recorded. The annual mean, which stood at 1,400.5 procedures in the pre-pandemic period, fell to 831.5 during the pandemic — a 40.6% reduction. The years of 2020 and 2021 recorded 838 and 825 procedures, respectively, representing the lowest values in the historical series. In the post-pandemic period, the annual mean rose to 1,333.8; however, this recovery remains 4.8% below pre-pandemic levels, indicating a persistent deficit in surgical volume.

Conclusion: The COVID-19 pandemic profoundly impacted breast reconstruction within the SUS, characterized by a sharp decline during 2020–2021 and only a partial recovery in subsequent years. These findings suggest that healthcare reorganization, the suspension of elective surgeries, and the prioritization of urgent cases severely compromised access to reconstructive care. The lingering deficit highlights the need for targeted public health strategies to clear the surgical backlog and ensure the integral rights of women transitioning from cancer treatment to physical and emotional rehabilitation.

Ethics: Public data.

Keywords: breast reconstruction; COVID-19; public health system.

<https://doi.org/10.29289/25945394V36S11163>

1163 – Regional and therapeutic inequities in breast cancer treatment: an analysis of compliance with the 60-day law in Brazil

Mirella Laranjeira Nunes¹, Luan Fernandes Lins¹, Gabriela da Rocha Branco Silveira¹, Deborah de Albuquerque Beltrão Amorim¹, Nathália Valois Montarroyos de Moraes¹, Ana Carolina Ferraz Pascoal¹, Larissa Cabral Marques¹, João Esberard Vasconcelos Beltrão Neto¹

¹Hospital Universitário Oswaldo Cruz – Recife (PE), Brazil.

Introduction: Breast cancer is the malignant neoplasm with the highest incidence among Brazilian women. The time to treatment initiation is a crucial prognostic factor that impacts survival. To ensure agility within the Unified Health System (SUS), Law 12.732/2012 mandates that the first specific oncological treatment must begin within sixty days after the pathology report. The objective of this study is to evaluate the impact of the geographic macroregion and the first therapeutic modality chosen on the non-compliance with this deadline for patients with breast cancer in Brazil.

Methods: A retrospective ecological study using secondary data from the Oncology Panel (DATASUS/TABNET) between 2023 and 2025. Records of patients diagnosed with breast neoplasm (ICD-10 C50) were analyzed and the proportions of therapeutic delay were cross-referenced with the country's five macroregions, as well as the two main first-line treatment modalities: Surgery and Chemotherapy. The statistical significance of the associations was analyzed using Pearson's Chi-square test.

Results: A statistically significant disparity in delay was identified according to the first treatment administered ($p < 0.0001$). Upfront surgery presented a lower rate of non-compliance with the law (31.2%) when compared to chemotherapy, which showed a significant delay (59.4%). In the regional analysis of surgical access, the South region stood out with the lowest delay (18.6%), contrasting with the critical rates in the North (43.3%) and Central-West (41.2%) regions, evidencing extreme geographic inequity ($p < 0.0001$).

Conclusion: Compliance with the 60-day Law in Brazil is heterogeneous, strongly influenced by geographic determinants and the required initial therapeutic modality. The high rates of non-compliance for initiating chemotherapy, alongside the profound regional disparities in surgical access, expose distinct bottlenecks within the public healthcare system. This scenario requires the urgent development of public policies aimed at the decentralized allocation of oncological resources and the optimization of patient care pathways.

Ethics: Public data.

Keywords: breast cancer; healthcare disparities; treatment.

<https://doi.org/10.29289/25945394V36S11169>

1169 – Epidemiological profile and spatial analysis of breast cancer mortality in Minas Gerais, Brazil (2001–2021)

Fernanda Ritt de Souza¹, Leonardo Moreira Dias¹, Maria Fernanda Noel Dias¹, Antonio Mello Souza e Oliveira¹, Lara Mensato Döring¹, Jan Pawel Pachnicki¹

¹Faculdade Evangélica Mackenzie do Paraná – Curitiba (PR), Brazil.

Introduction: Breast cancer mortality in Brazil exhibits heterogeneous patterns across its vast territory. Within this context, the state of Minas Gerais is noteworthy for its high mortality indices. Between 2001 and 2021, the state recorded over 26,000 deaths, with rates showing a progressive upward trend. Understanding the epidemiological and spatial dynamics of these victims is essential for tailoring public health policies as well as enhancing breast cancer prevention and women's health promotion. This study aims to analyze the spatial distribution and epidemiological profile related to breast cancer mortality in the municipalities of Minas Gerais from 2001 to 2021.

Methods: This epidemiological study focused on spatial analysis using mortality data from the Mortality Information System (SIM/DATASUS) and population data from IBGE. Crude and standardized mortality rates were calculated for each municipality. Variables included sex, age, race, marital status, education, and location. Temporal analysis was performed using Joinpoint and spatial analysis via GeoDa.

Results: 26,320 deaths were recorded during the study period. The predominant profile consisted of women, aged 50–59 (24.9%), white (52%), married (39%), and with 1–3 years of schooling (19%). Spatial clusters of high mortality were identified in regions such as Triângulo Mineiro, Zona da Mata, and the Belo Horizonte Metropolitan area. The highest mortality rates were found in Passos (22.61/100 k), Perdões (19.30/100 k), and Juiz de Fora (19.20/100 k). Average mortality was 12.26/100 k, with an average annual increase of 3.88%.

Conclusion: The findings confirm a significant rise in breast cancer mortality over the two analyzed decades. By identifying high-risk clusters and the specific demographic profile of the victims, this study provides a critical roadmap for resource allocation and the implementation of targeted screening strategies in the most affected regions of Minas Gerais.

Ethics: Public data.

Keywords: spatio-temporal analysis; breast neoplasms; mortality registries; Epidemiology.

<https://doi.org/10.29289/25945394V36S11171>

1171 – Breast cancer screening in women aged 60–69 years: a nationwide analysis comparing Brazil and the midwest region using public health data

Anna Laura de Paula Rego¹, Stefany Cristina de Jesus Alves¹, Maria Carolina Martins da Conceição¹, Keytiane Kássia de Araújo¹

¹Universidade do Estado de Mato Grosso – Cáceres (MT), Brazil.

Introduction: Breast cancer screening through mammography is recommended for women aged 50–69 years and plays a crucial role in early detection and mortality reduction. However, disparities in access and coverage persist across all Brazilian regions. This study aimed to evaluate mammography screening trends in women aged 60–69 years, comparing Brazil and the Midwest region.

Methods: A cross-sectional ecological study was conducted using secondary data from the Brazilian public health database (DATASUS). Mammography screening procedures (code 0204030188) performed in women aged 60–69 years between 2019 and 2023 were analyzed, with trend projection to 2025. Data were stratified by region (Brazil vs. Midwest). Descriptive analysis was performed to evaluate temporal trends and regional differences.

Results: A marked reduction in the number of screening mammograms was observed in 2020, with an estimated decrease of approximately 40% compared to 2019, consistent with the impact of the COVID-19 pandemic. After 2021, a gradual recovery in screening volume was identified; however, the levels remained below pre-pandemic values in several periods. The Midwest region showed similar temporal behavior but with relatively lower absolute screening volume compared to the national data. Regional disparities persisted, suggesting unequal access to screening services.

Conclusion: Mammography screening in women aged 60–69 years in Brazil was significantly affected by the COVID-19 pandemic, with incomplete recovery in subsequent years. The Midwest region follows national trends but maintains a lower screening volume, highlighting persistent regional inequalities. Strengthening screening programs and improving access are essential to enhance early detection.

Ethics: Public data.

Keywords: breast neoplasms; mammography; mass screening.

<https://doi.org/10.29289/25945394V36S11179>

1179 – Where is the main bottleneck in the breast cancer care pathway in Brazil? An ecological analysis of imaging, diagnostic confirmation and stage at diagnosis

Isabella Drumond Figueiredo¹, Max Senna Mano¹, Douglas Andreas Valverde¹

¹Hospital do Coração – São Paulo (SP), Brazil.

Introduction: In Brazil, regional inequalities in access to diagnostic services may contribute to delayed breast cancer diagnosis and a high burden of advanced-stage disease. In this study, it was assessed whether greater imaging intensity was associated with earlier stage at diagnosis while also comparing this pattern with diagnostic confirmation capacity.

Methods: A nationwide ecological study was conducted using databases from the Brazilian Unified Health System Informatics Department (DATASUS) from 2015 to 2024. The EpiWriting platform (Techtrials, Brazil) supported database standardization, consistency checks, analytical structuring, and scientific writing. Female breast cancer registrations with known initial stage (I–IV) were included. Early-stage disease was defined as stage I–II and advanced-stage disease as stage III–IV. Imaging intensity was defined as mammography plus breast ultrasonography procedures per 100 known-stage registrations, and diagnostic confirmation intensity was defined as breast biopsy plus pathology procedures per 100 known-stage registrations. Analyses were performed by state and region.

Results: Imaging intensity alone was not consistently associated with earlier stage distribution. The North exhibited the second-highest imaging intensity (53.7 procedures per 100 cases) but only 43.3% early-stage disease. In contrast, the South and Southeast showed higher diagnostic confirmation intensity (76.5 and 97.1 per 100 cases, respectively) and the highest proportions of early-stage disease (52.9% and 50.4%, respectively). At the state level, the correlation between imaging intensity and early-stage proportion was weak to moderate and borderline significant (Spearman $\rho=0.37$; $p=0.054$), whereas biopsy plus pathology intensity showed no overall monotonic association ($\rho=-0.05$; $p=0.821$), indicating marked territorial heterogeneity. Amazonas and Piauí were notable for very high imaging intensity but low early-stage proportions.

Conclusion: Imaging volume alone does not appear to explain earlier breast cancer diagnosis in Brazil. The main bottleneck may lie in diagnostic resolution and care pathway organization rather than in imaging availability alone.

Ethics: Public data.

Keywords: breast neoplasms; early detection of cancer; health services accessibility.

<https://doi.org/10.29289/25945394V36S11183>

1183 – CLASSIVUS: a digital platform for reclassification of variants of uncertain significance in hereditary breast and ovarian cancer

Tulio de Lima Campos, Bruno Eduardo Feitosa do Nascimento, Paula Francinete Faustino da Silva, Igor Marques Cesário Calassa, Luiz Henrique Alves Costa, Lis de Paula Lacerda, Elisângela de Paula Silveira-Lacerda

¹Fundação Oswaldo Cruz – Recife (PE), Brazil.

²Universidade de São Paulo – São Paulo (SP), Brazil.

³Universidade Federal de Goiás – Goiânia (GO), Brazil.

⁴Universidade Federal do Amazonas – Manaus (AM), Brazil.

The identification of pathogenic variants in genes such as BRCA1 and BRCA2 is essential for guiding prevention and clinical management. However, variants of uncertain significance (VUS) remain a major challenge, limiting decision-making regarding surveillance, risk-reducing strategies, and family testing. Although international guidelines, such as those from the American College of Medical Genetics and Genomics (ACMG), provide criteria for variant classification, their application is often inconsistent across laboratories. This issue is further compounded by the underrepresentation of admixed populations, such as the Brazilian population, in global genomic databases, which hinders accurate interpretation. CLASSIVUS addresses these challenges by integrating multiple data sources into a unified environment, including population databases, in silico prediction tools, scientific literature, and standardized classification frameworks. The platform ensures transparency and traceability throughout the variant curation process while enabling periodic reassessment as new evidence emerges. Current developments include the automated ingestion of sequencing data, real-time querying of public databases, and assisted annotation workflows. These features aim to streamline analysis, reduce interobserver variability, and improve reproducibility. Additionally, the system provides structured reporting and complete documentation of classification decisions. By enhancing standardization and efficiency in variant interpretation, CLASSIVUS has the potential to reduce the number of inconclusive results, improving clinical decision-making for patients with hereditary cancer predisposition.

Ethics: HC-Universidade Federal de Goiás (CAAE 50626315.6.0000.5078) e da ACCG (CAAE 50626315.6.3001.0031)

Funding: SES, CAPES, CNPq, Genomas Brazil: National Genomics and Precision Health Program.

Keywords: hereditary cancer; variants of uncertain significance; genetic reclassification; HBOC; digital platform.

<https://doi.org/10.29289/25945394V36S11184>

1184 – Epidemiological profile of breast cancer in young women with hormone receptor-negative tumors: analysis of the number of surgical procedures and lesion size

Nayara Alves de Freitas Lemos, Felipe Rodrigues Resende, Ana Luiza Naujorks Zimmer, Samella Soares Oliveira Medeiros

¹Centro Universitário Alfredo Nasser - Goiânia (GO), Brazil.

²Universidade Federal de Goiás, Faculdade de Medicina – Goiânia (GO), Brazil.

³Universidade Federal de Goiás, Instituto de Patologia Tropical e Saúde Pública – Goiânia (GO), Brazil.

Introduction: Breast cancer (BC) accounted for approximately 6.6% of global cases occurring in patients under 40 years of age. In this population, the risk of incidence is associated with aggressive pathological features, such as negativity for hormone receptors and HER2 overexpression, or the presence of the triple-negative molecular subtype. Furthermore, genetic factors exhibit a significant impact, linked to high-penetrance genes such as the classic BRCA1 and BRCA2, as well as the TP53 and PTEN, among others. Regarding treatment, the surgical approach is the most common, including procedures such as simple mastectomy (SM), radical mastectomy (RM), and segmental resection with or without axillary dissection (SRWD and SRWoD).

Methods: An ecological study using data collected from the DATASUS secondary database, from the Cancer Information System, based on breast histopathological examinations. The number of surgical procedures and lesion size were collected from 2016 to 2025, nationwide, in patients under 40 years of age with negative estrogen and progesterone hormone receptors.

Results: A total of 33 SM, 35 RM, 19 SRWoD, and 12 SRWD procedures were recorded. Over time, there was an increasing trend in the number of surgical procedures, reaching a peak in 2024. As for the lesions, in ascending order of size, the following was obtained: 136 (<2 cm), 162 (2–5 cm), 61 (5–10 cm), 26 (>10 cm) and 18 were not palpable. Due to limitations in the database, it was not possible to determine whether HER2 expression was present in tumor cells, although the literature indicates that overexpression is common.

Conclusion: An increase in surgical procedures over time was observed, with a predominance of mastectomies, possibly related to the more aggressive profile of BC in young women. These findings reinforce the importance of early diagnosis and individualized treatment, combined with genetic testing, especially in these cases.

Ethics: Public data.

Keywords: young adult; oncogenetics; genetic predisposition to disease; surgical procedures; breast cancer.

<https://doi.org/10.29289/25945394V36S11187>

1187 – Temporal trends in advanced-stage breast cancer at diagnosis across Brazilian macroregions: a nationwide ecological study, 2015–2024

Isabella Drumond Figueiredo¹, Max Senna Mano¹, Douglas Andreas Valverde¹

¹Hospital do Coração – São Paulo (SP), Brazil.

Introduction: Advanced-stage breast cancer at diagnosis remains a major public health challenge in Brazil, particularly in light of the pronounced regional inequities in access to timely diagnostic pathways. It was evaluated whether the relative frequency of stage III–IV breast cancer at initial staging decreased, stabilized, or increased across Brazilian macroregions from 2015 to 2024.

Methods: A nationwide ecological time-series study was conducted using databases from the Brazilian Unified Health System Informatics Department (DATASUS) from 2015 to 2024. The EpiWriting platform (Techtrials, Brazil) supported database standardization, consistency checks, analytical structuring, and scientific writing. Female breast cancer records with known initial stage (I–IV) were included. Advanced stage was defined as stage III–IV. For each macroregion and year, the relative frequency of stage III–IV was calculated among stage-coded records. Temporal patterns were assessed using annual proportions, absolute change from 2015 to 2024, and Spearman correlation with the calendar year. Estimates should be interpreted as frequencies among records with known stages rather than unique patients.

Results: No Brazilian macroregion showed a sustained reduction in the relative frequency of stage III–IV disease over the study period. Increasing patterns were observed in the Midwest (47.6% in 2015 vs. 66.1% in 2024; $\rho=0.95$; $p=0.001$), South (45.3% vs. 49.8%; $\rho=0.95$; $p=0.001$), and Southeast (46.9% vs. 50.6%; $\rho=0.95$; $p=0.001$). In contrast, the North (56.7% vs. 56.6%; $\rho=0.54$; $p=0.128$) and Northeast (48.3% vs. 47.6%; $\rho=0.33$; $p=0.365$) remained broadly stable.

Conclusion: From 2015 to 2024, the relative frequency of stage III–IV breast cancer records did not decline in any Brazilian macroregion. However, stage distribution was only assessed among records with a known initial stage and may be influenced by care pathway-dependent registration, treatment-related capture, and temporal variation in data completeness. These findings should therefore be interpreted as descriptive patterns in registered records rather than unbiased population-level estimates of stage at diagnosis.

Ethics: Public data.

Keywords: breast neoplasms; neoplasm staging; Brazil.

<https://doi.org/10.29289/25945394V36S11188>

1188 – Influence of race on metastatic disease and breast cancer prognosis: a 27-year retrospective historical cohort

Marina Elias Rocha, Rosemar Macedo Sousa Rahal, Leonardo Ribeiro Soares, Macks Wendhell Gonçalves, José Carlos Oliveira, Ruffo Freitas-Junior

¹Advanced Center for Breast Diagnosis (CORA), Universidade Federal de Goiás – Goiânia (GO), Brazil.

²Goiás Association for the Combat of Cancer, Araújo Jorge Hospital – Goiânia (GO), Brazil.

³Universidade Federal de Goiás – Goiânia (GO), Brazil.

Introduction: This study evaluated the survival rate of women with breast cancer in Goiânia over a 27-year period, comparing race and disease extent.

Methods: A retrospective, population-based cohort study of women with breast cancer in Goiânia. Factors associated with disease extent were analyzed using logistic regression, and overall survival was estimated using the Kaplan–Meier method, comparing groups according to race and disease stage using the Log-rank test.

Results: In the multiple logistic regression, the analysis of the race/color variable did not show an independent association with metastatic presentation at diagnosis, since black patients did not present a higher adjusted chance of metastatic disease compared to white patients (OR=1.33; 95%CI 0.74–2.41; p=0.340). In contrast, only tumor grade III maintained an independent association with a higher chance of metastasis at diagnosis (OR=2.00; 95%CI 1.68–5.05; p=0.010). In the survival analysis, although there was an overall difference between the groups defined by Race/Extent (Log-rank, p<0.001), inspection of the Kaplan–Meier curves showed that this separation was predominantly determined by the extent of the disease at diagnosis. When analyzing race within each disease stage, no consistent differences in survival were observed between Black and White patients. Among women with early-stage breast cancer, median survival was similar between White/Early (136 months) and Black/Early (133 months), and among those with de novo metastatic disease, the medians were 55 months in White/Metastatic and 63 months in Black/Metastatic.

Conclusion: The results indicate that race, in isolation, was not associated with the presence of metastasis at diagnosis nor with worse survival within the same stage of the disease. Survival was mainly influenced by the presence of metastasis at diagnosis, with the stage of the disease being more determinant than race, which reinforces the importance of early diagnosis.

Ethics: 1.629.547 and 1.596.198.

Keywords: breast cancer; women's health; survival analysis; Epidemiology; race; survival.

<https://doi.org/10.29289/25945394V36S11190>

1190 – Closing the gap: is brazilian mastology achieving gender equity among younger generations?

Gabriela da Rocha Branco Silveira¹, Mirella Laranjeira Nunes¹, João Esberard de Vasconcelos Beltrao Neto¹, Cinthya Roberta Santos de Jesus¹

¹Hospital Universitário Oswaldo Cruz – Recife (PE), Brazil.

Introduction: The feminization of the Brazilian medical workforce has progressed heterogeneously across specialties, being historically slower in fields with a surgical component. Mastology, which integrates both clinical and surgical approaches, represents a relevant setting for analyzing gender equity. This study aims to evaluate the gender distribution among mastologists in Brazil according to demographic and training-related variables.

Methods: Analytical cross-sectional study using secondary data from the Federal Council of Medicine and the Brazilian Society of Mastology. Physicians with active registration and a specialist title in mastology were included. The variables analyzed included gender, age group (as a proxy for years since training), and geographic distribution by macro-region. Descriptive and inferential analyses were performed, applying the chi-square test to compare proportions, with $p < 0.05$ considered statistically significant.

Results: A predominance of males was identified in the overall sample; however, a higher proportion of females was observed in younger age groups ($p < 0.05$), suggesting an ongoing feminization trend in the specialty. Geographic distribution showed a higher concentration of specialists in the Southeast and South regions, with no statistically significant differences between genders ($p > 0.05$). In the North and Northeast regions, a lower density of specialists was observed, with a slight variation in gender distribution.

Conclusion: In Brazil, the field of mastology remains predominantly male but demonstrates a generational shift with a significant increase in female participation among younger professionals. These findings highlight the importance of continuous monitoring of gender equity, especially regarding access to training, workforce integration, and leadership positions. Future studies should explore outcomes related to professional practice and potential structural disparities within the specialty.

Ethics: Survey.

Keywords: Epidemiology; mastology; gender.

<https://doi.org/10.29289/25945394V36S11192>

1192 – Impact of the COVID-19 pandemic on mammographic screening of breast cancer in the Unified Health System of Brazil: a national epidemiological study with a specific focus on Goiás and racial inequality

Vyvian Paes de Oliveira, Higor Nogueira Paes

¹Pontifícia Universidade Católica de Goiás – Goiânia (GO), Brazil.

²Unidade de Pronto Atendimento Planaltina – Brasília (DF), Brazil.

Introduction: Breast cancer remains the leading cause of death from malignant neoplasms among women in Brazil, with mammography recognized as the gold standard method for population screening. In the context of the COVID-19 pandemic, a substantial reduction in the coverage of this examination was observed, attributed to the redirection of resources in the public health system. This scenario disproportionately impacted vulnerable groups, especially Black women, compromising early diagnosis and, consequently, clinical outcomes.

Methodology: A systematic review conducted in accordance with the PRISMA guidelines. The search was performed via the PubMed database, using the descriptors “breast cancer”, “mammography”, “Brazil” and “COVID-19”, applying filters for studies published in the last five years, involving humans and the female population. Fourteen studies were included. The PICO strategy included women eligible for mammographic screening in the Brazilian Unified Health System (SUS) in Goiás, exposed to the pandemic period, compared to the pre-pandemic timeframe, stratified by race. The outcomes included the volume of mammograms performed, screening coverage, mortality, and racial inequalities, complemented by secondary data from DATASUS and INCA.

Results: In the state of Goiás, a significant reduction in the number of mammograms was observed between 2019 and 2020, with a decrease from 31,041 to 15,710 exams in white women and from 4,980 to 2,547 in black women. Although the proportional reductions were similar, black women maintained less absolute access to screening, highlighting the persistence of structural inequities. Furthermore, an increase was observed in the proportion of diagnoses at advanced stages, as well as an increase in mortality, estimated at 12.74 per 100,000 women.

Conclusion: The reorganization of health services during the COVID-19 pandemic negatively impacted breast cancer screening, exacerbating racial inequalities in access to early diagnosis and clinical management, particularly among Black women in the state of Goiás.

Ethics: Public data.

Keywords: breast neoplasms; mammography; COVID-19; health services accessibility; health status disparities.

PRESENTATION: E-POSTER

<https://doi.org/10.29289/25945394V36S11071>

1071 – Featuring extraction for predicting malignancy in images from breast ultrasound nodules

Daniel Guimarães Tiezzi, Isabela da Mata Tiezzi, Sarah Abud Recife, Ruth Moraes Bonini, Licerio Miguel, Nilton Onari, Liliane Silvestre, Isabela Panzeri Carlotti Buzatto

¹Centro de Referência da Saúde da Mulher – Ribeirão Preto (SP), Brazil.

²Universidade de São Paulo, Faculdade de Medicina de Ribeirão Preto – Ribeirão Preto (SP), Brazil.

³Hospital das Clínicas de Ribeirão Preto – Ribeirão Preto (SP), Brazil.

⁴Hospital de Amor – Barretos (SP), Brazil.

Introduction: Ultrasonography (US) is the standard technology to analyse palpable or mammographically identified breast nodules. BI-RADS classification has been routinely used to select patients to core needle biopsy based on the risk of malignancy. However, due to the low predictive positive value (PPV) of this method, most patients undergo unnecessary procedures. Developing models for Computer-Aided Diagnosis (CAD) may optimize breast cancer diagnosis.

Method: An exploratory analysis evaluating the utility of featuring extraction as a tool to predict malignancy from breast images acquired by US examination. The BUSBRA dataset (1,064 unique images) was used in training / validation tasks and the final adjusted model was tested on a local dataset (229 images: 135 benign and 44 malignant). Feature extraction focused on the mask area and a total of 87 features was inferred using the radiomics library for Python. Logistic regression was used for feature selection (n=16). The train/validation dataset was split into a 7:3 ratio and cross validation (k=5) was used to verify the performance of the support vector machine (SVM), random forest (RF), logistic regression (LR), and gradient boosting decision tree (XGB) classifiers. The PPV and negative predictive values (PPV and NPV) were estimated and the final model was tuned to optimize the NPV, thereby minimizing missing cancer cases.

Results: The model mean accuracy was 0.87 ± 0.05 during the CV processes and the models performances were similar. After tuning the decision threshold to optimize the NPV, the adjusted model achieved 95% NPV with 67% PPV (accuracy=82%). The final prediction for the test set achieves 96% NPV and 51% PPV and 98% sensitivity with the RF classifier.

Conclusion: Featuring extraction from US images is an efficient method to automate tools that discriminate the etiology of breast nodules.

Ethics: Research Ethics Committee Approval (CAAE 41696820.4.1001.5440).

Keywords: breast neoplasm; diagnostic ultrasound; artificial intelligence.

<https://doi.org/10.29289/25945394V36S11103>

1103 – Clinical practice and the consensus on breast biopsies in Brazil: a national survey study

Henrique Lima Couto, Daniela Rodrigues Siqueira, Eduardo Carvalho Pessoa, Heverton Leal Hernesto de Amorim, Bertha Andrade Coelho, Marcelo Marcelo Antonini, Agnaldo Lopes da Silva, Andre André Mattar

¹Universidade Federal de Minas Gerais, Faculdade de Medicina – Belo Horizonte (MG), Brazil.

²Mater-Clínica – Montes Claros (MG), Brazil.

³Redimasto-Redimama – Belo Horizonte (MG), Brazil.

⁴UD Diagnóstica - João Pessoa - PB – Brazil.

⁵Universidade Estadual Paulista “Júlio de Mesquita Filho” – Botucatu (SP), Brazil.

Objective: To assess the professional profile, clinical practice, availability, and consensus among specialists regarding minimally invasive breast procedures in Brazil.

Methods: An observational, cross-sectional study based on an electronic questionnaire distributed nationwide to physicians involved in breast care. The instrument comprised 34 objective questions, including 13 Likert-scale items addressing breast biopsy. Data collection occurred from November 4, 2024, to July 31, 2025. Descriptive and inferential analysis was performed by chi-square test or Monte Carlo simulation. Consensus was defined as $\geq 70\%$ agreement.

Results: A total of 529 specialists completed the survey. Median age of 49 (40–57); 52.74% women; 54.25% from Southeast; 65.03% work in state capitals; 72.02% mastologists; 34.22% worked exclusively in private practice (PP), 34.03% in both the public system (SUS) and PP, and 3.40% exclusively in SUS; 82.99% board certified; 69.38% performed breast biopsies; 51.98% trained during residency; 69.19% proficiency in ultrasound (US) and 38.19% in stereotaxis. Availability reported was: 80.15% core biopsy (CB) in the SUS and 97.73% in PP; 55.95% preoperative localization of non-palpable lesions in the SUS and 93.01% PP; 21.17% vacuum-assisted biopsy (VAB) in the SUS and 81.92% PP; 7.75% vacuum-assisted excision (VAE) in the SUS and 64.84% PP; 80.72% US-guided in the SUS and 97.92% PP; 61.63% stereotaxis in the SUS and 88.85% PP; 8.88% MRI-guided biopsy in the SUS and 55.01% PP. There was consensus for BI-RADS 4 US-CB of solid nodules (95.46%); US-VAB of solid-cystic nodules (81.66%), architectural distortions (80.53%), and calcifications (73.16%); stereotactic-VAB of calcifications (93.95%); and second-line VAE of complex sclerosing and papillary lesions without atypia (80.53%).

Conclusion: Marked disparities exist in access to breast biopsy procedures within the Brazilian healthcare system. Most trained professionals are in state capitals, and minimally invasive techniques — particularly VAB/VAE, stereotaxis, and MRI — are less available in the SUS. Agreement regarding indications and techniques remains limited, underscoring the need for standardized national guidelines and expanded access.

Ethics: Survey.

Keywords: breast biopsy; breast cancer; minimally invasive procedures.

PRESENTATION: E-POSTER

<https://doi.org/10.29289/25945394V36S10906>

906 – Optimizing breast cancer care: overcoming delays for better outcomes in Brazil

Ana Clara Cesar Coelho¹, Annamaria Massahud Rodrigues Santos¹

¹Instituto de Previdência dos Servidores do Estado de Minas Gerais, Hospital Governador Israel Pinheiro – Belo Horizonte (MG), Brazil.

Introduction: Breast cancer is the leading cause of cancer death among women in Brazil. Despite laws establishing a 60-day deadline for starting treatment, delays are still prevalent, compromising patient prognosis and increasing healthcare costs, especially in more advanced stages. This study evaluates the quality of breast cancer care at Hospital Governador Israel Pinheiro (HGIP) in Minas Gerais, focusing on compliance with legal timelines and identifying the causes of delays.

Methods: A descriptive, analytical, and retrospective study, utilizing electronic medical records of 197 patients diagnosed with breast cancer at HGIP between 2020 and 2022. Quantitative analysis used negative binomial regression to identify factors associated with the time between biopsy and surgery, while qualitative analysis, through thematic content analysis, categorized institutional, personal, and external factors impacting treatment delays. The study was approved by the Research Ethics Committee (Approval No. 7,914,343).

Results: The average time between biopsy and surgery was 77 days, with 51.3% of treatments starting after the 60-day legal limit. Age was a significant factor in delays. Institutional factors accounted for 78.9% of the delays, primarily due to limitations in the surgical block and preoperative consultations.

Conclusion: Over half of the patients did not initiate treatment within the legal timeframe, highlighting institutional failures that require urgent correction. Reorganizing care pathways at HGIP is crucial to ensuring compliance with legal deadlines, improving clinical outcomes, and reducing costs associated with advanced-stage treatments. This study is a call to action to optimize internal management, improve care quality, and create a more efficient and equitable health-care system. Furthermore, the strategies identified hold great potential to be replicated in other hospitals across Brazil, promoting improvements in breast cancer care nationwide.

Ethics: Research Ethics Committee Approval (CAAE 90438125.6.0000.5136).

Keywords: quality of health care; breast neoplasms; health planning; time-to-treatment; treatment delay.

<https://doi.org/10.29289/25945394V36S10919>

919 – Diagnostic performance of a digital breast tomosynthesis–based imaging pathway in a peruvian dense-breast population

Gaston Wilmer Mendoza de Lama¹, Nancy Elena Muñoz Quispe¹, Diana Diaz-Llontop¹, Richard Eduardo Castillo Laborio¹

¹Detecta Clínica – Peru.

Breast density varies across populations and tends to be higher in Latin American women, potentially affecting the performance of breast imaging modalities. However, real-world evidence on digital breast tomosynthesis (DBT) — based diagnostic pathways in these settings remains limited. This study aimed to evaluate the diagnostic performance of a DBT-based imaging approach within a Peruvian population, focusing on recall resolution with ultrasound, biopsy yield, cancer detection rate (CDR), and predictors of malignancy in a predominantly dense-breast cohort. A retrospective analysis was conducted on 2,690 DBT examinations performed at a tertiary breast imaging center in Peru, excluding BI-RADS 6 cases. Examinations classified as BI-RADS 0 underwent targeted ultrasound, and biopsies were indicated for BI-RADS ≥ 4 identified through mammography or ultrasound. Key outcomes included recall rate, biopsy rate, positive predictive value of biopsy recommendation (PPV3), and CDR. Multivariable logistic regression was used to identify independent predictors of malignancy among biopsied patients. Dense breasts were observed in 65.7% of cases. The recall rate was 45.0%. Among BI-RADS 0 cases, 87.9% were resolved via ultrasound without requiring a biopsy, while 12.0% were upgraded to biopsy. A total of 98 biopsies were performed, with 66 malignancies detected, resulting in a PPV3 of 67.3%. The overall CDR was 24.5 cancers per 1,000 examinations. Higher BI-RADS categories ($\geq 4B$ vs. 4A) were independently associated with malignancy, while age showed a non-significant trend. Breast density, family history, and imaging indication were not independent predictors after adjustment. In conclusion, despite high recall rates, the DBT-based pathway demonstrated strong diagnostic performance. Targeted ultrasound effectively optimized patient triage, maintaining high biopsy yield and cancer detection. These findings support the use of tailored DBT-based strategies in Latin American populations with a high breast density.

Ethics: FWA00036203 (Peru).

Keywords: breast neoplasms; mammography; tomosynthesis.

<https://doi.org/10.29289/25945394V36S10949>

949 – Adiponectin levels and clinical-demographic associations in breast cancer: a cross-sectional analysis

Victor Domingos Lisita Rosa¹, Rafael Ribeiro Alves¹, Anderson Garcia Silva¹, Nathan Muci Aguiar Damasio¹, Carlos Alexandre Vieira¹, Diego Vinicius Goncalves Santana¹, Ruffo Freitas-Júnior¹

¹Universidade Federal de Goiás, Hospital das Clínicas, Centro Avançado de Diagnóstico de Mama – Goiânia (GO), Brazil.

Background: Obesity and overweight in women with breast cancer have been increasing significantly, affecting two-thirds of cancer survivors. Adipocytes produce and release adiponectin, however, in general, the greater an individual's body fat mass is, the lower their adiponectin levels are. Adiponectin is an adipokine with anti-inflammatory and antitumoral properties, yet its role as a metabolic biomarker in breast cancer remains poorly understood. Age-related changes in adipose tissue function may modulate adiponectin levels and influence cancer risk and prognosis. The aim of this study is to investigate the association between serum adiponectin levels and clinicopathological characteristics in breast cancer patients.

Methods: This cross-sectional analysis included 29 breast cancer patients stratified by adiponectin levels using a cutoff of 9.4 µg/mL (low: <9.4 µg/mL, n=15, 51.7%; high: ≥9.4 µg/mL, n=14, 48.3%). Serum adiponectin was measured via enzyme-linked immunosorbent assay (ELISA). Logistic and linear regression analyses were performed to assess associations with demographic, clinical, and metabolic variables.

Results: Serum adiponectin levels ranged from 2.1 to 38.7 µg/mL (mean: 12.4±9.4 µg/mL, median: 9.4 µg/mL). Age was the only variable significantly associated with elevated adiponectin levels in the logistic regression analysis (OR=1.13, 95%CI 1.01–1.28, p=0.039, McFadden R²=0.40). No significant associations were found between adiponectin and body mass index (BMI), tumor size, lymph node status, endocrine receptor status, muscle strength, or cellular integrity markers. Linear regression analysis confirmed the absence of significant predictors for continuous adiponectin values.

Conclusions: Age emerges as a critical metabolic modifier of adiponectin regulation in breast cancer patients. These preliminary findings suggest that adiponectin may represent a distinct age-dependent metabolic phenotype.

Ethics: Research Ethics Committee Approval (CAAE 50717115.4.3002.5078).

Registry: REBEC: RBR-3rf99vw.

Keywords: adiponectin; breast cancer; metabolic biomarker; age.

<https://doi.org/10.29289/25945394V36S10950>

950 – Clinical and prognostic characteristics of patients with HER2-low breast cancer: a retrospective cohort study at a referral center in southern Brazil

Gabriela Tatto Roggia¹, Pedro Lorenzo Neves¹, Ana Carolina Rocha Santos¹, Angela dos Santos Avakian¹, Daniela Assumpcao Flain¹

¹Hospital Santa Casa de Porto Alegre – Porto Alegre (RS), Brazil.

HER2-low breast cancer is a recently recognized classification, defined by immunohistochemical HER2 expression of 1+ or 2+ without gene amplification by FISH. Although emerging evidence suggests that this subgroup has distinct clinical, biological, and prognostic features, its implications remain incompletely understood. This study aimed to evaluate the clinical-pathological characteristics and outcomes of patients diagnosed with HER2-low breast cancer at Santa Casa de Porto Alegre, as well as to identify potential prognostic factors. This retrospective observational study analyzed 282 patients treated between 2014 and 2018. The mean age at diagnosis was 58 years, consistent with peak incidence reported in the literature. Luminal-like tumors predominated, with a high frequency of hormone receptor positivity and a mean Ki-67 index of 28.1%, reflecting biological heterogeneity. Most cases were diagnosed at clinical and pathological stages II and III, indicating a predominance of locally advanced disease at presentation. Invasive ductal carcinoma was the most common histological subtype, frequently associated with lymph node involvement and intermediate to high histological grade (II–III). During follow-up, approximately 15% of patients developed locoregional or distant recurrence, mainly affecting bone and lung tissue. Recurrence was more strongly associated with established prognostic factors such as elevated Ki-67, larger tumor size, higher histological grade, and nodal involvement than with HER2 expression levels (1+ vs. 2+). Notably, some cases showed conversion to HER2 3+ at recurrence, underscoring the importance of tumor reassessment. These findings suggest that HER2-low tumors share characteristics with advanced luminal breast cancers and highlight the need for standardized diagnostic criteria as well as structured databases to improve prognostic stratification and guide therapeutic decisions, particularly in the era of novel targeted therapies such as trastuzumab deruxtecan.

Ethics: Research Ethics Committee Approval (CAAE 88901725.4.0000.5335).

Funding: 058428/2025.

Keywords: breast neoplasms; HER2-low; ErbB-2; prognostic factors; tumor heterogeneity.

<https://doi.org/10.29289/25945394V36S10958>

958 – Photobiomodulation in radiodermatitis in patients with breast cancer: a literature review

Débora Frazão e Silva¹, Tatiane Nunes da Silva Rodarte¹, Flavia Batista Gomes Noleto¹, Carlos Alexandre Vieira¹

¹Universidade Federal de Goiás – Goiânia (GO), Brazil.

Introduction: Among the therapeutic modalities for breast cancer, Radiotherapy (RT) is distinguished by the use of ionizing radiation in precisely calculated doses, capable of promoting direct and indirect ionizations that damage the deoxyribonucleic acid (DNA) of tumor cells, inhibiting their proliferation or inducing apoptosis. This process is also associated with inflammation and increased oxidative stress. Among the adverse effects of RT, radiodermatitis (RD) is the most frequent, potentially compromising skin integrity and quality of life of the patients. Photobiomodulation (PBMT), also known as low-level laser therapy, has been investigated as an effective therapeutic strategy for the prevention and treatment of RT-associated skin lesions, demonstrating efficacy in mitigating symptoms such as pain and inflammation.

Objective: To analyze the effects of PBMT on RD in patients with breast cancer undergoing RT.

Methods: An integrative literature review was conducted using the PubMed and SciELO databases, including studies published in both Portuguese and English between 2021 and 2026, available in full text. As an exclusion criteria, studies not related to the descriptors “breast cancer,” “radiodermatitis,” and “photobiomodulation” were removed. A total of 33 publications were identified, of which 8 were included.

Results: The findings indicate that PBMT, using different light sources such as low-level lasers and light-emitting diodes (LEDs), shows beneficial effects in modulating the inflammatory response, stimulating tissue repair, and reducing pain associated with RD, potentially decreasing its severity and occurrence.

Conclusion: PBMT represents a safe and potentially effective intervention in the management of RD in patients with breast cancer. However, more robust clinical studies are needed to establish standardized protocols and expand its incorporation into clinical practice.

Ethics: Public data.

Keywords: breast cancer; radiodermatitis; photobiomodulation; radiotherapy; low-level laser therapy.

<https://doi.org/10.29289/25945394V36S10984>

984 – Photodynamic therapy for cutaneous recurrence of breast cancer: a potential palliative alternative

Hellen Rocha Luz, Luiz Henrique Alves Costa, Letícia Almeida Carvalho, Antônio Cláudio Tedesco, Leonardo Pereira Franchi, Elisângela de Paula Silveira Lacerda

¹Instituto Brasileiro de Farmacogenômica e Epigenômica em Cardiotoxicidade (Universidade Federal de Goiás/Universidade de São Paulo) – São Paulo (SP), Brazil.

²Universidade de São Paulo, Faculdade de Ciências Farmacêuticas, Laboratório de Biologia Molecular Aplicada ao Diagnóstico e Farmacogenômica – São Paulo (SP), Brazil.

Cutaneous recurrence of breast cancer represents a clinically challenging condition, frequently associated with pain, ulceration, bleeding, and reduced quality of life, particularly in advanced stages when effective local treatment options are limited. In this context, minimally invasive therapies capable of achieving local tumor control are highly desirable for palliative management. Photodynamic therapy (PDT) has emerged as a promising strategy due to its localized cytotoxic effects mediated by reactive oxygen species following activation of a photosensitizer. This *in vitro* study aimed to evaluate the cytotoxic effects of PDT using a nanoemulsion containing chloroaluminum phthalocyanine (ClAlPc/Ne) in breast cancer cell lines, with emphasis on triple-negative breast cancer (TNBC), a subtype associated with aggressive clinical course and limited therapeutic options. MCF-7 (luminal A) and MDA-MB-231 (TNBC) cells were incubated with ClAlPc/Ne for 24 hours, followed by photoactivation at increasing light doses (1, 4, and 16 J/cm²) and subsequent viability assessment using the MTT assay. Control conditions included nanoemulsion without photosensitizer and non-irradiated cells. ClAlPc/Ne-mediated PDT induced dose-dependent phototoxicity in both cell lines, with greater sensitivity observed in MDA-MB-231 cells compared to MCF-7 ($p < 0.05$). IC₅₀ values for TNBC cells decreased from 1.96 μM (1 J/cm²) to $< 0.01 \mu\text{M}$ (16 J/cm²), indicating enhanced susceptibility to oxidative stress. In contrast, MCF-7 cells demonstrated comparatively lower sensitivity at equivalent conditions. These findings indicate that PDT with ClAlPc/Ne promotes selective cytotoxicity in TNBC cells and supports its potential as a localized therapeutic strategy. Although limited to an *in vitro* model, these results highlight its relevance as a candidate approach for the palliative management of cutaneous recurrence of breast cancer, aiming to improve local control and patient quality of life.

Ethics: *In vitro* study.

Keywords: triple-negative breast cancer; photodynamic therapy; cutaneous recurrence; palliative treatment; nanoemulsion.

<https://doi.org/10.29289/25945394V36S10999>

999 – Influence of health literacy on adherence to mammographic screening

Marina Elias Rocha¹, Carlos Henrique de Carvalho Andrade¹

¹Centro Universitário Goyazes – Trindade (GO), Brazil.

Introduction: Health literacy (HL) aims to empower patients in their health-disease process, emphasizing breast cancer, the most frequent cancer in women, where early detection is linked to a full recovery. HL focused on mammography screening reinforces the importance of regular periodicity and understanding the importance of the examination's clinical relevance for women's health, thereby facilitating early detection and increasing the survival rate.

Objective: To verify the influence of health literacy on adherence to breast cancer screening through mammography.

Material and Methods: A literature review, considering articles in Portuguese and English, from the Scielo, Google Scholar, and Pubmed databases, with a time frame from 2021 to 2026. Seven articles were found, and five were selected for this study, focusing on "Health literacy," "Treatment adherence," "Influence," "Mammography," and "Health education".

Results: From the filtered articles, health literacy in relation to women's health and adherence to mammography screening was analyzed. Beyond literacy levels, women with a lower economic status, limited access to healthcare, and distance from resources were also impactful factors affecting adherence to screening. Another risk is the trivialization of the examination found among the population, which increases the risk of late diagnosis.

Conclusion: The articles presented were shed light on how limited health literacy hinders the adherence to breast cancer screening. They demonstrated that limited health literacy and economic factors directly interfere with breast cancer screening, placing a direct responsibility on healthcare professionals to guide this population, demystifying common misconceptions and reinforcing the importance of periodic screening. This should be combined with public policies that strengthen and facilitate access to screening, promoting early diagnosis.

Ethics: Public data.

Keywords: breast cancer; health literacy; mammography; treatment adherence; health education.

<https://doi.org/10.29289/25945394V36S11006>

1006 – Prognostic factors associated with survival in breast cancer patients

Débora Nascimento Dias Neves, Juarez Antonio de Sousa, Matheus Gabriel Gontijo Silva, Carlos Eduardo Neves de Sá, Eduardo Souto Silva, Lucélia Gonçalves Vieira, Cynthia Arantes Vieira Tojeiro, Cayan Xavier de Paula

¹Universidade Federal de Goiás, Hospital das Clínicas, Empresa Brasileira de Serviços Hospitalares – Goiânia (GO), Brazil.

²Universidade Federal de Goiás – Goiânia (GO), Brazil.

Introduction/Rationale: Breast cancer is the most common malignancy among women in Brazil and one of the leading causes of cancer-related mortality (Ministry of Health, Estimate 2023: Cancer Incidence in Brazil). Identifying prognostic factors is essential for risk stratification and therapeutic planning.

Methods: A retrospective observational study was conducted using data from 272 breast cancer patients treated at the Hospital das Clínicas of the Federal University of Goiás (HC/Universidade Federal de Goiás), obtained from medical records. The studied outcome was breast cancer-specific mortality, tracked up to December 2025, with remaining cases considered censored. Follow-up time was defined as the interval between diagnosis and death or censoring. Survival was estimated using the Kaplan-Meier method. Univariate and multivariate Cox regression models were fitted to evaluate prognostic factors, and a parametric Weibull model was used as a complementary analysis. The study was approved by the Research Ethics Committee of HC/Universidade Federal de Goiás approval no. 6.833.075 and CAAE nº 78349624.5.0000.5078.

Results: A total of 18 deaths (6.6%) and 254 censored observations (93.4%) were observed. The 3-year survival probability was 94.0%. The presence of distant metastasis was strongly associated with an increased risk of death in the univariate analysis (HR=14.89; $p<0.001$), as was lobular histological type (HR=8.24; $p=0.008$). In the multivariate model, metastasis remained the main independent prognostic factor (HR=13.15; $p<0.001$), while lobular histology showed borderline significance (HR=6.00; $p=0.052$). The Weibull model indicated an increasing hazard over time, suggesting risk progression during follow-up.

Conclusion: The presence of distant metastasis was the main prognostic factor associated with the risk of death, while lobular histological type exhibited a tendency toward a worse prognosis. These findings may contribute to the prognostic assessment of breast cancer patients.

Ethics: Research Ethics Committee Approval (CAAE 78349624.5.0000.5078).

Keywords: breast neoplasms; survival analysis; Kaplan-Meier estimate; proportional hazards models.

<https://doi.org/10.29289/25945394V36S11012>

1012 – Cancer-related cognitive impairment in breast cancer: influence of the triple-negative subtype and therapeutic regimens

Marina Elias Rocha¹, Isabella Ferreira Bonifácio¹, Edivando de Lima Sabino de Lima Sabino¹

¹Centro Universitário de Mineiros – Trindade (GO), Brazil.

Introduction: The cancer-related cognitive impairment (CRCI) is a relevant challenge for breast cancer survivors, with biological mechanisms still poorly understood, especially regarding the influence of tumor molecular subtypes on cerebral vulnerability. Although often attributed solely to treatment effects, recent evidence suggests that more aggressive tumors may be associated with distinct neurobiological risks.

Objective: The present study aimed to identify clinical and biological predictors of CRCI, with an emphasis on the relationship between aggressive tumor subtypes and therapeutic regimens with cerebral structural integrity.

Methodology: A systematic synthesis of studies published between 2021 and 2025 was conducted through PubMed, Biblioteca Virtual em Saúde and SciELO databases, using “Breast Neoplasms”, “Cognition Disorders” and “Neurobiology” as main descriptors. Eleven original articles were submitted to critical analysis, of which five met the eligibility criteria. The analysis prioritized neuroinflammatory pathways, microglial activation and validation of risk prediction nomograms in stratified cohorts.

Results and Discussion: The results show that CRCI results from the interaction between neuroinflammation and blood-brain barrier dysfunction. Six factors predict cognitive decline: age, schooling, tumor subtype, treatment, emotional distress and fatigue. Triple-negative breast cancer presents a higher risk of cognitive impairment, especially in young women, in whom memory complaints, fatigue and depressive symptoms are strongly associated. In addition, chemotherapy is related to a reduction of gray matter in frontal and temporal brain areas.

Conclusion: Therefore, CRCI is more pronounced in triple-negative breast cancer, indicating that cognitive decline varies according to tumor subtype. These findings reinforce the importance of early cognitive screening, especially in high-risk patients, to preserve neurological health in the long term.

Ethics: Public data.

Keywords: breast neoplasms; cognition disorders; neurobiology.

<https://doi.org/10.29289/25945394V36S11017>

1017 – Melatonin oncostatic mechanisms as an adjuvant strategy: a synthesis of molecular evidence

Marina Elias Rocha¹, Isabella Ferreira Bonifácio¹, Edivando de Lima Sabino¹

¹Centro Universitário de Mineiros – Trindade (GO), Brazil.

Introduction: Melatonin (N-acetyl-5-methoxytryptamine) has transcended its classic role as a circadian regulator to emerge as a potent oncostatic agent. Despite its pleiotropic effects, its integration into clinical mastology remains limited.

Objective: To synthesize molecular evidence on the role of melatonin in breast cancer progression and to analyze its potential therapeutic synergy.

Methodology: An integrative review was conducted through PubMed, SciELO and Cochrane databases, covering studies published between 2021 and 2024. The descriptors used were “Breast Neoplasms”, “Melatonin”, “Aromatase Inhibitors” and “Angiogenesis Inhibitors”. Eligibility criteria focused on mechanistic studies and clinical adjuvant therapy.

Results and Discussion: Melatonin exhibits a quadruple oncostatic mechanism: 1) Mitochondrial reprogramming: reverses the Warburg effect by inhibiting HIF-1 α and disinhibiting the pyruvate dehydrogenase complex (PDH), shifting metabolism toward oxidative phosphorylation; 2) Endocrine modulation: acts as a selective estrogen enzyme modulator (SEEM), negatively regulating aromatase promoters I.3 and II via the COX-2/PGE2 pathway, leading to a significant reduction in local estradiol synthesis; 3) Antiangiogenesis: suppresses VEGF and Angiopoietin-2, neutralizing the pro-angiogenic rebound frequently triggered by taxanes and vinca alkaloids; 4) Metastatic inhibition: upregulates E-cadherin and inhibits MMP-9, suppressing the epithelial-mesenchymal transition (EMT). Data indicate that 1 nM melatonin can increase radiosensitivity by up to 75% in ER+ models and provide neuroprotection against chemotherapy-induced cognitive impairment.

Conclusion: Melatonin acts as a mitochondrial and epigenetic modulator, reprogramming tumor metabolism and inhibiting angiogenesis. Due to its low toxicity and favorable cost-benefit ratio, it stands out as a potential adjuvant therapy in breast cancer, reinforcing the need for clinical trials to improve outcomes and the quality of life of patients.

Ethics: Public data.

Keywords: breast neoplasms; melatonin; aromatase inhibitors; angiogenesis inhibitors.

<https://doi.org/10.29289/25945394V36S11023>

1023 – Therapeutic advances of sacituzumab govitecan and trastuzumab deruxtecan in the treatment of metastatic breast cancer: a systematic review

Izadora Fernandes Marques, Ana Clara da Costa Souza, Eduardo Carizzi Silva, Vyvian Paes de Oliveira, Higor Nogueira Paes

¹Pontifícia Universidade Católica de Goiás, Escola de Ciências Médicas e da Vida – Goiânia (GO), Brazil.

²Unidade de Pronto Atendimento – Planaltina (DF), Brazil.

Introduction: Metastatic breast cancer presents therapeutic limitations, since patients previously treated with conventional chemotherapy, especially those with heterogeneous subtypes such as HER2-low, HR+/HER2-, and triple-negative, often present an unfavorable clinical course. In this context, Trastuzumab Deruxtecan and Sacituzumab Govitecan, antibody-drug conjugates, emerge as pharmacological strategies based on the intracellular release of cytotoxic agents, promoting DNA damage and cell death. Therefore, they demonstrate improvement in the odds of progression-free survival and overall survival, as well as the expansion of therapeutic options.

Methodology: A systematic literature review that followed PRISMA guidelines registered in PROSPERO, under number CRD420261353633. The PubMed database was used to search the descriptors “metastatic breast cancer,” “Trastuzumab Deruxtecan,” and “Sacituzumab Govitecan.” Filters applied included “last 5 years,” “free full text,” “humans,” and “women.” The PICO criteria evaluated were: Participants: women diagnosed with metastatic breast cancer; Intervention: use of Trastuzumab Deruxtecan and Sacituzumab Govitecan; Comparator: patients undergoing conventional therapy; Outcomes: progression-free survival and overall survival. The included studies presented observational evidence, with overall risk of bias classified as moderate according to Joanna Briggs Institute criteria.

Results: Trastuzumab Deruxtecan demonstrated a significant increase in progression-free and overall survival in patients with HER2-low breast cancer. Sacituzumab Govitecan exhibited superior clinical efficacy over chemotherapy in triple-negative breast cancer, with gains in overall survival, as well as efficacy in HR+/HER2- tumors resistant to endocrine therapy. Both agents outperform single-agent chemotherapy in advanced lines, despite the potential risk of cross-resistance.

Conclusion: Trastuzumab Deruxtecan and Sacituzumab Govitecan represent significant advances in the treatment of advanced breast cancer, expanding therapeutic options and promoting significant survival gains, with superior efficacy compared to conventional chemotherapy across different tumor subtypes.

Ethics: Public data – Literature review.

Registry: Prospero CRD420261353633.

Keywords: breast neoplasms; treatment outcome; antineoplastic agents.

<https://doi.org/10.29289/25945394V36S11031>

1031 – Male breast cancer: a case series in a philanthropic institution serving patients from the Brazilian public health system in Salvador, Brazil

Suelen Sampaio Jesus¹, Daniela Cristina Ribeiro¹

¹Hospital Santo Antonio – Salvador (BA), Brazil.

Male breast cancer is rare and represents only 1% of the overall diagnoses of breast cancer. National data about the disease are scarce, especially in the context of the Brazilian public health system known as Unified Health System (SUS), and the low incidence of this neoplasm is due to late diagnoses and the extrapolation of clinical practices based on female breast cancer treatment. Descriptive observational case series study conducted with male patients who underwent surgery to treat breast cancer between 2015 to 2022. Sample size: 13 patients. The variables analysed in this study were sociodemographic factors, risk factors and medical history, clinicopathological characteristics, TNM staging, treatments and outcomes. Descriptive statistics were applied, presenting data as frequencies and percentages. The study population had an average age of 65 years (± 9), where 77% of the patients were over 60 years old, 61.5% were from small municipalities, 61.5% had a lower education level, 100% were overweight/obese and presented a palpable nodule when diagnosed. In 53.8% of the cases, axillary lymphadenopathy was found. The most frequent subtype (76.9%) was invasive carcinoma, not otherwise specified, with a predominance of the luminal profile (84.6%) and high hormone receptor positivity. Clinical staging II was prevalent among the patients (53.8%) and 15.4% of the cases already showed metastasis when diagnosed. All patients underwent mastectomy and 61.5% axillary lymph node dissection. Adjuvant chemotherapy was administered to 61.5% of the patients and 100% of them received tamoxifen hormone therapy. During an average follow-up of 5 years (± 2), 53.8% of patients progressed with distant metastasis, and one death was registered. Male breast cancer is predominantly diagnosed at older ages, and frequently in intermediate or advanced stages, in addition to expressive high rate of metastasis during follow-up, reinforcing the importance of increased awareness, early diagnoses and specific strategies to assist male patients.

Ethics: Research Ethics Committee Approval (CAAE 92402125.5.0000.0047).

Keywords: breast neoplasms; male; mastectomy.

<https://doi.org/10.29289/25945394V36S11042>

1042 – Molecules carried by nanoparticles with biological effects for the treatment of breast cancer: a systematic review

Nichole Kayan Ferreira de Oliveira Lima¹, Ana Karolina Felizarda de Almeida¹, João Paulo Pereira Ramos¹

¹Universidade Federal de Goiás – Goiânia (GO), Brazil.

Introduction: Breast cancer encompasses a group of diseases characterized by malignant neoplasms in the mammary glands. Currently, it is one of the most prevalent cancers both in Brazil and worldwide, remaining rare in young women, with its incidence increasing with age. With the development of nanotechnology, many efforts have been made to develop new treatment approaches involving drug-carrying nanoparticles, aiming for targeted delivery with minimal side effects.

Justification: This study aimed to conduct a systematic review of the literature to identify bioactive molecules encapsulated in liposomes or other nanocarriers with cytotoxic and antitumor properties applicable to the treatment of breast cancer.

Methodology: The methodology followed the PRISMA Statement guidelines, with structured searches using the PICOS acronym, considering studies published between 2022 and 2024 in the PubMed, Science Direct, Scopus, and Web of Science databases. After rigorous application of the inclusion and exclusion criteria, 12 studies were selected for analysis.

Results: The molecules studied included magnetic nanoparticles, hybrids, and targeted drugs, which demonstrated significant antitumor efficacy, selectivity for malignant cells, and lower systemic toxicity. Carrier nanoparticles stood out for their superior drug delivery to the target site.

Conclusion: Despite promising advances, methodological heterogeneity and the scarcity of clinical trials in humans still limit the translation of these findings into clinical practice.

Ethics: Public data – Literature review.

Keywords: breast neoplasms; nanoparticles; molecular targeted therapy; drug delivery systems.

PRESENTATION: E-POSTER

<https://doi.org/10.29289/25945394V36S11055>

1055 – OCTABRAZIL – breast cancer in octogenarian women: a real-world study at a brazilian tertiary hospital

Ana Luisa Ataíde Moraes¹, Ana Flavia Seixas Salomão¹, Bruna Salani Mota¹, Jonathan Yugo Masaeka¹, Yedda Nunes Reis¹, Theodora Karnakis¹, Laura Testa¹, José Roberto Filassi¹

¹Instituto do Câncer do Estado de São Paulo – São Paulo (SP), Brazil.

Introduction: Breast cancer in women ≥ 80 years presents challenges due to comorbidities, functional status and under-representation in trials. This study evaluated clinical characteristics, treatment patterns, and survival in this population.

Methods: A retrospective cohort of patients (≥ 80 years) diagnosed between 2008–2021 at a Brazilian tertiary hospital. Survival was analyzed using Cox proportional hazards regression.

Results: Among 390 patients, 293 (75.1%) had no treatment-related complications, while 97 (24.9%) developed adverse events. Comorbidity burden was high: hypertension (78%), polypharmacy (34.6%), diabetes (30.7%), dementia (18%), and heart failure (15.3%). Mean age was 85.7 years in patients without complications and 84.2 years in those with complications. Invasive ductal carcinoma (72.9%) and luminal-like subtype (77.9%) predominated. Staging was I (20%), II (25.1%), III (26.4%), and IV (25.1%). Treatments included neoadjuvant (10.8%), primary surgery (39.2%), and palliative intent (50%), mainly due to metastatic disease (49.7%), poor performance status (34.4%), or patient preference (15.4%). Complications occurred in 16.6% of surgical cases, 50% with chemotherapy, 13.6% with endocrine therapy, and 27.2% with anti-HER2 therapy. Complications occurred at a higher rate in ECOG 0–2 patients (83.7%), likely reflecting treatment selection bias. Treatment-related complications were not associated with overall survival (HR 1.17; 95%CI 0.87–1.60). Five 30-day deaths occurred. In multivariable analysis excluding stage IV and in situ disease, stage III (HR 1.61; 95%CI 1.11–2.34; $p=0.012$) and palliative treatment due to poor performance status (HR 2.14; 95%CI 1.30–3.44; $p<0.001$) were independently associated with worse survival rates. KPS 30–50% was associated with worse outcomes, without reaching statistical significance (HR 1.83; 95%CI 0.92–3.63; $p=0.084$). After adjustment for KPS, ECOG lost statistical significance.

Conclusion: Functional status is a critical prognostic determinant. KPS may capture prognostic information more accurately than ECOG in octogenarians. Advanced stage and performance-driven palliative care predicted poorer survival. Individualized strategies integrating functional status and tumor stage are essential to optimize therapeutic decisions.

Ethics: Research Ethics Committee Approval (CAAE 94921925.2.0000.0068).

Keywords: breast cancer; elderly women; morbidity; mortality; geriatric oncology.

<https://doi.org/10.29289/25945394V36S11084>

1084 – Use of brentuximab vedotin in breast implant–associated anaplastic large cell lymphoma: a scoping review

Ana Clara da Costa Souza, Izadora Fernandes Marques, Eduardo Carizzi Silva, Luiz de Paula Silveira Júnior, Luiz de Paula Silveira Neto, Maria Luiza Bessa de Paula

¹Centro Universitário de Mineiros – Goiânia (GO), Brazil.

²Pontifícia Universidade Católica de Goiás – Goiânia (GO), Brazil.

Introduction: Brentuximab vedotin (BV) is an antibody-drug conjugate that revolutionized the treatment of CD30 lymphomas, being incorporated into the management of breast implant–associated anaplastic large cell lymphoma (BIA-ALCL). By binding it to CD30, it internally releases a cytotoxic agent, promoting tumor cell death, therefore becoming an ally in surgical management.

Methodology: A scoping review based on PRISMA and Joanna Briggs Institute guidelines. The search was conducted through PubMed and Scopus using the descriptors “brentuximab vedotin AND BIA-ALCL,” covering a 10-year period. From thirteen initial studies, eight were selected (case reports, systematic reviews, and guidelines) based on clinical relevance and data rigor.

Results: In the reports, BV demonstrated significant clinical efficacy, complete and partial metabolic responses, tumor downstaging, and enabled curative surgeries, with sustained remission in several patients (>3–4 years). Administration occurred both as monotherapy and in combination. BV monotherapy was typically used for 6–8 cycles, mainly in the neoadjuvant (pre-surgical) setting, indicated when there was extracapsular extension with significant invasion of adjacent structures, to reduce thoracic masses and lymph node involvement, allowing for resection. Combined regimens (BV-CHP: brentuximab + cyclophosphamide + doxorubicin + prednisone) were used for approximately 6 cycles, both as primary and adjuvant therapies, associated with complete metabolic responses and, in some cases, avoidance of mutilating resections. One report documented therapeutic failure associated with an unfavorable genomic profile (absence of STAT3 mutation; novel mutations), suggesting resistance mechanisms. Overall, BV was well tolerated and allowed completion of cycles; however details on doses and intervals were scarce.

Conclusion: BV is a valuable option in systemic therapy for advanced BIA-ALCL, promoting tumor control, downstaging, and facilitating curative surgery. It can be used as a monotherapy or in combination, however, responses may vary, and genomic evaluation may help predict resistance and optimize therapeutic choice.

Ethics: Public data – Literature review.

Keywords: breast implants; brentuximab vedotin; lymphoma large-cell anaplastic; drug therapy.

<https://doi.org/10.29289/25945394V36S11085>

1085 – Prognostic impact of her2-low status in patients with breast cancer: a systematic review of the literature

Deborah Abucarma Soares, Maria Eduarda Dias Mendes, Ana Clara Umeno Alves Carvalho, Júlia Balduino Cassiano, Vera Aparecida Saddi, Sebastião Alves Pinto, Deidimar Cássia Abreu

¹Instituto Goiano de Oncologia e Hematologia – Goiânia (GO), Brazil.

²Pontifícia Universidade Católica de Goiás – Goiânia (GO), Brazil.

³Universidade Federal de Goiás – Goiânia (GO), Brazil.

Introduction: Breast cancer (BC) is a biologically heterogeneous disease and HER2 expression presents important prognostic implications. Recently, the HER2-low BC has been recognized, defined as HER2 immunohistochemistry (IHC) 1+ or 2+ without gene amplification, whereas HER2-zero tumors show no detectable expression. However, the prognostic significance of HER2-low status in BC remains unclear. This review evaluated the prognostic significance of HER2-low compared with HER2-zero in invasive BC.

Methods: The systematic review followed PRISMA guidelines and was registered in PROSPERO (CRD420261335199). Searches were conducted through the PubMed and LILACS databases using the terms “HER2-low” AND “breast cancer prognosis”, restricted to the last five years and free full text. The PICO criteria included: Participants, adult patients (≥18 years) diagnosed with invasive BC with HER2 status assessed by immunohistochemistry; intervention, HER2-low tumors, defined as HER2 1+ or HER2 2+ with negative gene amplification results; comparison, HER2-zero tumors (HER2-0); outcome, clinical prognosis, including overall survival (OS), disease-free survival (DFS), recurrence, and breast BC-specific mortality. Of the 400 articles identified and screened, 41 were included.

Results: Retrospective cohorts and secondary analyses of clinical trials evaluated HER2-negative BC across early, locally advanced, and metastatic settings. Most did not demonstrate clinically meaningful prognostic differences between HER2-low and HER2-zero tumors regarding OS or DFS, with survival curves frequently overlapping after adjustment for clinicopathological variables. However, other studies reported a modest subgroup difference. In hormone receptor-positive disease, HER2-low tumors were associated with improved DFS or lower recurrence risk. In triple-negative-BC, findings were heterogeneous, with some studies showing comparable outcomes and others reporting survival differences. Across therapeutic settings, including neoadjuvant chemotherapy and CDK4/6 inhibitor-based therapy, HER2-low status did not consistently predict survival outcomes.

Conclusion: Current evidence suggests that HER2-low BC do not present consistent prognostic difference compared with HER2-zero tumors. Further prospective studies are necessary to clarify the clinical significance of HER2-low expression.

Ethics: Public data – Literature review.

Registry: PROSPERO CRD420261335199.

Keywords: Invasive breast cancer; HER2 expression; immunohistochemistry.

<https://doi.org/10.29289/25945394V36S11099>

1099 – Chemotherapy for breast cancer during pregnancy: evaluation of maternal–fetal safety and therapeutic efficacy

Maria Maria Sanches de Oliveira¹, Alberto Vilela Lopes Dávila¹, Geovanna Aires Silva¹, Maria Eduarda Pereira de Souza¹, Marina Ribeiro Castro¹

¹Pontifícia Universidade Católica de Goiás – Goiânia (GO), Brazil.

Introduction: Breast cancer is the most common malignancy diagnosed during pregnancy, creating a therapeutic dilemma that requires effective maternal treatment while protecting the fetus. Evidence suggests that chemotherapy after the first trimester, mainly anthracyclines and taxanes, does significantly elevate the risk of congenital malformations, although prematurity and a low birth weight remain concerns. Long-term child outcomes are still uncertain.

Objective: To assess the safety and efficacy of chemotherapy during pregnancy in patients with breast cancer.

Methodology: An integrative review was conducted via the PubMed database, utilizing MeSH terms related to breast cancer, pregnancy, chemotherapy, and therapeutic outcomes. English-language studies published from 2015 to 2025 were included if they evaluated the safety and/or efficacy of chemotherapy during pregnancy. Clinical trials, observational studies, cohorts, case series, and case reports with maternal and fetal data were eligible. Studies on fertility preservation, isolated hormonal therapy, narrative reviews, and nongestational settings were excluded. Main outcomes were disease-free survival, overall survival, recurrence, prematurity, congenital malformations, and birth weight.

Results: Anthracycline- and taxane-based regimens administered after the first trimester showed maternal oncologic outcomes comparable to those of nonpregnant patients after adjustment for stage and tumor factors. Serious maternal events and congenital malformations were uncommon. Still, prematurity, low birth weight, and neonatal intensive care admission remained important risks, often linked to iatrogenic preterm delivery. Anti-HER2 agents were strongly associated with oligohydramnios or anhydramnios and poorer perinatal outcomes and therefore should be avoided.

Conclusion: Chemotherapy with anthracyclines and taxanes in the second and third trimesters appears to be effective and relatively safe in pregnancy-associated breast cancer. The main gap in literature is the lack of robust, long-term prospective data on neurocognitive and cardiac outcomes in exposed children. Individualized multidisciplinary care focused on reducing iatrogenic prematurity is essential.

Ethics: Public data – Literature review.

Keywords: breast neoplasms; pregnancy; chemotherapy.

<https://doi.org/10.29289/25945394V36S11102>

1102 – Innovations in oncoplastic surgery and breast reconstruction in breast cancer: a systematic review

Maria Clara Sanches de Oliveira¹, Ana Karolina Servato de Oliveira¹, Daniele Firmina Silva Vieira¹, Lara Auad Forte¹, Leticia Moraes Brito Barros¹, Marina Ribeiro Castro¹

¹Pontifícia Universidade Católica de Goiás – Goiânia (GO), Brazil.

Introduction: Oncoplastic breast surgery has progressed with minimally invasive technologies, especially robotic and microsurgical techniques. These innovations aim to improve precision, preserve anatomy, and enhance aesthetic outcomes without compromising oncologic safety. This review summarizes current evidence on the aesthetic, functional, and oncologic results of these advances in breast cancer surgery.

Objective: To systematically assess aesthetic, functional, and oncologic outcomes of technological innovations in oncoplastic surgery and breast reconstruction, with emphasis on robotic techniques, microsurgery, and immediate reconstruction.

Methodology: A systematic PubMed review was performed using MeSH terms related to breast neoplasms, surgery, oncoplastic procedures, reconstruction, robotics, 3D printing, computer-assisted surgery, recurrence, quality of life, satisfaction, and functional recovery. Studies from the last 10 years were screened without language restriction. Of the 31 studies identified, 5 were excluded for low methodological quality. Only clinical studies with adequate samples and standardized outcomes were included.

Results: Major complication rates were generally comparable between robotic and conventional techniques. However, several studies reported lower nipple-areolar complex and skin necrosis, with lower blood loss, and reduced donor-site morbidity with robotic autologous reconstruction. Seroma, infection, and reintervention also tended to be lower. Operative time was consistently longer, especially during the learning curve, but decreased with growing experience. Short and mid-term oncologic outcomes, including surgical margins, locoregional recurrence, and overall survival, were similar to conventional approaches. Functional and aesthetic outcomes favored robotic surgery, with greater satisfaction, superior body image satisfaction, improved psychosocial well-being, and higher quality of life. Immediate reconstruction through remote incisions with implants or autologous flaps was feasible and reproducible.

Conclusion: Robotic and microsurgical innovations appear promising for minimally invasive breast reconstruction, with lower morbidity, improved aesthetics, and acceptable oncologic safety. Still, longer operative time, high costs, technical heterogeneity, and the scarcity of large-scale studies remain important barriers.

Ethics: Public data – Literature review.

Keywords: breast neoplasms; mammoplasty; robotic surgical procedures; inventions.

<https://doi.org/10.29289/25945394V36S11118>

1118 – Proposed systematization of the clinical breast examination: a structured semiological approach

Luiz Paula Silveira Junior¹, Luiz Paula Silveira Neto¹, Maria Luiza Bessa Paula¹, Vyvian Paes Oliveira¹

¹Pontifícia Universidade Católica de Goiás – Goiânia (GO), Brazil.

Introduction: The clinical breast examination remains fundamental in the diagnostic evaluation of breast diseases, even with advances in imaging methods such as mammography, ultrasonography, and magnetic resonance imaging. In various contexts, the physical examination provides relevant information that supports the indication of imaging tests and complements radiological findings. However, significant heterogeneity is observed in the techniques used, including variations in the examination sequence, physical maneuvers, and reporting of findings, which compromises standardization and hinders the systematic teaching of breast semiology.

Objective: To present a proposal for the systematization of the physical breast examination, based on three structured stages of clinical assessment, including the introduction of a simultaneous comparative palpation technique.

Methods: A systematized narrative literature review was conducted following PRISMA recommendations, with searches performed in the PubMed/MEDLINE, Scopus, Web of Science, SciELO, and Cochrane Library databases, including publications from 1990 to 2024. Original articles, systematic reviews, clinical guidelines, and classical works addressing inspection, palpation, and lymph node evaluation were selected. The proposal was developed based on a critical analysis of the literature and clinical experience in mastology, with registration in PROSPERO (CRD420261354315).

Results: The clinical examination was structured into three stages: static inspection, dynamic inspection, and systematized breast palpation. Palpation comprises eight maneuvers: sliding, fingertip palpation, manual and bimanual compression, expression of the nipple-areolar complex, lymph node assessment, contralateral repetition, simultaneous comparative palpation, and examination in the supine position. Particular emphasis is given to simultaneous comparative palpation, performed with mirror-like circular movements, referred as the Silveira Júnior Maneuver.

Conclusion: The proposed systematization may increase the standardization and reproducibility of the clinical breast examination, as well as improve guidance for complementary tests, documentation of findings, and the teaching of breast semiology. The Silveira Júnior Maneuver shows potential utility, and further studies are needed to validate its diagnostic accuracy.

Ethics: Public data – Literature review.

Registry: PROSPERO CRD420261354315.

Keywords: breast diseases; physical examination; new palpation technique; early detection of cancer.

<https://doi.org/10.29289/25945394V36S11120>

1120 – The use of probiotics during chemotherapy for breast cancer: a scoping review

Marcus Mahler Borges¹, Ana Elisa de Figueiredo Miranda Mundim¹, Luiz de Paula Silveira Junior¹

¹Pontifícia Universidade Católica de Goiás – Goiânia (GO), Brazil.

Introduction: Breast cancer treatment using chemotherapy often leads to adverse events, such as mucositis and diarrhea, as well as psychological impacts on patients, reducing treatment tolerance and negatively affecting quality of life. Probiotic supplementation appears promising in mitigating these undesirable effects when used as an adjuvant in the therapeutic regimen.

Methodology: A scoping review developed following the PRISMA ScR methodological guidelines, initiated in September 2025. The search was conducted through PUBMED, BVS, and EMBASE databases. Initially, 492 articles were identified and exported to the Rayyan software, of which 32 were selected and read in full. Finally, nine studies were included in the final evaluation.

Results: The efficacy of probiotics varied according to the strains used. Interventions with *Bacteroides fragilis* 839 significantly reduced severe gastrointestinal effects, including grade 3 and 4 episodes of nausea, vomiting, and diarrhea. Multi-strain formulations containing *Bifidobacterium longum*, *Lactobacillus acidophilus*, and *Enterococcus faecalis* were associated with reduced weight gain, lower fat percentage increase, and decreased plasma glucose and LDL levels, suggesting a strong metabolic impact. In the neurological context, the same formulation significantly reduced chemo-brain, lowering the incidence of mild and moderate cognitive impairment associated with chemotherapy. Finally, regarding quality of life, functional improvements were observed, with reduced fatigue, anorexia, and mucositis incidence.

Conclusion: The use of probiotics during systemic breast cancer treatment appears promising in reducing gastrointestinal, neurocognitive and metabolic effects in patients, although their efficacy depends on formulation, dosage, intervention duration, and therapeutic regimen. Current evidence also points to an improvement in the overall treatment experience, warranting further in-depth investigations on the topic.

Ethics: Public data – Literature review.

Keywords: breast cancer; chemotherapy; quality of life.

PRESENTATION: E-POSTER

<https://doi.org/10.29289/25945394V36S11121>

1121 – Advances in breast cancer screening: the role of artificial intelligence

Marina Ribeiro Castro¹, Maria Eduarda Machado de Araújo Silva¹, Ana Clara Garcia Santana¹, Maria Clara Sanches de Oliveira¹, Amanda Fonseca Andrade da Silva¹

¹Pontifícia Universidade Católica de Goiás – Goiânia (GO), Brazil.

Breast cancer is the most common malignancy among women worldwide, and imaging screening is the main method for early detection. Despite technological advances, limitations such as interobserver variability and high false-positive rates remain. In this context, artificial intelligence (AI) and computer-aided analysis have emerged as promising tools to improve the diagnosis of breast lesions. This systematic review followed PRISMA 2020. A PubMed search was conducted using MeSH terms related to breast cancer screening and artificial intelligence. Thirty-three studies were identified, and 21 were included after screening. Original available studies assessing the diagnostic performance of AI were included, and the data were analyzed descriptively. Previous research showed that a neural network trained on 3,029 MRI scans from high-risk patients predicted cancer up to one year before diagnosis, with an AUC-ROC of 0.72 (95%CI). Prior studies also compared visual assessment, manual region of interest, and computer-aided detection in MRI across 469 lesions and found equivalent accuracy, indicating no diagnostic loss with automated systems. In mammography, another study reported that a simplified neural network applied to 1,288 cases achieved an AUC-ROC of 0.89, significantly outperforming the clinical impression, with a false-negative rate of only 0.5% among benign cases. At the population level, a cohort of more than 109,000 mammograms showed that an algorithm outperformed five expert radiologists, with a 14.2% increase in sensitivity. The analyzed studies demonstrated that AI can achieve diagnostic accuracy comparable or superior to that of radiologists in breast cancer screening. Its potential for early detection and as a tool for double reading is notable. However, the studies also had limitations, including single- or few-center samples and the lack of real-world testing.

Ethics: Public data – Literature review.

Keywords: breast neoplasms; diagnosis; early detection of cancer; artificial intelligence.

<https://doi.org/10.29289/25945394V36S11123>

1123 – Omission of the sentinel lymph node after neoadjuvant chemotherapy in breast cancer

Maria Eduarda Dias Mendes, Elisa de Araujo Meireles Lewergger, Sophia Fonseca Chagas, Sebastião Alves Pinto, Deidimar Cássia Abreu, Vera Aparecida Saddi

¹Universidade Federal de Goiás – Goiânia (GO), Brazil.

²Instituto Goiano de Oncologia e Hematologia – Goiânia (GO), Brazil.

³Pontifícia Universidade Católica de Goiás – Goiânia (GO), Brazil.

Introduction: The treatment of breast cancer (BC), omitting sentinel lymph node biopsy (SLNB) after neoadjuvant chemotherapy, reduces the need for surgical staging. Thus, the objective of this systematic review was to analyze treatment alternatives of BC, with a focus on safety.

Methods: A systematic review conducted according to PRISMA Guidelines and registered in PROSPERO (CRD420261352762). The research was conducted using PubMed and LILACS. In the PubMed database, the following terms were used: “Breast neoplasms” AND “Sentinel lymph node biopsy” AND “Neoadjuvant therapy” AND “Axilla”, filters for the last 10 years, and free access to the full text were considered. The PICO criteria included: Participants, adult patients with invasive breast cancer undergoing neoadjuvant chemotherapy and documented preoperative axillary status; intervention, SLNB after neoadjuvant chemotherapy with lymph node mapping; comparison, lymph node dissection after neoadjuvant chemotherapy or comparison with other treatments; outcome, clinical and oncological safety, sentinel lymph node detection rate and false-negative, recurrence, overall survival, and surgical morbidity. Of the 250 articles selected, 38 were included.

Results: SLNB avoids complete axillary dissection without compromising recurrence. It has been proven effective in patients without lymph node metastases and in those with recurrence, especially when ≥ 3 negative sentinel nodes are identified. Isolated tumor cells or residual disease are associated with an excellent prognosis, allowing for a more conservative treatment with SLNB and directed axillary dissection (TAD). This type of treatment has demonstrated significant efficacy in identifying residual disease, avoiding unnecessary dissections. Selection based on tumor subtype and treatment assessment via magnetic resonance imaging helped to reduce the false-negative diagnostic, supporting the reduction of surgical staging and morbidity, even with occult presentation of the primary tumor.

Conclusion: SLNB after chemotherapy is effective in suspected axillary involvement. Negative results and tumor subtype reduce the risk of false negatives and allow complete dissection to be avoided without compromising monitoring and staging.

Ethics: Public data – Literature review.

Registry: PROSPERO CRD420261352762.

Keywords: breast neoplasms; sentinel lymph node biopsy; neoadjuvant therapy.

<https://doi.org/10.29289/25945394V36S11130>

1130 – Artificial intelligence in the early detection of breast cancer

José Alttmar da Silva Filho, Mariana Lemos Almeida, Pedro Carvalho Roncato Rodrigues, Maria Luiza Machado Bertoldo, Vera Aparecida Saddi, Deidimar Cássia Abreu, Sebastiao Alves Pinto

¹Instituto Goiano de Oncologia e Hematologia – Goiânia (GO), Brazil.

²Pontifícia Universidade Católica de Goiás – Goiânia (GO), Brazil.

³Universidade Federal de Goiás – Goiânia (GO), Brazil.

Introduction: Breast cancer remains the leading malignancy among women, and early detection is crucial to reduce mortality. Although mammography is the standard screening tool, its diagnostic accuracy is limited by interobserver variability and false results. In this context, artificial intelligence (AI) emerges as a promising adjunct method to improve diagnostic performance. This study aimed to systematically evaluate the effectiveness of AI in mammographic analysis compared to conventional interpretation.

Methods: A systematic review without meta-analysis was conducted in accordance with PRISMA guidelines and registered in PROSPERO (ID: CRD420261348272). Searches were performed in the PubMed and LILACS databases using descriptors related to breast neoplasms, mammography, and artificial intelligence. The studies were filtered from the last ten years and involved women ≥ 40 years undergoing screening or diagnostic mammography. AI-based image analysis was compared to radiologist interpretation. Outcomes included sensitivity, specificity, AUC, predictive values, and false-positive/negative rates. Methodological quality of the studies was assessed using QUADAS-2.

Results: AI systems demonstrated high diagnostic performance, with AUC ranging from 0.80 to 0.97. Sensitivity was comparable to standard radiologist assessment, while specificity was frequently higher, reducing false positives and recall rates. AI also improved lesion prioritization and enabled partial exclusion of low-risk results. When combined with standard radiologist interpretation, there was consistent improvement in diagnostic accuracy and workflow efficiency. Additionally, AI showed increased sensitivity for early-stage tumors and potential in identifying interval cancers.

Conclusion: AI shows high diagnostic accuracy in mammography, enhancing performance when integrated with human interpretation. Despite promising results, it should be considered a complementary tool. Further prospective and multi-center studies are needed to validate its clinical applicability and cost-effectiveness.

Ethics: Public data – Literature review.

Registry: PROSPERO CRD420261348272.

Keywords: breast cancer; mammography; artificial intelligence.

<https://doi.org/10.29289/25945394V36S11134>

1134 – Targeted therapies and immunotherapies in the treatment of triple-negative breast cancer

Maria Clara Sanches de Oliveira¹, Augusto Gregório Fernandes da Mota¹, Igor de Almeida Caires¹, Marina Ribeiro Castro¹, Sofia Reis de Oliveira Crispim¹

¹Pontifícia Universidade Católica de Goiás – Goiânia (GO), Brazil.

Introduction: Triple-negative breast cancer (TNBC) accounts for 10–15% of cases and is characterized by the absence of hormone receptors and low HER2 expression, which limits the use of endocrine or anti-HER2 therapies. It is an aggressive subtype, usually associated with poorer prognosis than other breast cancers. Since TNBC exhibits high immunogenicity, with increased PD-1 expression and tumor-infiltrating lymphocytes, immunotherapy has become a relevant therapeutic strategy.

Objectives: To evaluate the efficacy and role of targeted therapies and immunotherapies in TNBC, highlighting their mechanisms of action, clinical indications, and impact on patient outcomes.

Methodology: This systematic review followed PRISMA 2020. The PubMed database was searched using MeSH terms related to targeted therapies and immunotherapies for TNBC, including studies published from 2013 to 2025. Of the 62 articles identified, 50 met the inclusion criteria.

Results: TNBC appears to be one of the breast cancer subtypes most suitable for immunotherapy due to its high immunogenicity; however, immune checkpoint inhibitor (ICI) monotherapy has shown limited benefit. Better outcomes have been achieved by combining ICIs with chemotherapy. Pembrolizumab plus chemotherapy has become a standard treatment for both early-stage disease (II/III) and metastatic PD-L1-positive disease. TNBC is also highly heterogeneous, with multiple molecular subtypes and a complex tumor microenvironment, which limits the response to monotherapy and supports personalized treatment. PARP inhibitors, especially olaparib and talazoparib, are a major targeted option for patients with metastatic TNBC and germline BRCA mutations. Based on synthetic lethality, they represent a successful example of translational research and are now well established, with studies exploring earlier use and new combinations.

Conclusion: TNBC remains a major therapeutic challenge. Although immunotherapy alone has shown modest results, its combination with chemotherapy, especially pembrolizumab, has changed clinical practice. PARP inhibitors have also become essential for BRCA-mutated disease. Future TNBC management will likely rely on increasingly combined and personalized strategies.

Ethics: Public data – Literature review.

Keywords: triple negative breast neoplasms; molecular targeted therapy; immunotherapy.

<https://doi.org/10.29289/25945394V36S11143>

1143 – Genetic and model-based risk stratification reshapes clinical management in women considering hormone replacement therapy

Jennifer Thalita Targino dos Santos¹, Daniela Borges da Rocha Macedo¹, Pilar Barreto de Araújo Porto¹, Isabela Bussade Coelho da Rocha¹, Alison Luis Eburneo Pereira¹, Rodrigo Santa Cruz Guindalini¹

¹Oncologia D'Or - Ribeirão Preto (SP), Brazil.

Introduction: Hormone replacement therapy (HRT) effectively relieves menopausal symptoms, yet its association with breast cancer (BC) risk varies substantially by regimen and individual genetic susceptibility. In Brazil, HRT has also been utilized in less studied formulations, such as subcutaneous gestrinone implants. To our knowledge, no previous study has systematically examined the impact of integrating genetic counseling (GC) and genomic risk modeling specifically within the HRT decision-making context.

Methods: A retrospective cohort study of 144 women referred to a Brazilian private oncogenetics service between September 2022 and May 2025 for BC risk assessment related to HRT initiation or continuation. Genetic testing followed 2025 NCCN criteria; however women that did not meet the formal criteria could still undergo testing after shared decision-making. Clinical recommendations were based on CanRisk v3.0.0 thresholds for MRI surveillance, chemoprevention, and risk-reducing surgery.

Results: Among 144 women (mean age: 51 years), 135 underwent genetic testing. Fourteen (10.4%) carried pathogenic variants in BC susceptibility genes, including BRCA1/2, PALB2, ATM, CHEK2, RAD51C/D, and BARD1. The integration of GC and CanRisk changed clinical management in 29 patients (21.5%). Chemoprevention recommendations were modified in 13 women (9.7%), and MRI surveillance recommendations changed in 13 (9.6%). In addition, 9 women (6.7%) received new recommendations for risk-reducing surgery due to high-penetrance variants. Notably, one prophylactic mastectomy revealed early-stage ductal carcinoma in situ.

Conclusion: The HRT consultation may represent a valuable opportunity to identify women with unrecognized hereditary BC risk and refine prevention strategies. To our knowledge, this is the first Brazilian study to integrate personal and family history, germline testing, and CanRisk modeling within the HRT decision-making context. These findings propose a structured, risk-stratified pathway for managing this population, a novel paradigm to be further validated in larger, multicenter cohorts.

Ethics: CAEE 88951825.5.0000.5249.

Keywords: hormone replacement therapy; genetic risk score; breast neoplasms; hereditary breast and ovarian cancer syndrome; precision medicine.

<https://doi.org/10.29289/25945394V36S11144>

1144 – Intratumoral heterogeneity and therapeutic response in breast cancer: a systematic review

Maria Laura Abrão Morais, Vyvian Paes de Oliveira, Alessandra de Castro Tavares, Luísa Chediak Oliveira de Souza, Larissa Chediak Faraco

¹Pontifícia Universidade Católica de Goiás – Goiânia (GO), Brazil.

²Clínica José Pinto Brandão – Campina Grande (PB), Brazil.

Introduction: Intratumoral heterogeneity in breast cancer represents a significant challenge in oncology, influencing therapeutic response, disease progression, and clinical outcomes. It is characterized by the presence of cell subpopulations with different molecular, genetic, and phenotypic profiles, resulting in variability in treatment sensitivity and the development of resistance. It can occur at the molecular, spatial, and temporal levels, associating with clonal evolution and tumor adaptation to therapeutic pressures, with a negative impact on response, especially in HER2-positive and triple-negative subtypes.

Methodology: A systematic literature review, conducted through the LILACS and PubMed databases. Twenty articles published in the last 5 years were selected. The question was structured using the PICO strategy, and the review followed the PRISMA guidelines. Original studies that evaluated intratumoral heterogeneity in breast cancer and its relationship with therapeutic response and clinical outcomes were included. After applying the criteria, 304 articles were identified, and 20 were selected after screening.

Results: The studies showed that tumor heterogeneity results from the interaction between genetic, epigenetic, and microenvironmental alterations, promoting clonal diversity. Heterogeneous HER2 expression, the presence of distinct subclones, and epigenetic regulation mediated by KDM5, associated with therapeutic resistance, were observed. These differences were evaluated by single-cell sequencing, ctDNA analysis, immunohistochemistry, and gene signatures, evidencing clonal selection throughout treatment. More heterogeneous tumors presented lower rates of pathological complete response and reduced survival.

Conclusion: Intratumoral heterogeneity is a key determinant of therapeutic variability and clinical evolution in breast cancer. Clonal diversity and epigenetic mechanisms favor the selection of resistant subpopulations, negatively impacting prognosis. Molecular stratification strategies and dynamic monitoring are essential for more precise clinical decisions.

Ethics: Public data – Literature review.

Keywords: breast neoplasms; intratumor heterogeneity; tumor prognosis.

<https://doi.org/10.29289/25945394V36S11146>

1146 – Analysis of breast histopathological results obtained by stereotactic-guided vacuum-assisted percutaneous biopsy (mammotomy) in women at the mastology service of the Hospital das Clínicas, Universidade Federal de Goiás/EBSERH – CORA

Danielle Teles Lima¹, Marcus Nascimento Borges¹, Bruna Lose de Godoy¹, Katyane Larissa Alves¹, Luis Fernando Pádua de Oliveira¹, Leonardo Ribeiro Soares¹, Thays Andressa Albuquerque Monteiro¹, Ruffo de Freitas-Júnior¹

¹Universidade Federal de Goiás, Hospital das Clínicas – Goiânia (GO), Brazil.

Introduction: Mammography, both as a diagnostic and screening tool for breast cancer, has led to increased detection of non-palpable breast lesions that require histopathological evaluation. Vacuum-assisted percutaneous biopsy is a safe and appropriate method for this purpose. This study aimed to identify histopathological findings obtained from stereotactic-guided mammotomies performed at the Mastology Service of HC-Universidade Federal de Goiás between March 1, 2020 and October 31, 2025, and to analyze factors such as age, parity, personal history of prior breast lesions, as well as family history of breast cancer that may have influenced these results.

Methods: An observational, retrospective, and descriptive-analytical study including examinations performed in women aged over 18 years. A total of 84 cases were selected for analysis. This study was approved by the Research Ethics Committee of the Clinics Hospital of Federal University Goiás (CAAE 96560726.5.0000.5078).

Results: The mean age was 58.1 years (± 10.1 years), and all patients presented mammographic lesions classified as BI-RADS® category 4 (ACR – Breast Imaging Reporting and Data System), characterized by calcifications. The results were categorized into three groups: Group 1 – normal breast tissue or benign lesions in 63 cases (75.0%); Group 2 – precursor and/or high-risk lesions for breast cancer in 16 cases (19.0%); and Group 3 – invasive carcinoma in 5 cases (6.0%). Group 2 included: ductal carcinoma in situ in 10 cases (62.5%), atypical ductal epithelial hyperplasia in 5 cases (31.25%), and atypical lobular epithelial hyperplasia in 1 case (6.25%). Statistical analysis of clinical and epidemiological factors showed no significant differences between the groups.

Conclusion: The diagnosis of precursor lesions and invasive carcinomas accounted for 25% of cases, which is consistent with expectations for BI-RADS® category 4 breast lesions. The analyzed clinical and epidemiological factors did not influence the outcomes.

Ethics: Research Ethics Committee Approval (CAAE 96560726.5.0000.5078).

Keywords: biopsy; large-core needle; breast neoplasms; mammography.

<https://doi.org/10.29289/25945394V36S11153>

1153 – Obesity and increased risk of the molecular subtype of breast cancer

Ana Beatriz Bezerra Pinheiro, Edesio Martins, Nayara Alves de Freitas Lemos; Ruffo de Freitas-Junior, Tatiane Nunes da Silva Rodarte, Pedro Henrique Lessa de Oliveira

¹Empresa Brasileira de Serviços Hospitalares– Goiânia (GO), Brazil.

²Universidade Federal de Goiás – Goiânia (GO), Brazil.

Introduction/Justification: breast cancer is composed of distinct molecular subtypes. Obesity is linked to tumor progression, particularly breast angiogenesis.

Methods: An observational, retrospective, and cross-sectional study, based on medical records and questionnaires. The study was conducted in the physiotherapy outpatient clinic at CORA, an advanced breast cancer diagnostic center, in 2025 and 2026. Patients who were weighed and had immunohistochemistry results were included; patients with missing data were excluded.

Results: In the current database, 63 participants presented a usable molecular subtype after excluding duplicate entries and records with missing outcome data. The preliminary distribution was: Luminal A 14 (22.2%), Luminal B 33 (52.4%), HER2 8 (12.7%), and triple-negative 8 (12.7%). Three binary contrasts were defined: triple-negative vs. others, HER2 vs. others, and luminal vs. non-luminal. Due to limitation of BMI data availability, 28 patients were included for this predictive model. Among the patients analyzed, 22 (78.6%) had a BMI above normal levels, 12 (54.5%) were overweight, 4 (18.2%) had grade I obesity, 5 (22.7%) had grade II obesity, and 1 (4.6%) had grade III obesity. Among the molecular subtypes of these 22 patients, 9 (40.9%) were Luminal HER2-positive, 6 (27.3%) were Luminal B, 4 (18.2%) were HER2-positive, 2 (9.1%) were Luminal A, and 1 (4.5%) was triple-negative. Descriptively, mean BMI was similar between luminal and non-luminal tumors, whereas the HER2-positive group exhibited a trend toward towards a higher mean BMI and the triple-negative group a lower mean age. Due to the heterogeneity in the menopausal status registry and the practical unavailability of cytokine levels, the final inferential analysis will be performed after harmonization of the database.

Conclusion: Obesity appears to be prevalent among patients with breast cancer and may be associated with specific molecular subtypes. The results support the idea that estrogen and progesterone receptors are influenced by adipose tissue.

Ethics: Research Ethics Committee Approval (CAAE 94835826.9.000.5078).

Keywords: breast cancer; obesity; molecular medicine; immunohistochemistry.

<https://doi.org/10.29289/25945394V36S11174>

1174 – In vitro cytotoxicity and selectivity of *arrabidaea chica*, *pereskia aculeata*, *gossypium barbadense* and *zingiber officinale* against breast cancer cell lines

Letícia Almeida Carvalho¹, Livia do Carmo Silva¹, Luis Felipe Lima Guimarães¹, Juliana Santana Curcio¹, Elisângela de Paula Silveira Lacerda¹, Lucilia Kato¹, Hellen Luz¹

¹Universidade Federal de Goiás – Goiânia (GO), Brazil.

Introduction: Breast cancer remains one of the leading causes of cancer-related mortality worldwide, highlighting the need for novel therapeutic agents with improved selectivity toward tumor cells. Natural products represent an important source of bioactive compounds with potential antitumor activity. This study aimed to evaluate the cytotoxic and selective effects of ethanolic extracts from medicinal plants against breast cancer cell lines.

Methods: An in vitro experimental study was conducted using human breast cancer cell lines MCF-7 (luminal subtype) and MDA-MB-231 (triple-negative subtype), along with non-tumoral cell lines for selectivity analysis. Ethanolic extracts of *Arrabidaea chica*, *Gossypium barbadense*, *Pereskia aculeata*, and *Zingiber officinale* were tested at concentrations ranging from 125 to 1,000 µg/mL. Cell viability was assessed by the MTT assay after 48h of treatment. IC₅₀ values were calculated using nonlinear regression, and the Selectivity Index (SI) was determined as the ratio between non-tumoral and tumor cell IC₅₀ values. Chemical characterization was performed by LC-HRMS/MS.

Results: *Arrabidaea chica* demonstrated the most promising antitumor profile, particularly in MCF-7 cells (IC₅₀=130 µg/mL), with a high selectivity index (SI>7), indicating preferential cytotoxicity toward tumor cells. *Gossypium barbadense* exhibited moderate cytotoxicity in both breast cancer cell lines, with limited selectivity. *Pereskia aculeata* failed to exhibit significant cytotoxic activity in tumor cells, while *Zingiber officinale* presented low to moderate antiproliferative effects with reduced selectivity. Differential sensitivity was observed between breast cancer subtypes, with MDA-MB-231 cells generally less responsive. Chemical analysis revealed the presence of phenolic acids and flavonoids, including gallic acid, caffeic acid, rutin, and quercetin.

Conclusion: The results highlight *Arrabidaea chica* as a promising source of bioactive compounds with selective cytotoxic activity against breast cancer cells. These findings support further studies focusing on compound isolation and mechanistic investigation, aiming at the development of more effective and selective anticancer therapies.

Ethics: In vitro study.

Funding: CNPq PRPI N° 02/2023.

Keywords: plant extracts; cytotoxicity tests; breast cancer.

<https://doi.org/10.29289/25945394V36S11176>

1176 – MicroRNA dysregulation and endocrine disruptors in breast cancer: molecular implications for tumor progression

Letícia Almeida Carvalho¹, Juliana Santana Curcio¹, Hellen Luz¹, Livia do Carmo Dilva¹, Elisagela de Paula Silveira Lacerda¹

Universidade Federal de Goiás – Goiânia (GO), Brazil.

Breast cancer is one of the most common malignancies among women worldwide and its development involves genetic, hormonal and environmental factors. MicroRNAs (miRNAs) are small non-coding RNAs that regulate gene expression at the post-transcriptional level and play important roles in tumorigenesis. Altered miRNA expression has been associated with cell proliferation, apoptosis, invasion and metastasis in breast cancer. Endocrine disruptors with estrogenic activity, such as Bisphenol A, may also influence tumor progression by modulating miRNA expression in breast cancer cells. A literature-based analytical study was conducted to evaluate the role of miRNAs in breast cancer progression and the potential modulation of these molecules by endocrine disruptors. Scientific studies investigating miRNA expression in breast cancer and experimental studies evaluating the effects of endocrine disruptors on miRNA regulation in breast carcinoma cells were analyzed. Several miRNAs show altered expression in breast tumors and are associated with tumor behavior. Among them, miR-21 is frequently upregulated and has been linked to increased invasive capacity through negative regulation of tumor suppressor genes such as TIMP3. Additionally, miR-204 has been implicated in tumor aggressiveness and vasculogenic mimicry through regulation of targets including CREB5. Experimental evidence also indicates that endocrine disruptors can alter the miRNA expression profiles in breast cancer cell lines, including MCF-7 cells. MicroRNAs play an important role in molecular mechanisms associated with breast cancer progression, therefore understanding how endocrine disruptors influence miRNA regulation may contribute to identifying molecular biomarkers and potential therapeutic targets.

Ethics: Public data – Literature review.

Funding: CNPq nº 02/2025.

Keywords: breast neoplasms; MicroRNAs; bisphenol A; endocrine disruptors.

<https://doi.org/10.29289/25945394V36S11186>

1186 – Sexual dysfunction in climacteric women with breast cancer: prevalence and independent predictors in a cross-sectional study

Bárbara Bizzo Castelo¹, Carolina Neves Buhl¹, Aline de Bastos Ferreira¹, Larissa Ferreira Vay¹, Laura Sousa Coelho de Sá¹, Cristina Laguna Benetti Pinto¹, Lucia Helena Simões da Costa Paiva¹, Luiz Francisco Cintra Baccaro¹

¹Universidade Estadual de Campinas – Campinas (SP), Brazil.

Introduction: Female sexual function is a central determinant of quality of life and results from the interaction between hormonal, psychosocial, and clinical factors. In menopause, it is highly prevalent and multifactorial and may be exacerbated in cancer survivors by oncological therapies. However, the independent determinants of this outcome remain poorly explored. This study aimed to evaluate the prevalence and independent predictors of sexual dysfunction in climacteric women, with an emphasis on those with a history of breast cancer.

Methods: A cross-sectional study conducted at the menopause outpatient clinic of a tertiary Hospital (Nov/2022–Aug/2025), with a total sample of 126 women 51 of whom had breast cancer. Women ≥ 30 years of age in menopause were included. Exclusion criteria applied to individuals undergoing recent menopausal therapies and without recent documented sexual activity. Assessment performed through physical examination and completion of validated questionnaires: Sexual function was assessed using the Female Sexual Function Index (FSFI). Also were applied: Menopause Rating Scale (MRS), Women's Health Questionnaire (WHQ), Patient Health Questionnaire-9 (PHQ-9), and Vaginal Health Index Score (VHIS). Poisson regression models estimated adjusted prevalence ratios (PR; 95%CI).

Results: Sexual dysfunction was identified in 83.3% of the women, being more prevalent in those without breast cancer (90.6% vs. 72.5%; $p=0.007$). Among survivors, variables related to cancer treatment were not associated with the outcome. In the multivariate analysis, the independent predictors were: moderate to severe depression (PHQ-9 ≥ 10) associated with low libido (PR 1.98; $p=0.019$), moderate to severe genitourinary syndrome of menopause (UROGENITAL-MRS ≥ 5) associated with inadequate lubrication (PR 2.15; $p=0.004$), and worse quality of life (WHQ ≥ 0.58) associated with low arousal (PR 1.77; $p=0.032$).

Conclusion: Sexual dysfunction is highly prevalent in menopause. Although it was not higher among breast cancer survivors, it remains relevant in this population. Results possibly reflect better coping strategies. The outcome focused on genitourinary syndrome and psychosocial factors, reinforcing the need for non-hormonal strategies.

Ethics: Research Ethics Committee Approval (CAAE 59356022.0.0000.5404).

Keywords: breast neoplasms; climacteric; sexual dysfunction; menopause; quality of life.

<https://doi.org/10.29289/25945394V36S11193>

1193 – Molecular subtype conversion in recurrent breast cancer: a systematic review and clinical implications

Gabriela da Rocha Branco Silveira¹, Mirella Laranjeira Nunes¹, João Esberard de Vasconcelos Beltrão Neto¹

¹Hospital Universitário Oswaldo Cruz – Recife (PE), Brazil.

Introduction: Breast cancer intrinsic subtypes, defined by estrogen receptor (ER), progesterone receptor (PR), HER2 status, and proliferation indices, are pivotal to prognostication and treatment selection. Increasing evidence demonstrates clinically meaningful discordance between primary and recurrent or metastatic disease. A systematic review was performed to synthesize the magnitude, patterns, and implications of molecular subtype conversion in breast cancer recurrence.

Methods: A systematic literature search was conducted through the PubMed, Scopus, and Web of Science databases for studies published between 2010 and 2025. Eligible studies reported paired biomarker data (ER, PR, HER2, and/or Ki-67) from primary and recurrent/metastatic tumors. Data extraction focused on rates and direction of receptor discordance, subtype conversion, and associated clinical outcomes. Findings were synthesized qualitatively, emphasizing consistency across heterogeneous cohorts.

Results: Biomarker discordance was consistently observed across studies, with reported rates of 10%–40% for ER, 20%–50% for PR, and 5%–20% for HER2. Loss of hormone receptor expression predominated, whereas HER2 status demonstrated bidirectional conversion. These shifts frequently resulted in transition from luminal subtypes to more aggressive phenotypes, including HER2-enriched and triple-negative disease. Subtype conversion was associated with inferior survival outcomes and led to clinically significant modifications in systemic therapy in a substantial proportion of patients.

Conclusion: Molecular subtype conversion in recurrent breast cancer is a prevalent and prognostically relevant phenomenon with direct therapeutic implications. Routine re-biopsy of recurrent or metastatic lesions should be strongly considered to guide the individualized treatment of patients. Future prospective studies are warranted to elucidate the biological mechanisms driving receptor plasticity and to define its impact on long-term outcomes.

Ethics: Public data – Literature review.

Keywords: mutation; molecular subtype; prognostic factors.

<https://doi.org/10.29289/25945394V36S11195>

1195 – The hidden scar revolution: clinical outcomes and applications of endoscopic breast surgery

Gabriela da Rocha Branco Silveira¹, Mirella Laranjeira Nunes¹, João Esberard de Vasconcelos Beltrão Neto¹, Cinthya Roberta Santos de Jesus¹

¹Hospital Universitário Oswaldo Cruz – Recife (PE), Brazil.

Introduction: Minimally invasive techniques, including endoscopic and video-assisted approaches, have gained increasing attention in breast surgery due to their potential to enhance aesthetic outcomes without compromising oncological safety. However, the application of these techniques in mastology remains limited and poorly disseminated among specialists, often restricted to centers with specific expertise. This study aims to review the main applications, surgical access routes, scar patterns, and postoperative recovery associated with minimally invasive breast surgery.

Methods: A narrative literature review was conducted using the PubMed, Scopus, and Web of Science databases. Studies addressing endoscopic or video-assisted techniques in breast surgery were included. Data regarding surgical indications, incision sites, aesthetic results, and postoperative recovery were qualitatively analyzed.

Results: Minimally invasive techniques in mastology have been applied in procedures such as nipple-sparing mastectomy, excision of benign tumors, and breast reconstruction. The most commonly used access routes include axillary and periareolar incisions, which avoid visible scars on the breast surface. Compared to conventional open surgery, these approaches were associated with superior aesthetic outcomes, characterized by smaller and less conspicuous scars. Postoperative recovery showed potential benefits, including reduced pain, shorter hospital stays, and a faster return to daily activities in selected cases.

Conclusion: Despite the potential benefits, minimally invasive breast surgery is still underutilized and limited by factors such as the learning curve, the need for specialized training, and resource availability. Its broader incorporation depends on wider knowledge dissemination and robust studies validating its oncological safety and reproducibility.

Ethics: Public data – Literature review.

Keywords: minimally invasive procedures; breast surgery; breast conserving surgery.

PRESENTATION: ORAL PRESENTATION (FAST PRESENTATION) - BEST CLINICAL RESEARCH STUDY

<https://doi.org/10.29289/259453942025V36S11080>

1080 – Efficacy of photobiomodulation in the prevention and reduction of the severity of radiodermatitis in people with breast cancer undergoing adjuvant radiotherapy: preliminary results

Anke Bergmann, José Fontes Júnior, Suzana Sales Aguiar, Eloá Moreira-Marconi, Nathália Bordinhon Soares, Erica Alves Nogueira Fabro, Laura Ferreira de Rezende Franco, Marcelo Adeodato Bello

¹Instituto Nacional de Câncer – Rio de Janeiro (RJ), Brazil.

²Universidade de Vassouras – Vassouras (RS), Brazil.

Introduction: Adjuvant radiotherapy is indicated for the local control of breast cancer, with radiodermatitis (RD) being its main adverse effect, with an incidence of up to 98%. Photobiomodulation (PBM), using red light and near-infrared, has emerged as a promising non-pharmacological strategy for the prevention and management of RD.

Objective: To evaluate the efficacy of PBM in the prevention and reduction of the severity of RD in people with breast cancer undergoing adjuvant radiotherapy.

Methods: A double-blind, randomized, superiority clinical trial was conducted with people with breast cancer undergoing adjuvant radiotherapy at the National Cancer Institute. Participants were randomized into an intervention group (IG: active PBM, 630/850 nm, 3 J) or a control group (CG: sham PBM), with PBM applied three times a week during radiotherapy. RD was evaluated using the Radiation Therapy Oncology Group/European Organization for Research and Treatment of Cancer (RTOG/EORTC) system. The expected sample size was n=148 (IG=74 and CG=74). Analyses followed the intention-to-treat principle, using the chi-square test (Statistical Package for the Social Sciences software, version 30.0).

Results: Recruitment began in July 2025. To date, 164 patients were screened, 103 were included, and 84 completed the intervention. During radiotherapy, the overall incidence of RD was 88.1% (CG=100% and IG=76.7%; p=0.001). After 20 days of follow-up, the overall incidence of RD was 97.6%. The occurrence of grade ≥ 2 RD was higher in the CG (26.8%) than in the IG (4.9%) (p=0.007), showing a significant reduction in the most severe forms in the IG.

Conclusion: To date, PBM has significantly reduced the incidence and severity of RD and may be an effective and easily implemented strategy for preventing this skin toxicity in breast cancer patients undergoing adjuvant radiotherapy. Its incorporation into clinical practice may improve the quality of care and tolerance of cancer treatment.

Ethics: Research Ethics Committee Approval (CAAE 83380324.4.0000.5274; Opinion No. 7.228.376).

Registry: Clinical Trials: NCT06990165.

Funding: Anke Bergmann received a Productivity Scholarship from the Brazilian National Council for Scientific and Technological Development (CNPq), Level 2.

Keywords: breast cancer; radiotherapy; radiodermatitis; physical therapy modalities; low-level light therapy.

**PRESENTATION: ORAL PRESENTATION (FAST PRESENTATION)
– 2ND BEST CLINICAL RESEARCH STUDY**

<https://doi.org/10.29289/259453942025V36S11060>

1060 – Low-intensity exercise during chemotherapy infusion for fatigue, functionality and neuropathy in women with breast cancer

Brenda Taynara Costa¹, Carla Elaine Andrade¹, Simara Cristina Silva¹, Ana Claudia Tavares¹, Leonardo Hermenegildo Barato¹, Idam de Oliveira Junior¹

¹Hospital de Câncer de Barretos – Barretos (SP), Brazil.

Introduction: Chemotherapy for breast cancer, although effective, is associated with significant toxicities such as cancer-related fatigue and chemotherapy-induced peripheral neuropathy, which impair functionality and quality of life. Exercise performed during infusion emerges as a strategic opportunity to mitigate these effects, utilizing a period in which patients are otherwise inactive.

Methods: This randomized clinical trial included 41 women (G1–Intervention: 18; G2–Control: 23) undergoing treatment at Hospital de Amor Barretos. G1 performed low-intensity exercise (Borg Scale score 2–3; 30–40% of maximum heart rate) for 25–30 minutes during infusion. Functionality (using the International Physical Activity Questionnaire–IPAQ), fatigue (using the Fatigue Assessment Scale–FAS), and neuropathy (using the Antineoplastic Induced Neurotoxicity Questionnaire–AINQ) were assessed at baseline (M1) and after five cycles (M2).

Results: For upper-limb neuropathy, a statistically significant difference was observed ($p=0.040$), with G2 reaching 34.8% of cases at the highest severity level (grade 4), compared to only 11.1% in G1. In lower-limb neuropathy, G1 limited severity to 16.7%, whereas G2 reached 39.1% at M2. Regarding fatigue, G1 demonstrated absolute stability ($p=1.000$) and a recovery trend, while G2 showed deterioration toward severe fatigue. In terms of functionality, G1 reduced sedentary behavior from 77.8% to 66.7%, whereas G2 showed an increase in inactivity from 52.2% to 60.9%.

Conclusion: Low-intensity exercise during chemotherapy infusion proved to be a safe and clinically relevant strategy, associated with attenuation of peripheral neuropathy progression, stabilization of fatigue, and improvement in functionality, representing a promising approach for managing adverse effects in women with breast cancer.

Ethics: Research Ethics Committee Approval (CAAE 82161424.6.0000.5437).

Registry: Brazilian Registry of Clinical Trials (ReBEC), RBR-5dz9yq8.

Keywords: exercise therapy; antineoplastic agents; breast neoplasms.

PRESENTATION: ORAL PRESENTATION (FAST PRESENTATION)

<https://doi.org/10.29289/259453942025V36S11189>

1189 – Prevalence of li-fraumeni syndrome in breast cancer patients in central Brazil

Paula Francinate Faustino Silva¹, Rebeca Mota Goveia¹, Flávia Barreto Sousa¹, Igor Marques Cesário Calassa¹, Manuela Rocha Matos Rezende¹, Andréa Moreira Santos¹, Wendyson Duarte de Oliveira¹, Elisângela Paula Silveira-Lacerda¹

¹Universidade Federal de Goiás – Nova Veneza (GO), Brazil.

Introduction: Pathogenic variants in the TP53 gene are among the most frequently associated genetic alterations in human malignancies and are the main cause of Li-Fraumeni syndrome. This syndrome is linked to multiple cancer types, with breast cancer being the most prevalent. The p.R337H variant shows high frequency in Southern and Southeastern Brazil, being observed in approximately 8% of breast cancer patients. However, its prevalence in the Central-West region remains poorly understood.

Objective: To describe the prevalence of TP53 variants in patients with a clinical profile consistent with Hereditary Breast and Ovarian Cancer syndrome (HBOC) in Central Brazil.

Methods: A total of 390 patients meeting clinical criteria for HBOC and negative for BRCA1 and BRCA2 variants were analyzed. Genetic analysis was performed using next-generation sequencing, with copy number variations confirmed by multiplex ligation-dependent probe amplification (MLPA).

Results: Among patients, 17 (4.36%) carried germline variants in TP53. The identified variants included missense variants p.Arg248Gln (1 case), p.Arg337His (12 cases), p.Arg337Cys (1 case), and p.Pro152Leu (2 cases), as well as a deletion spanning exons 2–11 (E2–11). This extensive deletion, confirmed by MLPA, compromises nearly the entire TP53 gene and is described here for the first time. The p.Arg337His variant accounted for 3.08% (12/390) of the cohort.

Conclusion: These findings support the hypothesis that the p.R337H founder variant originated in Southern Brazil and spread to the Southeast. In the Central-West region, a greater diversity of TP53 variants was observed, including rare variants and a novel large deletion. These results highlight the importance of comprehensive TP53 analysis, beyond targeted screening for p.R337H, and support its inclusion alongside BRCA1 and BRCA2 testing in high-risk HBOC patients. Furthermore, this study emphasizes the importance of identifying families with Li-Fraumeni syndrome, enabling appropriate genetic counseling, risk assessment, and early surveillance strategies.

Ethics: Research Ethics Committee Approval (CAAE 50626315.6.3001.0031; Approval No. 4.093.502), Association for Cancer Control in Goiás (ACCG).

Funding: National Council for Scientific and Technological Development (CNPq), Grant No. 380157/2024-1; Research Support Foundation of the State of Goiás (FAPEG), Research Program for the Unified Health System (PPSUS) 2017 Call, Grant No. 201710267001232.

Keywords: breast cancer; TP53; Li-Fraumeni syndrome; pR337H.

PRESENTATION: ORAL PRESENTATION (FAST PRESENTATION)

<https://doi.org/10.29289/259453942025V36S10936>

936 – Muscle strength improves independently of kinesiophobia in breast cancer patients undergoing neoadjuvant chemotherapy: a secondary analysis of a randomized trial

Nathan Muci Aguiar, Anderson Garcia Silva, Rafael Ribeiro Alves, Douglas Silva, Lucian Júnio Antunes Ricarte, Vitor Andrade Maciel, Carlos Alexandre Vieira

¹Centro Avançado de Diagnóstico de Mama (CORA) – Goiânia (GO), Brazil.

²Universidade Federal de Goiás, Faculdade de Educação Física – Goiânia (GO), Brazil.

³Universidade Federal de Goiás, Faculdade de Medicina – Goiânia (GO), Brazil.

Introduction: Exercise improves physical and psychosocial outcomes in breast cancer patients. However, kinesiophobia remains a potential barrier to engagement. It is unclear whether fear of movement modulates physiological adaptations to exercise during neoadjuvant chemotherapy.

Methods: This secondary analysis of an ongoing randomized controlled trial included women with stage II–III breast cancer undergoing neoadjuvant chemotherapy. Participants were allocated to a resistance training group (RT; n=9), a combined training group (CT; n=8), or a control group (CG; n=7). RT and CT performed once-weekly supervised resistance training for 12 weeks; CT additionally performed aerobic exercise immediately after resistance training. Peak isometric muscle strength (PIMS) was assessed via knee extensor dynamometry, and kinesiophobia via the Tampa Scale of Kinesiophobia (TSK). A two-way analysis of variance (Group × Time) with Tukey post hoc was applied. Pearson correlations were assessed between Δ PIMS and Δ TSK, and between values at baseline and post-intervention. Analyses followed the intention-to-treat principles with expectation-maximization data imputation.

Results: A significant group × time interaction was observed for PIMS ($F=4.49$; $p=0.017$; $\eta^2=0.176$, $\omega^2=0.102$, indicating a large effect size), with higher values in RT (254.2, standard deviation ± 84.79 N) and CT (236.2 $\pm$ 81.56 N) compared to CG (124.3 $\pm$ 26.84 N) at 12 weeks, with no difference between exercise groups. No significant effects were found for TSK ($p>0.05$). No correlations were observed between Δ TSK and Δ PIMS ($r=-0.138$; $p=0.349$), nor between TSK and PIMS at baseline ($r=-0.062$; $p=0.775$) or post-intervention ($r=0.238$; $p=0.263$).

Conclusion: Supervised resistance and combined training improved muscle strength but did not affect kinesiophobia. The absence of association suggests that neuromuscular adaptations occur independently of fear-related psychological factors. However, the small sample and preliminary results from ongoing research limit inference.

Ethics: Research Ethics Committee Approval (CAAE 50717115.4.3001.5078).

Registry: Brazilian Registry of Clinical Trials (ReBEC), RBR-3rf99vw.

Keywords: breast neoplasms; strength training; kinesiophobia; neoadjuvant therapy; antineoplastic agents.

PRESENTATION: ORAL PRESENTATION (GENERAL SESSION)

<https://doi.org/10.29289/259453942025V36S10973>

973 – Despatil study: a phase ii trial of de-escalated neoadjuvant chemotherapy for early-stage triple-negative breast cancer guided by tumor-infiltrating lymphocytes and radiologic response

Renata Colombo Bonadio¹, Romualdo Barroso-Sousa¹, José Bines¹, Danielle Assad-Suzuki¹, Carlos Henrique dos Anjos¹, Gersa Tiburzio¹, Laura Testa¹

¹Instituto D'Or de Pesquisa e Ensino – São Paulo (SP), Brazil.

Introduction: Currently, a four-drug chemotherapy regimen (plus pembrolizumab for stage II–III) is frequently used as a neoadjuvant strategy for triple-negative breast cancer (TNBC). These regimens are associated with high toxicity rates, and, given the heterogeneity of the disease, some patients may achieve favorable outcomes with less intensive treatment strategies. In this context, high levels of tumor-infiltrating lymphocytes (TILs) have been identified as a marker of excellent prognosis. Additionally, radiologic response can assist in treatment decision-making, allowing escalation only for patients with inadequate response, thereby optimizing therapy. The DespaTIL study investigates a biomarker-driven de-escalation approach to neoadjuvant chemotherapy in early-stage TNBC.

Methods: DespaTIL is a multicenter, single-arm, investigator-initiated phase II trial evaluating a de-escalated neoadjuvant chemotherapy strategy in patients with stage I TNBC with any level of TILs, or stage II TNBC with $\geq 50\%$ stromal TILs. All patients receive four cycles of carboplatin and a taxane. Radiologic response is assessed via breast magnetic resonance imaging after cycle 4. Patients achieving a radiologic complete response proceed to surgery. Those without a radiologic complete response are escalated to four additional cycles of anthracycline and cyclophosphamide, with or without pembrolizumab at the physician's discretion. Eligible participants are patients with human epidermal growth factor receptor 2 (HER2)-negative invasive breast carcinoma, estrogen receptor and progesterone receptor expression levels $< 10\%$, and one of the following: (1) clinical stage T1c N0 M0 with any TIL level; or (2) clinical stage T2 N0 M0 with TILs $\geq 50\%$. A total of 40 patients will be enrolled. The primary endpoint is pathologic complete response following four cycles of carboplatin and taxane. Secondary endpoints include the correlation between radiologic and pathologic response, residual cancer burden, event-free survival, overall survival, and subgroup analyses by disease stage. Patient enrollment is expected to begin in the second half of 2026.

Ethics: Research Ethics Committee Approval (CAAE 89541925.0.1001.0087).

Funding: Grupo Brasileiro de Estudos do Câncer de Mama (GBECAM) / Projeto Cura.

Keywords: triple-negative breast cancers; tumor infiltrating lymphocytes; neoadjuvant therapy; pembrolizumab.

PRESENTATION: E-POSTER

<https://doi.org/10.29289/259453942025V36S10890>

890 – Restoring vaginal health after breast cancer: a randomized sham-controlled trial of microablative fractional radiofrequency for genitourinary syndrome of menopause

Nicoli Serquiz de Azevedo, Natalie Rios Almeida, Ayane Sarmiento, Camila Alexandre Silva, Pedro Fernandes Vital, Juliana Dantas de Araújo Santos Camargo, Pedro Ivo Raimundo Silva, Ana Katherine Gonçalves

¹Maternidade Escola Januário Cicco, Empresa Brasileira de Serviços Hospitalares – Natal (RN), Brazil.

²Universidade Federal do Rio Grande do Norte – Natal (RN), Brazil.

Introduction: Genitourinary syndrome of menopause (GSM) is common among breast cancer survivors and may significantly impair quality of life. Because hormonal therapies can be contraindicated or avoided in this population, non-hormonal vaginal energy-based therapies warrant rigorous evaluation.

Objective: This study evaluated the safety and efficacy of vaginal microablative fractional radiofrequency (MAFRF) compared with sham treatment in breast cancer survivors with GSM.

Methods: This prospective, single-blind, randomized, sham-controlled clinical trial was conducted from March to December 2025. Eligible breast cancer survivors with GSM were randomized to vaginal MAFRF or sham treatment. Outcomes were assessed at baseline and one month post-intervention. The primary outcome was GSM symptom severity measured by a visual analog scale. Secondary outcomes included vaginal pH, the Vaginal Health Index (VHI), dyspareunia, dysuria, vaginal dryness, and sexual function measured by the Female Sexual Function Index (FSFI). Within-group changes were tested using paired Student's t-tests, effect sizes were calculated using Cohen's d, and statistical significance was set at $p < 0.05$.

Results: Sixty women were included, with a mean age of 49.6 years (standard deviation ± 6.9); 75% had treatment-induced menopause and 83.3% had luminal breast cancer. In the MAFRF group, significant improvements were observed in vaginal pH, VHI, dyspareunia, vaginal dryness (all $p < 0.001$), and dysuria ($p = 0.004$), while FSFI did not change significantly ($p = 0.132$). In the sham group, modest improvements were observed in FSFI ($p = 0.002$), dyspareunia ($p < 0.001$), dysuria ($p < 0.001$), and vaginal dryness ($p = 0.007$), with no significant changes in vaginal pH ($p = 0.083$) or VHI ($p = 0.625$). Between-group comparisons favored MAFRF for objective vaginal health outcomes (vaginal pH and VHI). According to Cohen's criteria, the MAFRF group showed improvements with large effect sizes for VHI ($d = -1.48$), vaginal dryness ($d = 1.29$), dyspareunia ($d = 0.92$), and vaginal pH ($d = -0.82$).

Conclusion: Vaginal MAFRF was a safe and effective non-hormonal therapy for improving GSM-related symptoms and vaginal health in breast cancer survivors, representing a promising management option.

Ethics: Research Ethics Committee Approval (CAAE 81973618.2.0000.5292).

Registry: Brazilian Registry of Clinical Trials (ReBec): RBR-2ntr3yd.

Keywords: breast neoplasms; cancer survivors; menopause; atrophy; radiofrequency therapy.

<https://doi.org/10.29289/259453942025V36S10895>

895 – Involvement of nipple-areolar complex dermal graft in breast cancer: clinical, radiological, and pathological correlations in mastectomy specimens – preliminary results from 28 patients

Gabriel Salum D'Alessandro¹, Jonathan Yugo Maesaka¹, Julizia FOLONI May¹, Camila Pinto Brito de Figueiredo Guimarães¹, Daniela Zaros Guimarães¹, Roberta Amparado Miziara¹, Ariane Andrade Anacleto Bricks¹, Sergio Podgaec¹

¹Hospital Israelita Albert Einstein – São Paulo (SP), Brazil.

Introduction: As breast cancer surgery has evolved toward less invasive approaches, breast-conserving surgery and nipple-sparing mastectomy are increasingly adopted to improve quality of life. Preservation of the nipple-areolar complex (NAC) has important aesthetic and functional value. When oncologic safety precludes pedicled preservation, NAC grafting may be considered. However, the oncologic safety of this approach remains insufficiently investigated.

Objective: To analyze clinical, radiological, and pathological factors associated with NAC graft involvement in mastectomy specimens and to evaluate the diagnostic accuracy of intraoperative retroareolar margin assessment compared with final histopathology.

Methods: This was a prospective cohort study with a planned sample of 232 patients undergoing total mastectomy. The NAC was harvested as a full-thickness dermal graft before mastectomy. Intraoperative frozen-section analysis of the retroareolar margin was performed. Specimens were formalin-fixed, paraffin-embedded, stained with hematoxylin-eosin, and evaluated by pathologists. Histopathological results were compared with intraoperative, clinical, and radiological findings. Written informed consent was obtained from all patients.

Results: To date, 28 women have been included. Invasive ductal carcinoma comprised 68% of cases, and most tumors were grade II–III (78%). Hormone receptor positivity was observed in 75% (estrogen receptor) and 61% (progesterone receptor), while human epidermal growth factor receptor 2 (HER2) positivity occurred in 12%. Locally advanced disease (cT3–cT4) occurred in 64%, with 57% presenting axillary and multifocal involvement. Cutaneous findings included hyperemia (25%), edema (46%), and ulceration (4%). Neoadjuvant chemotherapy was delivered to 54% of patients. Clinical tumor response was complete in 20%, while most showed partial reduction (53%). Radiologic tumor size at diagnosis ranged from 4.4–6.6 cm. Lesion-to-NAC distance ranged from 2.5–3.2 cm. NAC involvement was observed in 14% of patients. Intraoperative frozen-section analysis of the retroareolar margin showed 92.9% accuracy, outperforming magnetic resonance imaging (88%), mammography (81.5%), and ultrasound (85.7%) in predicting NAC involvement.

Conclusion: This study may help guide the safe clinical application of NAC grafting in carefully selected patients.

Ethics: Research Ethics Committee Approval (CAAE 81565624.8.0000.0071).

Registry: Brazilian Registry of Clinical Trials (ReBEC), RBR-6n3crpc.

Keywords: breast neoplasms; mastectomy; nipples; skin transplantation.

<https://doi.org/10.29289/259453942025V36S10903>

903 – Effects of resistance and combined training on quality of life, anxiety, depressive symptoms, and kinesiophobia in women with breast cancer undergoing neoadjuvant chemotherapy: a randomized clinical trial

Anderson Garcia Silva¹, Rafael Ribeiro Alves¹, Nathan Muci Aguiar Damasio¹, Douglas Silva¹, Lucian Júnio Antunes Ricarte¹, Vitor Andrade Maciel¹, Carlos Alexandre Vieira¹

¹Universidade Federal de Goiás – Goiânia (GO), Brazil.

Introduction: Neoadjuvant chemotherapy for breast cancer aims to reduce tumor volume and enable more conservative approaches. However, this treatment is associated with declines in health-related quality of life (HRQoL), increased anxiety, depression, and fear of moving. Exercise-based interventions have been proposed as non-pharmacological strategies to mitigate these effects. Nevertheless, evidence comparing training modalities and minimal weekly exercise doses during neoadjuvant chemotherapy remains limited.

Objective: This study compared the effects of resistance training (RT), combined training (CT), and a control group (CG) on HRQoL, anxiety, depression, and kinesiophobia in women with breast cancer undergoing neoadjuvant chemotherapy.

Methods: A randomized clinical trial was conducted with 26 women with stage II or III breast cancer aged 30–70 years. Participants were randomized into three groups (RT=10, CT=8, and CG=8). The RT group performed resistance training, and the CT group performed combined training (resistance plus aerobic) once weekly for 12 weeks, while the CG received usual care. Outcomes included HRQoL, anxiety, depression, and kinesiophobia. Data were analyzed using mixed repeated-measures analysis, considering time, group, and group $\times$ time interaction. The study was Research Ethics Committee Approval (CAAE: 50717115.4.0000.5083) and registered in the Brazilian Registry of Clinical Trials (ReBEC-RBR: 16497). The study design and reporting followed the recommendations of the CONSORT Statement.

Results: No significant group $\times$ time interactions were observed for HRQoL, anxiety, depression, or kinesiophobia ($p>0.05$). However, a significant interaction was identified for the emotional well-being domain ($F=3.446$; $p=0.049$).

Conclusion: Resistance and combined training performed at a minimum weekly frequency (once per week) did not significantly modify HRQoL, anxiety, depression, or kinesiophobia over 12 weeks. However, improvement occurred in the emotional well-being domain of HRQoL in women with breast cancer undergoing neoadjuvant chemotherapy.

Ethics: Research Ethics Committee Approval (CAAE 50717115.4.0000.5083).

Registry: Brazilian Registry of Clinical Trials (ReBEC): RBR-16497.

Keywords: breast neoplasms; exercise therapy; quality of life; anxiety; neoadjuvant therapy.

<https://doi.org/10.29289/259453942025V36S10929>

929 – Combined intralesional and topical corticosteroids for idiopathic granulomatous mastitis: a prospective pilot case series

Priscila de Medeiros Souza Nobre¹, Candice Barbosa Militao de Lira¹, Nicoli de Azevedo Serquiz¹, Danielly Silva Viegas¹, José Tarcísio Diógenes Júnior¹, Luiz Murillo Lopes de Britto¹

¹Universidade Federal do Rio Grande do Norte, Maternidade Escola Januário Cicco – Natal (RN), Brazil.

Introduction: Idiopathic granulomatous mastitis (IGM) is a challenging benign inflammatory breast disease characterized by a relapsing course and lack of standardized treatment. Although systemic corticosteroids are effective, their use is limited by significant adverse effects. Local therapeutic strategies have gained interest; however, data on combined intralesional and topical corticosteroid therapy remain scarce.

Objective: To assess the efficacy, recurrence pattern, and safety of a combined local corticosteroid approach in patients with IGM.

Methods: A prospective pilot case series was conducted in patients with histologically confirmed IGM. Lesions ≤ 5 cm on ultrasound were treated with intralesional methylprednisolone (40 mg) at two-week intervals, combined with continuous topical triamcinolone acetonide 0.1% ointment. The primary endpoint was complete clinical and ultrasonographic remission. Secondary outcomes included time to response, recurrence rate, and adverse events. Systemic corticosteroids were not used.

Results: Three patients were included. All achieved complete remission after three intralesional injections, with a mean time to remission of four weeks. Early clinical response was observed within 15 days in all cases. Ultrasonography confirmed progressive lesion reduction, with complete resolution achieved after the second application in most cases. No treatment-related adverse events were reported. During follow-up (4–7 months), recurrence occurred in two patients (66%), approximately 60 days after remission. Notably, recurrences were mild and effectively controlled with topical therapy alone, without escalation to systemic or further intralesional treatment.

Conclusion: This combined local corticosteroid regimen demonstrated rapid clinical response, favorable safety, and the potential to control recurrences without systemic therapy. These findings support a steroid-sparing strategy in IGM management and provide preliminary evidence for a minimally invasive, outpatient-based approach. Larger controlled studies are warranted to validate these results.

Ethics: Research Ethics Committee Approval (CAAE 84914324.4.0000.0253).

Keywords: granulomatous mastitis; injections; intralesional; treatment outcome.

<https://doi.org/10.29289/259453942025V36S10934>

934 – Improved survival in breast cancer over two decades in southern Brazil: a retrospective cohort study of 2,247 patients

Nathalia Cruz Costa, Brenda Carrera Merlini, Julia Lipert Pazzim, Andréa Pires Souto Damin

¹Hospital de Clínicas de Porto Alegre - Porto Alegre (RS), Brazil.

²Universidade Federal do Rio Grande do Sul - Porto Alegre (RS), Brazil.

Introduction: Breast cancer remains the most prevalent malignancy and the leading cause of cancer-related mortality among women in Brazil. Over the past two decades, the healthcare landscape has been transformed by advances in diagnostic approaches and personalized therapies, highlighting the need for longitudinal evaluations of the impact of these changes on clinical outcomes.

Objective: To assess temporal trends in overall survival and to identify prognostic factors in a cohort of breast cancer patients over a 20-year period.

Methods: This retrospective cohort study included 2,247 women diagnosed between 2002 and 2022 at a reference center in Southern Brazil. Patients were stratified by decade of diagnosis: Period 1 (2002–2011) and Period 2 (2012–2022). Overall survival was estimated using the Kaplan–Meier method and compared using the log-rank test. Prognostic factors were analyzed using a multivariate Cox proportional hazards model (Statistical Package for the Social Sciences, version 18.0), with statistical significance set at $p < 0.05$.

Results: A significant improvement in overall survival was observed among patients diagnosed in Period 2 compared to Period 1 ($p < 0.001$). In the multivariate analysis, disease recurrence emerged as the strongest predictor of poor prognosis (hazard ratio [HR] 10.214; 95% confidence interval [CI] 7.714–13.524; $p < 0.001$). Lymph node involvement (HR 1.045 per node; 95%CI 1.032–1.059; $p < 0.001$), human epidermal growth factor receptor 2 (HER2)-positive status (HR 1.610; 95%CI 1.147–2.261; $p = 0.006$), and absence of hormone receptors (HR 1.616; 95%CI 1.028–2.541; $p = 0.038$) remained independently associated with worse survival in the adjusted model.

Conclusion: The findings demonstrate a favorable evolution in breast cancer prognosis over the past two decades. The improvement in overall survival reflects the positive impact of advances in detection strategies and therapeutic approaches. However, disease recurrence and aggressive biological profiles remain critical challenges, reinforcing the need for rigorous monitoring and access to targeted therapies.

Ethics: Research Ethics Committee Approval (CAAE 53405621.0.0000.5327).

Funding: Coordination for the Improvement of Higher Education Personnel (CAPES), Process No. 88887.503692/2020-00; Hospital de Clínicas de Porto Alegre, Research and Events Incentive Fund (FIPE), Project No. 2021-0546.

Keywords: breast neoplasms; survival analysis.

<https://doi.org/10.29289/259453942025V36S10960>

960 – TROFUSE-032: a phase 3, randomized study of pembrolizumab plus sacituzumab tirumotecan or chemotherapy followed by pembrolizumab plus chemotherapy for early-stage triple-negative breast cancer or hr+/her2– breast cancer

Ruffo Freitas-Junior¹, Peter Schmid¹, Jing Wei¹, Francisco Beca¹, Usha Malhotra¹, Nadia Harbeck¹

¹Universidade Federal de Goiás, Hospital das Clínicas – Goiânia (GO) - Brazil

Introduction: Trophoblast cell surface antigen 2 (TROP2) is highly expressed in triple-negative breast cancer (TNBC) and is associated with poor prognosis. Current standard of care for high-risk, early-stage TNBC is neoadjuvant pembrolizumab plus chemotherapy followed by adjuvant pembrolizumab after surgery. The same approach may be used for hormone receptor-low-positive (HR-low+)/human epidermal growth factor receptor 2-negative (HER2–) breast cancer. Patients with TNBC or HR-low+/HER2– breast cancer without a pathologic complete response (pCR) after neoadjuvant therapy have higher risks of recurrence and mortality. Sacituzumab tirumotecan (sac-TMT), a TROP2-directed antibody-drug conjugate with a unique, bifunctional linker that maximizes payload delivery to tumor cells, demonstrated significant progression-free survival and overall survival benefits compared with chemotherapy in metastatic TNBC. TroFuse-032 (NCT06966700) evaluates the efficacy and safety of neoadjuvant pembrolizumab plus sac-TMT or chemotherapy followed by pembrolizumab plus chemotherapy in early-stage TNBC or HR-low+/HER2– breast cancer.

Methods: This phase 3, randomized, open-label study is enrolling participants aged ≥18 years with centrally confirmed untreated, high-risk, early-stage TNBC or HR-low+/HER2– breast cancer per ASCO/CAP guidelines. Participants are randomized 1:1 to neoadjuvant pembrolizumab 200 mg Q3W plus sac-TMT 4 mg/kg Q2W followed by pembrolizumab 200 mg Q3W plus paclitaxel plus carboplatin (arm 1) *versus* pembrolizumab 200 mg Q3W plus paclitaxel plus carboplatin followed by pembrolizumab 200 mg Q3W plus doxorubicin or epirubicin plus cyclophosphamide (arm 2). Surgery is performed 3–6 weeks after the last dose of neoadjuvant treatment. Adjuvant therapy is initiated ≤60 days after surgery, consisting of pembrolizumab 200 mg Q3W or 400 mg Q6W alone (participants with pCR) or with optional treatment at the physician's discretion (participants with residual disease). Primary endpoints are pCR (ypT0/Tis ypN0) at surgery and event-free survival. Secondary endpoints include overall survival, pCR-no DCIS (ypT0 ypN0), distant progression-free or distant recurrence-free survival, patient-reported outcomes, and safety. Enrollment is planned across 352 sites in 41 countries.

Ethics: Research Ethics Committee of Araújo Jorge Cancer Hospital, Association for Cancer Control in Goiás (ACCG; Approval No. 7.838.063; September 15, 2025).

Registry: ClinicalTrials.gov (NCT06966700); European Union Clinical Trials Information System (EU CT) 2024-520190-12.

Funding: Merck Sharp & Dohme LLC, a subsidiary of Merck & Co., Inc., Rahway, NJ, USA.

Keywords: triple negative breast neoplasms; breast neoplasms; clinical trial; phase III; pembrolizumab.

<https://doi.org/10.29289/259453942025V36S10972>

972 – Analysis of lipid, physical, and inflammatory profiles in obese breast cancer patients at a tertiary hospital in Paraná

Lara Mensato Döring¹, Ana Luiza Gugel Maciel¹, Amanda Claro dos Santos Nunes Pereira¹, Lucas Roskamp Budel¹, Vinicius Milani Budel¹

¹Universidade Federal do Paraná, Hospital de Clínicas – Curitiba (PR), Brazil.

Introduction: Breast cancer is the most prevalent and lethal malignant neoplasm among women worldwide. It is estimated that up to 40% of cases could be prevented through the modification of behavioral and metabolic factors. While obesity is a recognized risk factor, it cannot be analyzed solely by body mass index, as this parameter fails to capture muscle mass.

Objective: This study aimed to analyze the physical, lipid, and inflammatory profiles of obese women with breast cancer to enhance understanding of the relationship between obesity and neoplasia.

Methods: A prospective observational study was conducted at Hospital de Clínicas of the Federal University of Paraná with a total sample of 61 obese women (body mass index >30, aged 18–70 years) diagnosed with breast cancer. Assessment tools included the International Physical Activity Questionnaire and a full lipid panel. Adjusted calf circumference was utilized as a primary indicator of muscle mass, serving as a highly cost-effective and viable screening tool for sarcopenia in clinical practice. The neutrophil-to-lymphocyte ratio was also analyzed to identify metabolic and inflammatory correlations.

Results: Findings showed that 53.2% of participants were classified as irregularly active or sedentary. Regarding the metabolic profile, 56.7% had total cholesterol ≥ 190 mg/dL, 20% had high-density lipoproteins ≤ 40 mg/dL, 46.7% had low-density lipoproteins ≥ 130 mg/dL, and 60% showed elevated triglyceride levels. The mean neutrophil-to-lymphocyte ratio was 2.06 (standard deviation ± 0.89). Most significantly, it was observed that 34/61 patients had an adjusted calf circumference at a level indicative of sarcopenia.

Conclusion: The high prevalence of sarcopenia in this cohort demonstrates that body mass index masks a critical state of physical vulnerability. These findings show that obesity in breast cancer patients is often accompanied by significant muscle depletion. This scenario reinforces the need for a shift in clinical management, in which medical care goes beyond weight-centered approaches and actively incorporates the promotion of physical activity, recognizing exercise as a key strategy to preserve lean mass, improve metabolic health, and potentially enhance treatment outcomes.

Ethics: Research Ethics Committee Approval (CAAE 74975123.4.0000.0096).

Keywords: breast neoplasms; body mass index; sarcopenia; lipids; obesity.

<https://doi.org/10.29289/259453942025V36S11032>

1032 – Vacuum-assisted percutaneous excision after neoadjuvant systemic therapy for breast cancer: VAE breast 02 project

Katyane Larissa Alves, Ruffo Freitas-Júnior, Maria Paula Curado, Marcus Nascimento Borges, Henrique Lima Couto, Thays Andressa Albuquerque Monteiro, Gabriela Moura de Paula, Amanda Lopes Faria Queiroz

¹Centro Avançado de Diagnóstico da Mama (CORA), Universidade Federal de Goiás, Hospital de Clínicas – Goiânia (GO), Brazil.

²Universidade Federal de Goiás, Hospital de Clínicas, Departamento de Patologia – Goiânia (GO), Brazil.

³Universidade Federal de Goiás, Hospital de Clínicas, Programa de Pós-Graduação em Saúde – Goiânia (GO), Brazil.

Introduction: The management of residual lesions and the tumor bed following neoadjuvant systemic therapy for breast cancer is currently under discussion, particularly through minimally invasive techniques such as vacuum-assisted percutaneous excision in selected patient groups.

Objective: To evaluate the rate of complete resection of residual lesions and the tumor bed in patients after neoadjuvant systemic therapy for breast cancer who undergo ultrasound- or mammography-guided vacuum-assisted percutaneous excision.

Methods: This was a multicenter, analytical cross-sectional observational study, designed to assess the diagnostic accuracy of a percutaneous procedure. The purpose was to perform vacuum-assisted percutaneous excision in patients with early-stage tumors (T1–T2, N0 or N1) who, after neoadjuvant systemic therapy, presented with residual tumors ≤ 2.0 cm or achieved a complete clinical response, provided that the tumor bed had been previously marked with a clip. According to the surgical team's schedule, all patients will subsequently undergo standard surgical treatment. The sample size was calculated to estimate the minimum number of participants required to achieve a complete resection rate of 92% using the vacuum-assisted technique, with a margin of error of 2%, resulting in a minimum of 68 patients. This study was approved by the Research Ethics Committee of Hospital de Clínicas, Federal University of Goiás.

Results: To date, the study has included seven patients. Five of them received a tumor bed marker clip and are currently undergoing neoadjuvant systemic therapy, and two have undergone vacuum-assisted excision following neoadjuvant chemotherapy. Recently, a collaborating center was added, where patient recruitment will also take place.

Conclusion: This minimally invasive approach is expected to reduce morbidity and costs in selected patients with breast cancer, without compromising oncological outcomes.

Ethics: Research Ethics Committee Approval (CAAE 89889325.1.0000.5078).

Registry: Brazilian Registry of Clinical Trials (ReBEC), RBR-5cmx2g3.

Keywords: breast neoplasms; biopsy large-core needle; neoadjuvant therapy.

<https://doi.org/10.29289/259453942025V36S11037>

1037 – Impact of support groups based on positive psychology and coaching on psychosocial well-being in women with breast cancer: a quasi-experimental study

Isabela Rodrigues Neves de Oliveira¹, Silvana Soares dos Santos¹, Gisele de Cassia Sales Gengo¹, Maria das Graças Silva Matsubara¹, Fabiana Baroni Alves Makdissi¹

¹A.C. Camargo Cancer Center – São Paulo (SP), Brazil.

Introduction: Breast cancer diagnosis and treatment impair psychosocial well-being, affecting emotional health, body image, and social relationships.

Objective: To evaluate whether a support group based on positive psychology and coaching promotes emotional coping and well-being throughout the cancer journey.

Methods: A quasi-experimental time-series study was conducted at A.C. Camargo Cancer Center (ACCCC) in 2025 and was Research Ethics Committee Approval (No. 7,871,464). A total of 78 women with breast cancer were included, with 37 allocated to the intervention group (IG) and 41 to the control group (CG), whose median ages were 48 and 44 years, respectively. The IG participated in a virtual support group based on positive psychology and coaching (90 hours over seven months), which has been offered free of charge at ACCCC for the past two years. The CG received standard oncological care. Data were collected at three time points for both groups: pre-intervention (M1), after four months (M2), and at the end of the intervention (M3). Psychosocial well-being was assessed using the validated Breast-Q Psychosocial Well-Being scale, which evaluates body image, self-esteem, and emotional well-being.

Results: In the IG, hormone therapy predominated (73.0%), followed by adjuvant chemotherapy (10.8%), neoadjuvant chemotherapy (5.4%), and follow-up (10.8%). In the CG, 53.7% were receiving hormone therapy, 17.1% adjuvant chemotherapy, 12.2% neoadjuvant chemotherapy, and 17.1% were in follow-up. Between M1 and M2, the CG showed a greater mean increase in psychosocial well-being (+4.38) than the IG (+3.92). However, between M1 and M3, the CG demonstrated a slight reduction (−0.24), whereas the IG showed a substantial increase of +9.05 points. Statistically significant differences were observed over time, particularly in the IG ($p < 0.05$), indicating a sustained effect of the intervention.

Conclusion: A support group based on positive psychology and coaching was associated with sustained improvement in psychosocial well-being among women with breast cancer, compared to conventional care.

Ethics: Research Ethics Committee Approval (CAAE 87706525.1.0000.5432).

Keywords: breast neoplasms; quality of life; social support.

<https://doi.org/10.29289/259453942025V36S11054>

1054 – Predictors of axillary response after neoadjuvant chemotherapy in breast cancer: a clinicopathological analysis

Thaís Oliveira Dupin¹, Thais Gomes Sala¹, Mônica Duarte Pimentel¹, Clecio Enio Murta Lucena¹, Keyla Daniele Lacerda Rodrigues¹, Rodrigo Otávio Teixeira Moreira¹, Clara Costa Resende¹, Patrícia Bittencourt Marques Lauria¹

¹Universidade Federal de Minas Gerais, Hospital das Clínicas – Belo Horizonte (MG), Brazil.

Introduction: Neoadjuvant chemotherapy in patients with breast cancer and clinically positive axillary lymph nodes (cN+) aims to achieve conversion to a pathologically negative status (ypN0), which is associated with better prognosis and possible surgical de-escalation.

Objective: This study aimed to evaluate clinicopathological predictors of axillary response after neoadjuvant chemotherapy to allow for individualized therapy.

Methods: This retrospective analytical study was conducted at a tertiary public breast cancer center. Initially, 587 patients were evaluated, with 129 patients included after applying the selection criteria (invasive ductal carcinoma, non-metastatic disease, cN+ axilla, and treatment with a doxorubicin plus cyclophosphamide followed by a taxane [AC-T] regimen). The following variables were analyzed: age, histological grade, tumor subtype (luminal, triple-negative, HER2), Ki67 (<20% vs. ≥20%), and pre-treatment clinical axillary status (cN). The outcome was pathologic complete response (pCR). The chi-square test, Cramer's V, and standardized residuals were used for analysis ($p < 0.05$).

Results: The mean age was 50.3 years. The pCR rate was 54.3% (70/129). There was a significant association between tumor subtype and pCR ($\chi^2=12.54$; $p=0.002$; $V=0.31$), with a higher response in triple-negative tumors and a lower response in luminal tumors. Initial axillary status was also associated with pCR ($\chi^2=11.32$; $p=0.003$; $V=0.30$), with a higher response in cN1 and a lower in cN2. There was no significant association with age ($p=0.68$), Ki67 ($p=0.21$), or histological grade ($p=0.40$), although there was a trend toward a higher response in high-grade tumors.

Conclusion: Tumor subtype and initial clinical axillary status were significant predictors of response to neoadjuvant chemotherapy, with a higher probability of response in triple-negative tumors and among cN1 patients, potentially allowing for less aggressive surgical strategies.

Ethics: Research Ethics Committee Approval (CAAE 52999321.4.0000.5149).

Keywords: breast neoplasms; neoadjuvant therapy; axillary lymph node; pathologic complete response.

<https://doi.org/10.29289/259453942025V36S11076>

1076 – Feasibility of a self-management strategy for breast cancer-related lymphedema in the volume reduction phase: a pilot study

Anke Bergmann, Jessica Malena Pedro Silva, Nathália Bordinhon Soares, Maria Alice Costa Veiga, Rejane Medeiros Costa, Erica Alvez Nogueira Fabro, Eloa Moreira-Marconi, Suzana Sales Aguiar

¹Instituto Nacional de Câncer – Rio de Janeiro (RJ), Brazil.

²Universidade de Vassouras – Vassouras (RJ), Brazil.

Introduction: Lymphedema is the most common long-term complication of breast cancer treatment. Its control is fundamental to ensuring a better quality of life. Compression therapy is the main component of lymphedema treatment, traditionally using compression bandaging applied by a physiotherapist. An alternative strategy that appears promising is self-compression bandaging, since the individual assumes an active role in the treatment.

Objective: To evaluate the feasibility of self-compression bandaging compared with traditional application by a physiotherapist in the upper limb volume reduction phase.

Methods: This randomized clinical trial included women with breast cancer-related lymphedema in the volume reduction phase. The interventions were: (i) compression bandaging applied by a physiotherapist (Group A) and (ii) self-compression bandaging (Group B). Evaluation took place before the interventions and after 30 days, through upper limb perimetry and an interview to assess adherence and satisfaction. The primary outcome was the percentage of excess volume between the upper limbs. The sample size for the complete study was 96 participants (48 in each group). Data were analyzed with a 95% confidence interval and $p < 0.05$ for statistical significance.

Results: This pilot study included 12 participants (6 in each group), with a mean age of 57.62 years (standard deviation ± 10.5), of whom 66.7% had undergone mastectomy, 81.8% had grade II lymphedema, with an average baseline excess volume of 23.5% ($\pm 12.8\%$). The mean reduction in excess volume at 30 days was 41.1% ($\pm 16.2\%$) for Group A *versus* 26.5% ($\pm 15.5\%$) for Group B, with no difference between the groups ($p = 0.142$). Approximately 70% of participants in Group B had excellent adherence and were satisfied with the therapy.

Conclusion: Self-compression bandaging in women with lymphedema secondary to breast cancer proved to be a feasible strategy with high levels of adherence and satisfaction.

Ethics: Research Ethics Committee Approval (CAAE 76167023.6.0000.5274).

Registry: Brazilian Registry of Clinical Trials (ReBEC): RBR-3sp77cq.

Funding: Anke Bergmann receives a Productivity Scholarship (Level 2) from the Brazilian National Council for Scientific and Technological Development (CNPq).

Keywords: breast cancer; lymphedema; physical therapy.

<https://doi.org/10.29289/259453942025V36S11081>

1081 – Effects of mindfulness on women with breast cancer undergoing chemotherapy: integrative review (2019–2025)

Míriam Gomes Avelar de Moraes, Rosemar Macedo Sousa Rahal, Maria Alves Barbosa, Cíntia Márcia de Magalhães, Jhenifer Gabriele Dourado Santolin

¹Universidade Federal de Goiás, Faculdade de Medicina – Goiânia (GO), Brazil.

Introduction: Breast cancer patients undergoing chemotherapy frequently face a high prevalence of anxiety, depression, and cognitive decline (“chemobrain”), compromising treatment adherence and quality of life.

Objective: This integrative review, part of the doctoral research “Effects of Brief Focal Psychotherapy on Anxiety and Depression in Women with Breast Cancer Undergoing Neoadjuvant Treatment” (Medical School/Federal University of Goiás), aimed to synthesize evidence on the reduction of these symptoms and cognitive improvement through Mindfulness-Based Stress Reduction (MBSR) during chemotherapy.

Methods: The Whittemore and Knafl (2005) method was adopted, with a systematic search in the MEDLINE, Web of Science, and Scopus databases (2019–2025), using the following MeSH descriptors: “mindfulness”, “MBSR”, “breast cancer”, “chemotherapy”, “stress”, “anxiety”, “depression”, and “cognition”. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) criteria guided the selection: 1,390 articles were identified; after double screening of titles/abstracts and full texts, four studies were included for focusing on women diagnosed with breast cancer undergoing chemotherapy. Data were extracted into a standardized spreadsheet.

Results: The studies indicated that MBSR provided significantly better results for quality of life, anxiety, depression, and emotional cognitive regulation.

Conclusion: MBSR is effective as an oncological adjunct, and one of the studies recommends combined intervention with acupressure, which further improved the outcomes.

Ethics: Research Ethics Committee Approval (CAAE 90482525.3.0000.5078); Approval No. 8.123.896.

Keywords: mindfulness; breast cancer; chemotherapy; anxiety; depression.

PRESENTATION: ORAL PRESENTATION (FAST PRESENTATION) – BEST STUDY AS A YOUNG RESEARCHER

<https://doi.org/10.29289/259453942025V36S11094>

1094 – Prognostic value of androgen receptor expression in triple-negative breast cancer: a systematic review and meta-analysis

Vyivian Paes de Oliveira, Deborah Abucarma Soares, Maria Eduarda Dias Mendes, Lucas Diniz da Conceição, Sebastião Alves Pinto, Deidimar Cássia Abreu, Vera Aparecida Saddi

¹Instituto Goiano de Oncologia e Hematologia – Goiânia (GO), Brazil.

²Pontifícia Universidade Católica de Goiás – Goiânia (GO), Brazil.

³Universidade Federal de Goiás – Goiânia (GO), Brazil.

⁴Universidade Federal Fluminense – Niterói (RJ), Brazil.

Introduction: Triple-negative breast cancer (TNBC) is an aggressive subtype characterized by the absence of estrogen receptor, progesterone receptor, and human epidermal growth factor receptor 2 (HER2) expression, with limited therapeutic options. TNBC exhibits high tumor heterogeneity and a worse prognosis, including early metastasis, and high recurrence and mortality rates. In this context, the expression of androgen receptor (AR) has been suggested as a potential prognostic biomarker in TNBC. ARs are steroid-dependent transcription factors, able to modulate cell proliferation, apoptosis, and tumor invasion, and may be associated with overall survival and disease-free survival in TNBC.

Objective: To investigate the prognostic value of AR in TNBC, as assessed by immunohistochemistry, through a systematic review and meta-analysis.

Methods: A systematic review was conducted according to PRISMA 2020, with a protocol registered in PROSPERO (CRD420261347726). Data were obtained from the PubMed/MEDLINE database, including 14 studies from the last ten years. Kaplan–Meier curves were reconstructed using Guyot's algorithm. Random-effects meta-analysis with 95% confidence interval (CI) was used to assess the prevalence of AR positivity. Heterogeneity was analyzed using I^2 , with a leave-one-out sensitivity analysis. Publication bias was assessed using funnel plots and Egger's test, and risk of bias was assessed using the Joanna Briggs Institute criteria, with analyses performed in R 4.5.2 software.

Results: The 14 studies were included in the meta-analysis ($n=1,922$), and AR expression was positive in 36.6% of the cases (95%CI 29.99–43.20; $I^2=92.5\%$). Kaplan–Meier curves demonstrated worse disease-free survival ($p=0.03$) and overall survival ($p<0.001$) in AR+ TNBC patients. Sensitivity analyses confirmed the robustness of the findings, and Egger's test did not indicate publication bias ($p=0.53$).

Conclusion: AR expression in TNBC was associated with worse overall and disease-free survival, reinforcing its role as a potential prognostic biomarker in risk stratification and possibly guiding individualized therapeutic strategies.

Ethics: Public data – Literature review.

Registry: International Prospective Register of Systematic Reviews (PROSPERO), CRD420261347726.

Keywords: androgen receptors; survival analysis; tumor biomarkers; breast neoplasms; prognosis.

PRESENTATION: ORAL PRESENTATION (FAST PRESENTATION)

<https://doi.org/10.29289/259453942025V36S10885>

885 – Machine learning prediction of disease-free survival in breast cancer using blood cell counts and clinicopathological features: a multicentre, retrospective cohort study

Sara Socorro Faria¹, Maria Sílvia Petty Moutinho¹, Ugo de Giorgi¹, Michal Mego¹, Pablo Mandò¹, Daniel Guimaraes Tiezzi¹, Sumadi Luckman Anwar¹, Afonso Celso Nazario¹

¹Universidade Federal de São Paulo – São Paulo (SP), Brazil.

Introduction: Blood-based laboratory parameters, such as the neutrophil–lymphocyte ratio, have emerged as valuable markers in several cancer types. Machine learning models have shown potential for developing predictive and prognostic biomarkers.

Objective: To assess the prognostic value of blood cell count and clinicopathological data when applied to machine learning models to predict disease-free survival in patients with breast cancer.

Methods: This multicenter, retrospective cohort study collected clinicopathological and complete blood count data from 2,864 patients diagnosed with breast cancer in six countries (Argentina, Brazil, Italy, Indonesia, Belgium, and Slovakia) between January 1, 1999, and December 31, 2013. The database was split into training and validation sets at an 8:2 ratio. A Cox proportional hazards model with LASSO regularization was used to select the prognostic features. Four survival models were trained (RSF, XGB, GBM, and COX-LASSO) to estimate disease-free survival. This study was approved by the Institutional Ethics Committee of the Federal University of São Paulo (decision number 7.205.965).

Results: Seven key characteristics were selected for model development: age, neutrophil–lymphocyte ratio, T3 stage, positive lymph nodes, histological grade 3 (G3), estrogen receptor positivity, and human epidermal growth factor receptor 2 (HER2). Among the four machine learning models, the Gradient Boosting Machine (GBM) showed the best performance, achieving an area under the receiver operating characteristic curve (AUROC) of 0.610 (95% confidence interval 0.303–0.630). In the training cohort, the Random Survival Forest (RSF) model demonstrated the lowest overall Integrated Brier Score (IBS=0.075).

Conclusion: A large and diverse cohort of women with breast cancer was analyzed, including clinical, pathologic, and laboratory data. The final GBM model demonstrated consistent predictive performance across various cohorts. Further prospective randomized controlled studies are needed to enhance the accuracy and clinical applicability of the model.

Ethics: Research Ethics Committee Approval (CAAE 80509824.9.1001.5505).

Registry: ClinicalTrials.gov (NCT06447532).

Keywords: breast cancer; blood cell count; machine learning; prognosis.

PRESENTATION: ORAL PRESENTATION (FAST PRESENTATION)

<https://doi.org/10.29289/259453942025V36S10964>

964 – Molecular signature of circulating miRNAs 21 and 145 in predicting chemotherapy response in breast cancer: a systematic review

Julia Vieira Lipert Pazzim, Daisy Crispym, Nathalia Cruz Costa, Brenda Carrera Merlini, Andréa Pires Souto Damini

¹Hospital de Clínicas de Porto Alegre – Porto Alegre (RS), Brazil.

²Universidade Federal do Rio Grande do Sul – Porto Alegre (RS), Brazil.

Introduction: Breast cancer exhibits marked biological heterogeneity, resulting in variable responses to chemotherapy. The lack of accurate predictive biomarkers in clinical practice limits therapeutic personalization and exposes patients to unnecessary toxicities. In this context, circulating microRNAs (miRNAs) have emerged as promising liquid biopsy tools. The identification of a signature based on functionally opposing miRNAs, such as miR-21 (an oncomiR) and miR-145 (a tumor suppressor), is justified by the need for minimally invasive markers capable of enabling early prediction of chemosensitivity, thereby optimizing clinical management.

Objective: To evaluate the predictive value of plasma miR-21 and miR-145, measured simultaneously, in chemotherapy response among women with breast cancer.

Methods: A systematic review was conducted following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines and registered in PROSPERO (CRD420251230261). PubMed, Embase, and Scopus databases were searched through May 2025. Eligible studies included those that simultaneously analyzed both miRNAs in plasma and reported treatment response outcomes. Study selection and data extraction were performed by two independent reviewers, with risk of bias assessed using the QUADAS-2 tool.

Results: Of the 1,723 records identified, three studies (n=353 patients) met the inclusion criteria. Two studies demonstrated that higher levels of miR-145 and lower levels of miR-21 were significantly associated with a positive response, highlighting their opposing biological roles in chemoresistance. One study found no significant association. A high risk of bias was observed in most positive findings, mainly due to the case-control design and the post hoc selection of cutoff points.

Conclusion: The combined evaluation of miR-21 and miR-145 represents a biologically plausible panel for predicting chemotherapy response. However, current evidence is limited by methodological heterogeneity. Large-scale prospective studies and standardized protocols are essential to validate this molecular signature before its implementation in clinical practice.

Ethics: Public data – Literature review.

Registry: International Prospective Register of Systematic Reviews (PROSPERO), CRD420251230261.

Funding: Project 20220585 – AGHUSE.

Keywords: breast cancer; treatment; prognosis.

PRESENTATION: E-POSTER

<https://doi.org/10.29289/259453942025V36S11194>

1194 – Importance of reclassification of variants of uncertain significance in patients with breast cancer using multigene panel testing

Joanine Fernandes Tavares¹, Paula Francinete Faustino da Silva¹, Bruno Eduardo Feitosa Nascimento¹, Wendyson Duarte Oliveira¹, Elisângela de Paula Silveira Lacerda¹

¹Centro de Genética Humana – Goiânia (GO), Brazil.

Introduction: The increasing use of next-generation sequencing in breast cancer investigation has expanded the detection of variants of uncertain significance (VUS), representing a challenge in clinical practice. The reclassification of these variants is essential for accurate assessment of hereditary cancer risk and for decision-making in mastology.

Objective: To reclassify VUS identified in patients with breast cancer through an integrated bioinformatics approach and according to the American College of Medical Genetics and Genomics (ACMG) criteria.

Methods: This retrospective observational study included 352 patients who underwent next-generation sequencing using a multigene panel. Among them, 27 women with breast cancer presented variants initially classified as VUS in genes associated with hereditary predisposition, including BRCA1, BRCA2, PALB2, CHEK2, ATM, BRIP1, RAD51D, and TP53. Variants were reclassified according to the ACMG criteria using an integrated bioinformatics approach, including population frequency analysis in the Genome Aggregation Database (gnomAD) and the application of artificial intelligence-based tools such as HerediVar, HerediClassify, DeepVariant, and SpliceAI.

Results: VUS were identified in patients with breast cancer, and after reclassification, a subset of variants was categorized as likely pathogenic and likely benign, while others remained classified as VUS. Variants with higher pathogenic potential were highlighted in genes such as BRCA1, TP53, and PALB2, including a BRCA1 deletion (c.542_543del) and a TP53 variant (c.472C>T). The integrated bioinformatics approach enabled greater accuracy in reclassification, despite variability among predictive algorithms.

Conclusion: The reclassification of VUS demonstrated a direct impact on genetic interpretation and risk stratification in patients with breast cancer. The identification of likely pathogenic variants reinforces the importance of appropriate clinical follow-up for patients and their families, enabling surveillance strategies, early diagnosis, timely therapeutic intervention, and disease prevention. These findings highlight the fundamental role of bioinformatics in precision medicine.

Ethics: Research Ethics Committee of Hospital das Clínicas, Federal University of Goiás (UFG), CAAE 50626315.6.0000.5078; Opinion No. 1791010, and by the Research Ethics Committee of the Association for Cancer Control in Goiás (ACCG), CAAE 50626315.6.3001.0031; Opinion No. 4.093.502.

Funding: National Council for Scientific and Technological Development (CNPq), Process No. 380157/2024-1; Goiás State Research Support Foundation (FAPEG), Process No. 201710267001232.

Keywords: VUS; breast cancer; variant reclassification; NGS.

<https://doi.org/10.29289/259453942025V36S10899>

899 – Psychological resilience in women undergoing radical mastectomy: preliminary results

Maria Fernanda de Matos Maluf, Andre Mattar, Miguel Sabino Neto

¹Universidade Federal de São Paulo – São Paulo (SP), Brazil.

²Hospital da Mulher – São Paulo (SP), Brazil.

Introduction: Psychological resilience is an individual's capacity to adapt and recover after experiencing adverse life events. In the case of breast cancer, surgical treatment, particularly radical mastectomy, may have a significant impact on psychological well-being and quality of life.

Objective: This study aimed to evaluate psychological resilience in women undergoing radical mastectomy with (MWR) or without reconstruction (RM), and in others submitted to breast plastic surgery procedures (control group). Evidence addressing this topic remains limited in Brazil.

Methods: This ongoing multicenter study was conducted at two reference centers in São Paulo, Brazil: Hospital São Paulo (HSP) and Hospital da Mulher (HM). Psychological resilience is being assessed using the validated Portuguese short version of the Connor–Davidson Resilience Scale (CD-RISC-10). This instrument evaluates five domains of resilience—flexibility, self-efficacy, emotional regulation, optimism, and attention under stress—through a Likert scale with a maximum score of 40 points. Each study group includes 60 participants, totaling 180 patients. Statistical analyses are performed using the Statistical Package for the Social Sciences (SPSS) for Windows, version 30.

Results: To date, 70 questionnaires have been administered, and, after exclusions, a total of 65 participants were included in the current analysis: RM (n=15, HM), RMR (n=16, HM; n=14, HSP), and control group (n=20, HSP). Preliminary analyses did not demonstrate statistically significant differences in resilience scores between groups. However, the current precision remains limited due to the partial sample size, and a regression statistical model will be considered for the final dataset.

Conclusion: Preliminary findings suggest that psychological resilience does not differ significantly between women undergoing MWR or RM and those in the control group. Completion of the planned sample size may provide more robust evidence regarding the impact of reconstructive surgery on psychological resilience among breast cancer patients.

Ethics: Research Ethics Committees of Federal University of São Paulo (CAAE 88692125.2.1001.5505) and Hospital da Mulher (CAAE 88692125.2.2001.0083).

Funding: Coordination for the Improvement of Higher Education Personnel (CAPES), Academic Excellence Program (PROEX), Grant No. 190629.

Keywords: psychological resilience; breast cancer; radical mastectomy.

<https://doi.org/10.29289/259453942025V36S10916>

916 – Development of biobanks for precision medicine in breast cancer: a platform for molecular and immunological biomarker research

Gabriela Fogaca Schneider¹, Betina Vollbrecht¹

¹Universidade Federal de Ciências da Saúde de Porto Alegre – Porto Alegre (RS), Brazil.

Introduction: Breast cancer exhibits marked biological heterogeneity that challenges conventional therapeutic strategies. Biobanks have emerged as critical infrastructures supporting precision oncology by integrating high-quality biospecimens with multidimensional molecular data, yet their current landscape and clinical impact remain incompletely characterized.

Objective: To systematically map the development, structure, and translational applications of breast cancer biobanks in precision medicine.

Methods: A scoping review was conducted using PubMed, Embase, Web of Science, and SciELO databases from 2019 to 2024. Eligible studies addressed biobank infrastructure, biospecimen management, and integration with clinical or genomic data. Following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses-Scoping Review (PRISMA-ScR) guidelines, 25 studies underwent qualitative synthesis.

Results: Contemporary biobanks have evolved into dynamic, interoperable platforms integrating tumor tissues, liquid biopsies, nucleic acids, and patient-derived organoids. These repositories enable comprehensive molecular profiling through next-generation sequencing, transcriptomics, and proteomics, facilitating biomarker discovery and therapeutic stratification. Integration with longitudinal clinical outcomes enhances predictive modeling for treatment response and resistance mechanisms. Key applications include the identification of actionable mutations, development of companion diagnostics, and validation of novel therapeutic targets. However, critical barriers persist: protocol heterogeneity that compromises data harmonization, limited interoperability across institutions, insufficient sustainable funding, and systematic underrepresentation of non-European populations. Ethical frameworks and regulatory standards remain inconsistent across jurisdictions, hindering international collaboration and data sharing.

Conclusion: Biobanks constitute foundational infrastructure for precision breast oncology, bridging discovery science and clinical implementation. Their capacity to integrate multi-omics datasets with functional tumor models positions them as essential drivers of individualized therapy. Realizing their full potential requires urgent prioritization of international standardization initiatives, equitable population representation, sustainable funding mechanisms, and harmonized ethical frameworks. These advances are critical to ensuring that precision medicine benefits reach diverse patient populations globally and translate into measurable improvements in clinical outcomes.

Ethics: Approved by the Research Ethics Committee (CAAE 52266121.0.0000.5335).

Keywords: biological specimen banks; breast neoplasms; precision medicine; biomarkers.

<https://doi.org/10.29289/259453942025V36S10935>

935 – Expression of microRNAs 10b and 125b as markers of aggressiveness and lymph node dissemination in breast cancer

Brenda Carrera Merlini, Nathalia Cruz Costa, Julia Lipert Pazzin, Andrea Pires Souto Damin

¹Hospital de Clínicas de Porto Alegre – Porto Alegre (RS), Brazil.

²Universidade Federal do Rio Grande do Sul – Porto Alegre (RS), Brazil.

Introduction: Breast cancer progression is a complex process mediated by molecular alterations that precede clinical manifestations. MicroRNAs act as critical post-transcriptional regulators and may play oncogenic or tumor-suppressive roles. The identification of biomarkers that correlate molecular signatures with clinical staging is essential to improve prognostic stratification and therapeutic personalization.

Objective: To analyze the association between the expression levels of microRNAs 10b and 125b and clinical tumor size (T) and the presence of axillary lymph node metastasis in patients with breast cancer.

Methods: This cross-sectional quantitative study included a sample of 176 patients. Gene expression analysis was performed, and expression levels were categorized as “high” or “low.” Clinical data were obtained from medical records. Statistical analyses were conducted using the Statistical Package for the Social Sciences (SPSS), applying Pearson’s chi-square test and Fisher’s exact test to assess associations. A significance level of $p < 0.05$ was adopted.

Results: A highly significant association was observed between both markers and parameters of aggressiveness. miR-10b demonstrated oncogenic behavior, with high expression levels significantly associated with T2 tumors (60.0%) and, more strongly, with the presence of lymph node metastasis (88.4%). In contrast, miR-125b exhibited a tumor suppressor profile; its low expression was associated with T2 tumors (59.8%) and positive nodal status (79.0%).

Conclusion: miR-10b and miR-125b proved to be reliable biomarkers of tumor progression in this sample. The upregulation of miR-10b and downregulation of miR-125b constitute a molecular signature strongly associated with lymphatic dissemination, reinforcing their potential clinical application in identifying more aggressive biological phenotypes.

Ethics: Research Ethics Committee Approval (CAAE 68257123.0.0000.5327).

Funding: Coordination for the Improvement of Higher Education Personnel (CAPES), Grant No. 88887.190296/2025-00; Hospital de Clínicas de Porto Alegre (HCPA), Research Incentive Fund (FIPE), Project No. 2022-0585.

Keywords: breast cancer; microRNAs; miR-10b; miR-125b; lymph node metastasis.

<https://doi.org/10.29289/259453942025V36S11016>

1016 – Rapid test for the detection of a specific breast cancer biomarker in human serum samples

Nicole Anita Brito Madurro¹, Izabella Campos Ferreira¹, Donizeti Wiliam Santos¹, Carlos Eduardo Paiva¹, Yara Cristina Paiva Maia¹

¹Universidade Federal de Uberlândia – Uberlândia (MG), Brazil.

Introduction: Breast cancer is one of the major challenges in global health, with 2.3 million cases and 670,000 deaths per year among women. Early detection enables less invasive treatment and higher cure rates.

Objective: To describe the development of a rapid and simple test based on gold nanoparticles (AuNPs) conjugated with a breast cancer-specific antibody (anti-CA 15-3) for the detection of the CA 15-3 biomarker in serum from patients with benign breast disease (BBD) or advanced breast cancer (ABC).

Methods: AuNPs were synthesized by citrate reduction and functionalized with cysteine in phosphate buffer (pH 7.4) at room temperature. The immobilization of the anti-CA 15-3 on AuNPs was performed by incubation at room temperature. Serum samples (2 µL) from patients with BBD or ABC were added to microtubes containing the AuNPs/anti-CA 15-3 kits, incubated for 30 minutes at room temperature, followed by the addition of 3 µL of saturated NaCl solution.

Results: A total of 12 serum samples from patients with BBD or ABC, two from healthy individuals, and one containing the ovarian cancer biomarker CA-125 were analyzed. Experiments performed in triplicate were evaluated by UV-vis spectrophotometry. Color changes and spectral shifts were observed in all BBD and ABC samples when compared with samples from healthy individuals. The kit containing AuNPs/anti-CA 15-3 initially presented a pink coloration with a peak at 526 nm. After contact with BBD or ABC samples, the color changed to intense purple, with peaks between 550–560 nm (BBD) and 610–620 nm (ABC). The stability of the kit was evaluated for 90 days, remaining stable throughout the period.

Conclusion: The kit was effective in discriminating between healthy individuals and patients with BBD or ABC, demonstrating potential as a low-cost, rapid, and easy-to-use diagnostic tool for breast cancer monitoring.

Ethics: Research Ethics Committee Approval (CAAE 78501924.0.0000.5152; Approval No. 5.796.210).

Keywords: breast cancer; diagnosis; CA 15-3.

<https://doi.org/10.29289/259453942025V36S11044>

1044 – Screening for the brazilian founder variant p.Arg337His in the tp53 gene and its co-segregation with XAF1-E134* in breast cancer patients treated by the unified health system in the midwest of Brazil

Flávia Barreto de Sousa¹, Paula Francinete Faustino da Silva¹, Rebeca Mota Goveia¹, Késsila Macedo Veiga¹, Manuela da Rocha Matos Rezende¹, Lilian Marcassine Sampaio¹, Wendyson Duarte de Oliveira¹, Elisângela de Paula Silveira Lacerda¹

¹Universidade Federal de Goiás – Goiânia (GO), Brazil.

Introduction: Breast cancer is the most common neoplasm among women worldwide, with 5% to 10% of cases associated with hereditary predisposition. Li-Fraumeni syndrome, caused by germline variants in the TP53 gene, stands out for its high risk of multiple and early-onset neoplasms. In Brazil, the founder variant p.Arg337His (R337H) has substantial epidemiological relevance and has been associated with breast cancer. Evidence suggests that the R337H variant occurs in linkage disequilibrium with the XAF1-E134* variant, with both being co-inherited within the same haplotype, which may contribute to modulating tumor risk and aggressiveness.

Objective: This study aimed to investigate the frequency of the R337H variant and evaluate its co-segregation with XAF1-E134* in patients diagnosed with breast cancer.

Methods: A total of 129 patients treated in the Unified Health System and referred to the Human Genetics Center of the Federal University of Goiás, according to the 2025 National Comprehensive Cancer Network (NCCN) criteria, were included. After obtaining informed consent, peripheral blood was collected for DNA extraction, followed by next-generation sequencing using a breast cancer-associated genetic panel. In patients who tested positive for R337H, genotyping of the XAF1-E134* variant was performed.

Results: Among the patients analyzed, seven (5.4%) were positive for R337H, and all showed co-segregation with XAF1-E134*. Ages ranged from 33 to 67 years (mean 45.3 years), with a predominance of cases under 45 years of age (57.1%). Multiple neoplasms were also observed in some patients, including lung tumors and one case of metachronous contralateral breast cancer diagnosed seven years later, reinforcing a pattern of greater clinical complexity.

Conclusion: The findings reinforce the relevance of genetic screening in breast cancer, especially in populations with a high frequency of the R337H variant, and suggest that the R337H-XAF1-E134* haplotype may contribute to more aggressive phenotypes.

Ethics: Approved by the Research Ethics Committees of Hospital das Clínicas, Federal University of Goiás (CAAE 50626315.6.0000.5078) and the Association for Cancer Control in Goiás (CAAE 50626315.6.3001.0031).

Keywords: breast neoplasms; Li-Fraumeni syndrome; tumor suppressor protein p53; genetic predisposition to disease.

<https://doi.org/10.29289/259453942025V36S11058>

1058 – Reclassification of variants of uncertain significance in genes associated with hereditary breast cancer in patients treated at referral hospitals in the state of Goiás

Bruno Eduardo Feitosa Nascimento, Igor Marques Cesario Calassa, Luiz Henrique Alves Costa, Hellen Rocha Luz, Andréa Moreira dos Santos, Rosemar Macedo Sousa Rahal, Paula Francinete Faustino da Silva, Elisângela de Paula Silveira Lacerda

¹Hospital das Clínicas – Goiânia (GO), Brazil.

²Universidade Federal de Goiás, Instituto de Ciências Biológicas – Goiânia (GO), Brazil.

³Universidade Federal do Amazonas, Programa de Pós-graduação em Biotecnologia – Manaus (AM), Brazil.

⁴Universidade Federal de Goiás – Goiânia (GO), Brazil.

Introduction: Breast cancer is the most common malignancy among women, with 5–10% of cases arising from hereditary predisposition, driven by pathogenic variants in DNA repair genes such as BRCA1/BRCA2, as well as moderate-risk genes, including ATM, CHEK2, TP53, BARD1, and BRIP1. Next-generation sequencing improves variant detection but increases the number of variants of uncertain significance (VUS) in underrepresented admixed populations, such as the Brazilian population, where global databases (gnomAD) underestimate local allele frequencies, complicating risk stratification and clinical management.

Methods: In this study, 105 women with breast cancer treated at two referral centers in Goiás, Brazil, between 2020 and 2024 were evaluated. The study was approved by the Research Ethics Committees of Hospital das Clínicas, Federal University of Goiás (CAAE: 50626315.6.0000.5078; approval no. 2,901,648) and the Goiás Cancer Combat Association (CAAE: 50626315.6.3001.0031; approval no. 4,093,502). All participants provided written informed consent. Germline DNA was analyzed under rigorous quality controls, integrating annotations from ClinVar, VarSome, Franklin, gnomAD, ABraOM, and in silico prediction tools. Interpretation strictly followed the American College of Medical Genetics and Genomics guidelines, with reclassification based on population, functional, and clinical evidence, aligned to the hg19 reference genome for analytical consistency.

Results: A total of 13 VUS were identified in seven predisposition genes (ATM, BRCA2, BRIP1, BARD1, BRCA1, CHEK2, TP53) and were present in ten patients (9.5%). After systematic reclassification based on integrated population, functional, and clinical evidence, eight variants (61.5%) were reclassified as benign/likely benign, and five variants (38.5%) remained as VUS, reflecting the lack of national data.

Conclusion: Critically, this approach mitigates overtreatment by reclassifying VUS, minimizing unnecessary prophylactic interventions, familial anxiety, and oncology-related costs. In admixed populations such as Brazil's, integrating local data (ABraOM) corrects bias from under-representative global databases (gnomAD), improving diagnostic accuracy; however, inherent limitations persist, including the scarcity of functional assays for moderate-risk genes and the underrepresentation of rare variants, which perpetuates uncertainty in multifactorial risk stratification.

Ethics: Approved by the Research Ethics Committees of Hospital das Clínicas, Federal University of Goiás (CAAE 50626315.6.0000.5078) and the Association for Cancer Control in Goiás (CAAE 50626315.6.3001.0031).

Keywords: breast neoplasms; genetic predisposition to disease; DNA repair; DNA sequence analysis; variant of uncertain significance.

<https://doi.org/10.29289/259453942025V36S11175>

1175 – HER2MtGx score predicts high risk of recurrence and death in luminal breast cancer

Laura de Martin Coletti, Anastácia de Souza Freias, Joao Paulo Cheles de Lima, Isabela Panzeri Carlotti Buzatto, Daniel Guimarães Tiezzi

¹Universidade de São Paulo, Faculdade de Medicina – Ribeirão Preto (SP), Brazil.

²Hospital das Clínicas de Ribeirão Preto, Setor de Mastologia – Ribeirão Preto (SP), Brazil.

Introduction: Molecular profiling has been demonstrated to be a powerful tool for identifying breast cancer patients at high risk of recurrence and death. A metagene score (HER2MtGx), derived from a 31-gene signature across human epidermal growth factor receptor 2 (HER2), Luminal, and Basal subspaces, was recently proposed and shown to identify patients who do not benefit from HER2-targeted therapy.

Objective: To investigate how this model can identify high-risk patients with estrogen receptor-positive (ER+)/HER2- tumors.

Methods: Exploratory analyses were performed to assess HER2MtGx as a prognostic tool for ER+/HER2- breast cancer in the METABRIC (n=85) and TCGA (n=558) datasets. Prognostic factors (age, clinical stage, and histological grade) and the HER2, Basal and Luminal metagene scores estimated by the HER2MtGx model were used as independent variables. Survival data were right-censored at 7.5 years, and disease-specific survival was analyzed using Kaplan–Meier and Cox regression model. Time-dependent receiver operating characteristic (ROC) curve estimation was applied to survival data to estimate the best metagene score cutoff to discriminate between low- and high-risk patients.

Results: Multivariate analysis showed age (hazard ratio [HR] 1.01; 95% confidence interval [CI] 1.0–1.02), stage (stage 2: HR 2.0; 95%CI 1.4–2.9; stage 3: HR 4.5; 95%CI 2.8–7.3), grade 3 (HR 1.5; 95%CI 1.1–2.0), and the Luminal score (HR 0.7; 95%CI 0.5–0.8) as significant prognostic factors. The Luminal score classified 217 (14%) patients as high risk. The metagene risk score was not associated with stage (p=0.50). A strong association was observed with histological grade (p<0.001). Disease-specific survival was 82.0% (95%CI 80.2–85.3) in low-risk patients compared with 70.1% (95%CI 63.3–77.7) in high-risk patients (p=0.002).

Conclusion: The HER2MtGx model can identify patients at high-risk with ER+/HER2- invasive breast cancer.

Ethics: Public data.

Funding: National Council for Scientific and Technological Development (CNPq), Grant No. 307801/2025-0.

Keywords: molecular subtype; breast cancer; gene expression; computational biology.

PRESENTATION: E-POSTER

<https://doi.org/10.29289/259453942025V36S10944>

944 – Analysis of fake news about mammography in the Vale do Itajaí: perceptions and implications for public health

Guilherme Gamba¹, Ana Gabriela de Souza Barbosa¹, Maria Eduarda de Campos Lemos da Silva¹, Rebeca Neves Heinzen¹

¹Centro Universitário da Fundação Educacional de Brusque – Brusque (SC), Brazil.

Introduction: Mammography is an essential tool for the early detection of breast cancer.

Objective: To explore how fake news may impact the perception of and adherence to mammography screening among women in the Vale do Itajaí, as well as its implications for public health.

Methods: This was a cross-sectional, quantitative, and descriptive study. A structured questionnaire was developed by the researchers and applied to 465 women aged 18 years and over, selected according to eligibility criteria. The collected data were organized and statistically analyzed using tables and graphs created with Microsoft Excel 2019 and further analyzed using Jamovi. Descriptive analysis and Spearman's correlation were used to identify associations between variables, and multinomial logistic regression was used to evaluate factors related to adherence to mammography, considering educational level, knowledge, and beliefs. A significance level of $p < 0.05$ was adopted.

Results: Among the 465 participants, 52.0% had undergone mammography and 69.1% were aware of the recommended screening age. A significant correlation was observed between exposure to fake news and refusal to undergo the exam ($\rho = 0.434$; $p < 0.001$), indicating that greater exposure to negative information was associated with a greater likelihood of avoiding mammography due to fear. Among the 45 participants who did not undergo the exam, 64.0% reported that the reason was fake news from friends and family. Additionally, an association was found between lower educational level and higher vulnerability to misinformation. Beliefs such as fear of pain and radiation negatively influenced adherence, while professional guidance and greater knowledge were identified as protective factors.

Conclusion: Fake news and low health literacy act as significant barriers to adherence to mammographic screening, influencing preventive behaviors and contributing to the late diagnosis of breast cancer.

Ethics: Approved by the Research Ethics Committee (CAAE 90509525.0.0000.5636).

Keywords: mammography; breast neoplasms; mass screening; educational status.

<https://doi.org/10.29289/259453942025V36S10963>

963 – Artificial intelligence in mammography for breast cancer detection: a systematic review

Manuela Bernardes de Góes, Ana Carolina Marques Magalhães, Gabriela Bastos Mesquita, Mel de Oliveira e Silva, Sofia de Souza Barbosa Carneiro, Victoria Eugenia da Mota Sanhueza, Vitor Bastos Mesquita, Walter Johnatha dos Santos Pereira

¹Universidade Federal de Goiás, Hospital das Clínicas – Goiânia (GO), Brazil.

²Pontifícia Universidade Católica de Goiás – Goiânia (GO), Brazil.

³Universidade Federal de Goiás – Goiânia (GO), Brazil.

Introduction: Breast cancer remains the most frequently diagnosed malignancy among women worldwide, and mammographic screening is essential for early detection and mortality reduction. However, diagnostic accuracy is limited by interobserver variability, workload, and fatigue. Artificial intelligence (AI), particularly deep learning models, has emerged as a tool to improve image interpretation.

Methods: This systematic literature review followed the PRISMA guidelines. The research question was structured using the PICO framework: population (women undergoing mammography), intervention (AI-based systems), comparison (radiologist interpretation without AI), and outcomes (cancer detection rate, sensitivity, specificity, and workflow efficiency). Searches were conducted in the PubMed and Cochrane Library databases in February 2026, considering English-language studies from the last five years. A total of 58 studies were identified, of which 49 remained after duplicate removal. After screening titles and abstracts, 18 studies were selected for full-text analysis, and 11 were included. Due to heterogeneity, results were synthesized narratively.

Results: AI demonstrated non-inferior or superior performance to that of radiologists, increasing cancer detection rates by up to 29% and improving sensitivity while maintaining specificity. In randomized and prospective studies, detection rates increased from 5.0 to 6.4 per 1,000 examinations, with stable recall and no significant rise in false-positive rates. AI also reduced interval cancer rates and improved detection of early-stage and subtle lesions. AI-assisted strategies improved the positive predictive value and showed complementary detection patterns to those of radiologists. Workflow efficiency was enhanced, with an approximately 44% reduction in workload and shorter times to additional imaging and biopsy. Combined AI–radiologist approaches outperformed standalone strategies.

Conclusion: AI in mammography is a safe and effective tool with diagnostic performance comparable to or, in some settings, superior to traditional methods. Its integration into screening workflows may enhance cancer detection and efficiency when used as a complementary tool for radiologists. However, heterogeneity, potential bias, and implementation challenges remain barriers to broader clinical adoption.

Ethics: Public data – Literature review.

Keywords: artificial intelligence; breast neoplasms; mammography; mammary diagnosis.

<https://doi.org/10.29289/259453942025V36S10998>

998 – Effectiveness of mammographic screening for reducing breast cancer mortality in women aged 40 to 49 years

Nícolas Marques Barros¹, Igor Diniz Alves¹, Walter Johnatha dos Santos Pereira¹, Sofia Souza Prudente¹, Heloísa Samartino Costa¹, Guilherme Rodrigues Cavalcante¹

¹Universidade Federal de Goiás – Goiânia (GO), Brazil.

Introduction: Breast cancer is the most prevalent malignancy among women and a leading cause of cancer-related mortality. While mammographic screening is well established for women aged 50 years and older, its implementation for those aged 40–49 years remains controversial.

Objective: This systematic review assesses the positive and negative impacts associated with expanding screening to this population: mortality reduction, radiation exposure, diagnostic difficulty, and associated costs.

Methods: This study followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) recommendations and the PICO framework: women aged 40–49 years (population); mammography screening (intervention); absence of mammographic screening or usual care (comparison); and breast cancer mortality, mortality rate, and survival (outcomes). PubMed/MEDLINE databases were searched for studies published since 2020, using the terms “breast cancer”, “mammography” and “40–49 years”. Inclusion criteria covered observational studies, clinical trials, and comparative studies, and studies were independently assessed by two reviewers. Data extraction was performed by six reviewers using standardized forms. Due to methodological heterogeneity, results were synthesized narratively.

Results: Of the 34 studies identified, five met the research goals and inclusion criteria: three randomized controlled trials and two observational studies. Screening was associated with a reduction in breast cancer mortality, with one trial reporting a relative risk (RR) of 0.75 (95% confidence interval: 0.58–0.97) at ten years, and one included meta-analysis showing approximately 18% reduction (RR=0.82) in women aged 39–49 years. However, higher rates of false-positive results and interval cancers, and lower sensitivity were observed with mammographic screening in this age group. Additional concerns included overdiagnosis and increased psychological and economic burden.

Conclusion: Mammographic screening in women aged 40–49 years was associated with a significant decrease in breast cancer mortality. Despite limitations related to overdiagnosis, reduced sensitivity, increased false positives, and radiation exposure, the findings suggest potential benefits and support consideration of screening expansion to this population. Nevertheless, further analyses are pivotal to better evaluate long-term clinical and socioeconomic impacts.

Ethics: Public data – Literature review.

Keywords: mammography; breast cancer; screening; mortality; women.

<https://doi.org/10.29289/259453942025V36S11045>

1045 – Artificial intelligence for mammographic positioning – impact on diagnostic accuracy and clinical applicability: a prisma-based systematic review (2021–2026)

Letícia Matsuno da Costa¹, Nauane Gabriela da Silva Lopes¹, Ronaldo Martins da Costa¹

¹Centro Universitário de Goiatuba – Goiatuba (GO), Brazil.

Introduction: Mammography is the primary method for breast cancer screening and early diagnosis, contributing to reduced mortality. However, the quality of the examination depends on mammographic positioning, which can lead to diagnostic failure. The omission of breast tissue, especially in the posterior and axillary regions, compromises lesion detection. Variability among professionals and the lack of standardization pose significant challenges. In this context, artificial intelligence (AI) emerges as a promising tool for objective evaluation, reducing variability, and improving diagnostic accuracy.

Methods: The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines were followed, and a meta-analysis was performed. The databases searched included IEEE Xplore, PubMed, and ScienceDirect, with searches conducted between January and March 2026, covering studies from 2021 to 2026. Search terms related to mammographic positioning and AI were used. A total of 1,122 studies were identified, of which 74 were selected after screening based on inclusion criteria (women aged ≥ 40 years and open-access peer-reviewed articles) and exclusion criteria (studies that did not address mammographic positioning or were published in language other than English). Data were extracted on AI methods, datasets, performance metrics, and clinical implications. A large language model was applied for data extraction from the studies.

Results: AI models demonstrated high performance in evaluating positioning. Convolutional neural networks achieved accuracies of 96.5% in craniocaudal views and 93.3% in mediolateral oblique views. Automated systems showed higher reproducibility than human evaluation in criteria such as pectoral muscle visualization and tissue coverage, while humans were superior in detecting subtle artifacts. Positioning was the primary cause of errors in 78.4% of cases. Variations affected lesion detectability and the need for additional views.

Conclusion: Mammographic positioning contributes to diagnostic accuracy, and AI supports standardization and objective evaluation; however, the clinical applicability of AI is limited by methodological heterogeneity. Moreover, AI has made significant advances in the past two years, highlighting the need for new research using more recent techniques.

Ethics: Public data – Literature review.

Keywords: mammography; artificial intelligence; diagnosis; breast neoplasms.

<https://doi.org/10.29289/259453942025V36S11059>

1059 – Hybrid architecture for a mastology clinical decision support system post-content validation and in compliance with the general data protection law

Beatriz Daou Verenhitch, Simone Elias, José Augusto Christianini Filho, Ana Carolina Cucato Christianini

¹Pontifícia Universidade Católica do Paraná – Londrina (PR), Brazil.

²Universidade Federal de São Paulo – São Paulo (SP), Brazil.

Objective: To describe the conception and the experience of developing BrApp, an artificial intelligence agent designed as a clinical decision support system (CDSS) in mastology within Primary Health Care. BrApp is based on clinical-care flowcharts validated by specialists and structured in a hybrid architecture aligned with the Brazilian General Data Protection Law (LGPD), with a focus on the context of the Unified Health System.

Methods: This methodological study combined the content validation of clinical flowcharts with the development of an AI conversational agent on the Poe.com platform through prompt engineering. Decision flows were modeled in Figma using “if... then...” conditional logic, representing screening, clinical assessment, and medical conduct. Content validation was performed by seven mastologists selected according to the Fehring and Pasquali criteria, using a four-point Likert scale and calculating the Content Validity Index (CVI).

Results: All flowcharts presented a $CVI \geq 0.78$, with some achieving unanimous agreement ($CVI=1.00$). The validated knowledge was incorporated into BrApp in a hybrid architecture composed of a stateless AI agent, with a zero data retention policy, an electronic medical record as a permanent domain, and a persistence mechanism conditioned on the professional's decision, designed to support the early identification of breast changes and timely referral to secondary and tertiary levels of care.

Conclusion: The experience demonstrates the feasibility of integrating validated clinical flowcharts into a conversational agent in mastology within a CDSS architecture, thereby promoting content quality, usability, support for clinical decision-making, and regulatory compliance. From a health informatics perspective, the system proposes an architecture designed to integrate guidelines-based touchpoints, conversational interfaces, and an electronic health record environment, ensuring data governance and providing new means of interoperability with systems of the Brazilian Unified Health System.

Ethics: Approved by the Research Ethics Committee (CAAE 38302020.0.0000.5505).

Keywords: artificial intelligence; machine learning; breast cancer.

<https://doi.org/10.29289/259453942025V36S11064>

1064 – Comparison of average glandular dose between full-field digital mammography and digital breast tomosynthesis

Bruna Lose de Godoy¹, Marcus Nascimento Borges¹, Katyane Larissa Alves¹, Rosemar Macedo Sousa Rahal¹, Luís Fernando Pádua Oliveira¹, Ana Paula Rodrigues¹, Danielle Teles de Lima¹, Ruffo Freitas-Junior¹

¹Universidade Federal de Goiás, Hospital das Clínicas, Empresa Brasileira de Serviços Hospitalares – Goiânia (GO), Brazil.

Introduction: Full-field digital mammography (FFDM), considered the most appropriate imaging modality for breast cancer screening, has limitations such as breast tissue density and image overlap. Digital breast tomosynthesis (DBT), when combined with FFDM images, reduces limitations in radiological assessment, although it implies an increase in radiation exposure.

Objective: To evaluate and compare the average glandular dose (AGD) used in FFDM and DBT, and to analyze factors that may influence it, including patient age, breast tissue density, compression force, and compressed breast thickness.

Methods: This was a retrospective cross-sectional study carried out at the Advanced Center for Breast Diagnosis (CORA) of the Hospital das Clínicas/Brazilian Hospital Services Company (EBSERH) and the School of Medicine at the Federal University of Goiás. AGD was measured in milligrays (mGy), and age was stratified into four groups (40–49, 50–59, 60–69, and ≥70 years). Examinations of 206 women, performed between January and December 2024 on the GE HealthCare Senographe Pristina equipment, were analyzed.

Results: A significant difference in AGD was observed between FFDM (1.77 mGy, standard deviation ± 0.39) and DBT (1.65 ± 0.37 mGy) ($dz=3.41$; $p<0.001$). Intra-individual analysis showed lower AGD in DBT across all age groups and breast density categories analyzed ($p<0.001$). A strong positive association was observed between breast thickness and AGD in both techniques (FFDM: $r=0.83$; DBT: $r=0.75$; $p<0.001$), while compression force showed a weak negative correlation (FFDM: $r=-0.32$; DBT: $r=-0.29$; $p<0.001$).

Conclusion: AGD was lower in DBT compared to FFDM. The factors analyzed influenced the variation in radiation doses for both FFDM and DBT; however, they were not associated with the observed difference in AGD between the techniques.

Ethics: Ethics Committee under Certificate of Presentation for Ethical Review 94935126.6.0000.5078.

Keywords: breast neoplasms; mammography; radiation dosage; breast density.

<https://doi.org/10.29289/259453942025V36S11065>

1065 – Breast density in mammography and its influence on cancer detection: an audit study from a population-based breast cancer screening program in Brazil

Erika Marina Negrão¹, Livia Conz, Emanuele Françoso Cardoso¹, Janaina Alves Hora¹, Rodrigo Menezes Jales¹, Julia Yoriko Shinzato¹, Cassio Cardoso-Filho¹, Diama Bhadra Vale¹

¹Universidade Estadual de Campinas – Campinas (SP), Brazil.

Introduction: Breast density data from Latin American populations remain scarce despite growing awareness of this as both a diagnostic challenge and a potential risk factor.

Objective: This study used data from a breast cancer screening program to analyze the proportion of dense breasts and to estimate its impact on cancer detection.

Methods: This was an audit study with prospective data collection on the main breast cancer screening and diagnostic facility within the public health system of Campinas (“Hospital de Amor”), which included all mammograms from 2023 to 2025 (20 months). Breast densities were designated according to the BI-RADS[®] categories as follows: A/B – non-dense, C/D – dense. The primary outcome was the impact of breast density on the cancer detection rate (invasive and *in situ*). Data were collected from the unit’s information system, periodically subjected to quality control, and actively retrieved by the research team during the study period. Appropriate statistical tests were used.

Results: A total of 29,092 mammograms were evaluated, comprising 28,337 screening and 755 diagnostic mammograms. Density was concordant between the breasts (91.3%), with dense breasts being the predominant category across all age groups (74.5%). Density decreased with age, with predominantly dense breasts observed in 66.3% of women aged 30–49 years and in only 39.1% of women aged 70–74 years ($p < 0.001$). No significant difference was observed between density and race ($p > 0.05$). Breasts categorized as dense and predominantly dense corresponded to 13.1% and 61.6% of the BI-RADS[®] 0 results, respectively. Women aged 60–74 showed a 1.8-fold greater risk of having a cancer detected when controlled for race and density compared to women aged 30–49 (relative risk [RR] 1.84; 95%CI 1.33–2.53). However, density did not influence the cancer detection rate, even when stratified by age group, race, or positive results.

Conclusion: Dense breasts predominated in this sample. Cancer detection rates were not independently affected by breast density, suggesting that cancers could be detected regardless of density.

Ethics: Research Ethics Committee Approval (CAAE 60402322.7.1001.5404).

Keywords: breast density; breast neoplasms; diagnostic screening programs; early detection of cancer; mammography.

<https://doi.org/10.29289/259453942025V36S11087>

1087 – Mammography AI-based breast cancer risk prediction versus traditional clinical risk calculators: a systematic review and comparative evidence synthesis

Frederico Nassif Gomes¹, Talita Mariane Franco¹, Julia Cristina Ferreira¹, Maria de Lourdes Nassif¹, Jan Pawel Andrade Pachnicki¹

¹Pontifícia Universidade Católica do Paraná – Curitiba (PR), Brazil.

Introduction: Conventional breast cancer risk calculators using subjective clinical criteria have shown decreasing levels of generalizability across different contexts. Concurrently, risk models that utilize artificial intelligence (AI) for analysis of mammographic screening examinations are on the rise, primarily for identifying changes that lie outside of human vision.

Objective: This study evaluated the performance of AI-based image screening techniques for breast cancer risk quantification compared with that of clinical calculators to determine their role in population screening.

Methods: A systematic review without meta-analysis was conducted under PRISMA 2020 guidelines. A preliminary search in four databases between December 2025 and February 2026 identified 1,130 studies, of which 175 were screened, and 26 were included in the quantitative and qualitative analyses. Three reviewers screened the studies, and issues were resolved by consensus. Articles evaluating mammographic AI models for predicting breast cancer risk *versus* traditional calculators (e.g., Gail, BCSC, or Tyrer-Cuzick) were included. Articles that used other imaging methods or other comparators, as well as non-original studies, were excluded. Studies were mostly published between 2022 and 2024, had retrospective design, and were concentrated in the United States/Europe, with only one study in Brazil/Latin America. The area under the receiver operating characteristic curve (AUC) and C-index were the key reported metrics.

Results: In the reviewed studies, AI models were superior to conventional calculators (AUC 0.713 *vs.* 0.595, 95% confidence interval [CI]), as indicated in short- and medium-term risk prediction settings. The hybrid model was superior to the imaging-only model (AUC 0.745 *vs.* 0.715, 95%CI), while the static model proved inferior to the longitudinal model in risk prediction (AUC 0.705 *vs.* 0.738, 95%CI).

Conclusion: This review points out the relative benefit of the AI models over clinically based calculators, especially hybrid and longitudinal models, possibly in the context of risk-based screening. Nevertheless, methodological heterogeneity and the lack of Latin American studies limit the generalizability of the findings to other ethnic and racial groups, illustrating the need for prospective studies in diverse settings.

Ethics: Public data – Literature review.

Keywords: breast cancer; mammography; artificial intelligence; risk stratification; screening.

<https://doi.org/10.29289/259453942025V36S11101>

1101 – High co-segregation of TP53 R337H and XAF1 e134* variants in Brazilian li-fraumeni syndrome families identified through cascade screening

Lilian Marcassine Sampaio, Kessila Macedo Veiga, Flávia Barreto Souza, Paula Francinete Faustino Silva, Rosemar Macedo de Sousa Rahal, Wendyson Duarte Oliveira, Elisângela Paula Silveira Lacerda

¹Universidade Federal de Goiás, Instituto de Ciências Biológicas, Centro de Genética Humana, – Goiânia (GO), Brazil.

²Universidade Federal de Goiás, Faculdade de Medicina – Goiânia (GO), Brazil.

³Universidade Federal de Goiás, Hospital das Clínicas – Goiânia (GO), Brazil.

Introduction: Cancer is a group of diseases characterized by uncontrolled cell growth, some of which may have a hereditary origin. In Brazil, Li-Fraumeni syndrome stands out as a genetic condition with autosomal dominant inheritance, associated with alterations in the TP53 gene, especially the R337H variant. Studies suggest that co-segregation with the E134* variant in the XAF1 gene may influence disease severity. In this context, cascade screening allows the identification of at-risk family members.

Objective: Identifying these variants is essential for genetic counseling and prevention.

Methods: In this study, seven families with primary breast cancer patients were included, referred from the Brazilian Public Health System to the Human Genetics Center of the Federal University of Goiás. Among the patients, six were female aged between 30 and 56 years, and one was a 67-year-old male. Primary patients had been previously diagnosed with Li-Fraumeni syndrome, and among the seven, only two did not show co-segregation with the E134* variant in the XAF1 gene. A total of 110 individuals were screened through cascade testing and invited to undergo genetic testing after positive results in their relatives.

Results: Of the 110 individuals tested, 37 were positive for the R337H variant in TP53, of whom 33 also carried the E134* variant in XAF1. Among the seven families, four showed 100% co-segregation, one showed 90.91%, and two showed no co-segregation. Families without co-segregation accounted for 10.81% of individuals positive for R337H. Co-segregation between the R337H variant in TP53 and E134* in XAF1 was frequent in the analyzed families, suggesting a possible influence on phenotypic expression and cancer risk.

Conclusion: These findings reinforce the importance of cascade genetic screening and contribute to more effective strategies for genetic counseling and personalized prevention.

Ethics: Research Ethics Committee Approval (CAAE 50626315.6.0000.5078).

Funding: Brazilian National Genomics and Precision Health Program (Genomas Brazil), National Council for Scientific and Technological Development (CNPq), Federal University of Goiás (UFG), The Goiás State Research Support Foundation (FAPEG) and Fundação de Amparo à Pesquisa (FAPESP) do Estado de Goiás.

Keywords: Li-Fraumeni syndrome; genetic predisposition to disease; genetic screening; genes TP53; genetic counseling.

<https://doi.org/10.29289/259453942025V36S11126>

1126 – Incidental breast carcinoma as a finding in reduction mammoplasty: a systematic review

Vyvian Paes de Oliveira, Luiz de Paula Silveira Neto, Maria Luiza Bessa de Paula, Luiz de Paula Silveira Júnior

¹Centro Universitário de Mineiros – Trindade (GO), Brazil.

²Centro Universitário do Planalto Central Aparecido dos Santos – Brasília (DF), Brazil.

³Pontifícia Universidade Católica de Goiás – Goiânia (GO), Brazil.

Introduction: Reduction mammoplasty is a surgical technique aimed at reducing breast volume, indicated in cases of hypertrophy and breast ptosis. Through the anatomopathological evaluation of tissue fragments from this procedure, it is possible to identify previously undetected histological alterations, even in the absence of clinical suspicion, including incidental carcinoma. Thus, early diagnosis and staging of this neoplasm can favor clinical management and improve prognostic outlook.

Methods: This systematic literature review was conducted according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines and registered in PROSPERO, under CRD420261355066. The PubMed database was used to search for the descriptors “incidental breast cancer” and “reduction mammoplasty”. The filters “last 10 years”, “free full text”, “humans”, and “women” were applied. The PICO criteria evaluated were: participant – women undergoing reduction mammoplasty without a prior diagnosis of breast cancer; intervention – surgical anatomopathological evaluation; comparison – patients without incidental neoplastic findings; and outcome – incidence of incidental breast carcinoma. The included studies presented observational evidence, with an overall risk of bias classified as low to moderate according to the Joanna Briggs Institute criteria.

Results: The fourteen selected studies demonstrated that the incidence of occult malignancy in reduction mammoplasty is low, ranging from 0.2% to 1.0%, with incidental carcinoma identified mainly as ductal carcinoma *in situ* and, less frequently, as invasive carcinoma. In addition, proliferative or high-risk lesions, such as atypical hyperplasias and lobular carcinoma *in situ*, ranged from 1.3% to 7.0%. These findings were more frequent in women aged 40 years or older and in those with a prior history of breast cancer.

Conclusion: Reduction mammoplasty allows the identification of incidental carcinomas, albeit infrequent, reinforcing the relevance of systematic histopathological analysis, especially in older patients or those with associated risk factors.

Ethics: Public data – Literature review.

Registry: International Prospective Register of Systematic Reviews (PROSPERO) CRD420261355066.

Keywords: breast neoplasms; early diagnosis; incidental findings; pathology; reduction mammoplasty.

<https://doi.org/10.29289/259453942025V36S11165>

1165 – Identification of a novel pathogenic germline variant in the BRCA2 gene in patients with hereditary breast and ovarian cancer syndrome

Andréa Moreira dos Santos, Ingrid França Matos, Paula Francinete Faustino da Silva, Luiz Henrique Alves Costa, Igor Marques Cesário Calassa, Rosemar Macedo de Sousa Rahal, Wendyson Duarte de Oliveira, Elisângela de Paula Silveira-Lacerda

¹Hospital Araújo Jorge, Associação de Combate ao Câncer em Goiás – Goiânia (GO), Brazil.

²Universidade Federal de Goiás, Hospital das Clínicas – Goiânia (GO), Brazil.

³Instituto Brasileiro de Farmacogenômica e Epigenômica em Cardiotoxicidade (INCT-BIPEC), Universidade de São Paulo, São Paulo (SP), Brazil

Introduction: Hereditary breast and ovarian cancer (HBOC) syndrome is associated with pathogenic variants in the BRCA1 and BRCA2 genes, which are essential for DNA repair and the maintenance of genomic integrity. Thousands of variants have been described in BRCA2, with more than 5,000 classified as pathogenic in public databases. Alterations in this gene significantly increase the risk of neoplasms, especially breast cancer. The identification of novel germline variants is essential to improve molecular diagnosis, genetic counseling, and clinical management.

Methods: This observational study involved patients with clinical suspicion of HBOC treated at the Human Genetics Center of the Federal University of Goiás. Genomic DNA samples extracted from peripheral blood were analyzed. BRCA2 sequencing was performed using next-generation sequencing. Identified variants were analyzed using bioinformatics tools, compared with data from public databases (ClinVar and gnomAD), and classified according to the guidelines of the American College of Medical Genetics and Genomics (ACMG).

Results: A 48-year-old female patient diagnosed with invasive ductal breast carcinoma was referred for oncogenetic evaluation. The BRCA2 variant c.4245_4246insA was identified and classified as likely pathogenic. This alteration consists of an insertion with the potential to cause a frameshift, resulting in a truncated protein and probable loss of function. The variant was neither found in population databases nor previously described in the scientific literature, supporting its rare and possibly novel nature.

Conclusion: The identification of this novel germline variant reinforces the central role of BRCA2 in hereditary breast cancer predisposition and highlights the importance of genetic testing in individuals with clinical suspicion of HBOC. This finding contributes to the enrichment of genomic databases and to advances in oncogenetics, with further studies being needed for better functional and clinical characterization.

Ethics: Research Ethics Committee Approval (CAAE 50626315.6.3001.0031).

Funding: Goiás State Health Secretariat (SES-GO), Coordination for the Improvement of Higher Education Personnel (CAPES), Brazilian Agency for Financing Studies and Projects (FINEP), National Council for Scientific and Technological Development (CNPq), Brazilian National Genomics and Precision Health Program (Genomas Brazil).

Keywords: breast neoplasms; germ-line mutation; high-throughput nucleotide sequencing; genetic testing.

<https://doi.org/10.29289/259453942025V36S11181>

1181 – Cascade genetic testing and early detection in families with hereditary breast and ovarian cancer within the Brazilian public health system

Elisângela de Paula Silveira-Lacerda¹, Lis de Paula Lacerda¹, Luiz Henrique Alves Costa¹, Igor Marques Cesário Calassa¹, Amanda Santos Limongi Santos Limongi¹, Rasivel dos Reis Junior¹, Délio Marques Conde¹, Rosemar Macedo Sousa Rahal¹

¹Universidade Federal de Goiás – Goiânia (GO), Brazil.

Introduction: Approximately 5–10% of breast and ovarian cancers are hereditary, predominantly associated with pathogenic variants in BRCA1, BRCA2, and TP53. Cascade genetic testing in at-risk relatives is a cost-effective strategy to enable early detection, targeted prevention, and precision oncology. In the Brazilian public health system, the Goiás Todo Rosa Program has implemented a structured pathway integrating genetic testing into routine oncologic care, expanding access to hereditary cancer risk assessment.

Methods: This cross-sectional study included 308 patients who met the National Comprehensive Cancer Network (NCCN) criteria for hereditary breast and ovarian cancer syndromes and were referred to the Human Genetics Center at the Federal University of Goiás. Following genetic counseling and informed consent, peripheral blood samples were collected for next-generation sequencing using the Oncomine™ BRCA Expanded panel. First-degree relatives of index cases carrying pathogenic variants were invited for cascade testing and clinical follow-up.

Results: Pathogenic variants were identified in 5.8% of patients in BRCA1, 1.8% in BRCA2, and 3.9% in TP53. Five families underwent cascade investigation, revealing recurrent variants, including c.1010G>A and c.455C>T. Among the tested relatives, 47.05% were mutation carriers, demonstrating a high co-segregation rate. Notably, a cancer-related death was observed among affected carriers, highlighting the clinical relevance of early identification and surveillance.

Conclusion: Cascade genetic testing showed a high yield in identifying at-risk individuals, supporting its role in preventive oncology and personalized management. The Goiás Todo Rosa Program establishes an integrated care model linking primary and specialized services, enabling timely access to molecular diagnostics and structured follow-up. This approach strengthens public health strategies and demonstrates the feasibility of implementing precision oncology within a universal healthcare system, with the potential to reduce morbidity and mortality associated with hereditary cancers.

Ethics: Research Ethics Committees of Hospital das Clínicas, Federal University of Goiás (HC-UFG) (CAAE: 50626315.6.0000.5078; Opinion No. 2.901.648) and the Association for Cancer Control in Goiás (ACCG) (CAAE: 50626315.6.3001.0031; Opinion No. 4.093.502).

Funding: Goiás State Health Secretariat (SES-GO), Coordination for the Improvement of Higher Education Personnel (CAPES), National Council for Scientific and Technological Development (CNPq), Brazilian National Genomics and Precision Health Program (Genomas Brazil).

Keywords: prevention; Li-Fraumeni syndrome; germline genetic panel; screening.

**PRESENTATION: ORAL PRESENTATION (GENERAL SESSION) – BEST
LOCOREGIONAL TREATMENT STUDY**

<https://doi.org/10.29289/259453942025V36S10997>

997 – Economic impact of omitting sentinel lymph node biopsy in early breast cancer: a secondary analysis of the randomized venus trial

Amanda Maria Sacilotto Detoni¹, Giuliano Mendes Duarte¹, Danielle Cristina Miyamoto Araujo¹, Rodrigo Menezes Jales¹, Maria Beatriz de Paula Leite Kraft¹, Sabas Carlos Vieira¹, Luis Otavio Sarian¹

¹Universidade Estadual de Campinas – Campinas (SP), Brazil.

Introduction: The omission of sentinel lymph node biopsy (SLNB) in early breast cancer patients who are clinically node-negative has been explored. However, data regarding the economic implications of this strategy remain limited. The VENUS trial is designed to evaluate SLNB omission.

Objective: This report presents a preplanned secondary endpoint consisting of a cost analysis comparing SLNB with ultrasound-based axillary staging.

Methods: This prospective, multicenter, non-inferiority randomized controlled trial included patients with T1–2, cN0 (clinical and ultrasound), M0 breast cancer, randomized to SLNB or no axillary surgery. A cost comparison was conducted between the two staging strategies: surgical and imaging-based. The surgical approach included lymphoscintigraphy, SLNB and histopathological analysis. The imaging-based strategy consisted of axillary ultrasound with percutaneous biopsy and histopathological evaluation of suspicious lymph nodes. Costs were calculated using Brazilian reimbursement systems (SIGTAP/DATASUS and TUSS/CBHPM) and expressed in US dollars (USD).

Results: A total of 713 patients were included: 371 imaging-based and 342 surgical. Ultrasound-based staging was associated with substantially lower costs. In the public system, the cost per patient was USD 12.24 in the imaging group *versus* USD 158.48 in the surgical group (92.3% reduction), whereas in the private system, costs were USD 84.06 *versus* USD 391.20 (78.5% reduction), respectively. Surgical staging was 12-fold more expensive in the public system and 4.3-fold in the private system. In a subgroup analysis aligned with the American Society of Clinical Oncology (ASCO) and the National Comprehensive Cancer Network (NCCN) guidelines for SLNB omission (age ≥50 years, T1, G1–2, estrogen receptor/progesterone receptor positive, human epidermal growth factor receptor 2 [HER2]-negative), costs per patient were 13.8-fold higher in the public system and 4.8-fold higher in the private system.

Conclusion: Axillary ultrasound-based staging demonstrates a substantial economic advantage over surgical staging in both public and private healthcare systems, with a more pronounced benefit observed in the public setting.

Ethics: Research Ethics Committee Approval (CAAE 06805118.2.0000.5404).

Registry: ClinicalTrials.gov (NCT05315154), Brazilian Registry of Clinical Trials (ReBEC) (RBR-8g6jbf).

Keywords: breast cancer; sentinel lymph node biopsy; breast cancer treatment; axillary surgery; treatment costs.

**PRESENTATION: ORAL PRESENTATION (GENERAL SESSION)
– 2ND BEST LOCOREGIONAL TREATMENT STUDY**

<https://doi.org/10.29289/259453942025V36S11025>

1025 – Precise study: postmastectomy radiotherapy in breast cancer patients achieving nodal complete pathologic response after neoadjuvant chemotherapy – a systematic review and meta-analysis

Marcelo Antoninni¹, Andre Mattar¹, Francisco Pimentel Cavalcante¹, Felipe Zerwes¹, Eduardo Camargo Millen¹, Fabricio Palermo Brenelli¹, Antonio Luis Frasson¹, Ruffo Freitas-Junior¹

¹Brazilian Breast Cancer Association Team – São Paulo (SP), Brazil.

Introduction: The role of postmastectomy radiotherapy (PMRT) after neoadjuvant chemotherapy in patients who achieve nodal pathologic complete response (ypN0) remains controversial. As locoregional recurrence risk is low in this setting, the magnitude of benefit from PMRT is uncertain.

Objective: To evaluate the impact of PMRT on oncologic outcomes in ypN0 patients after NAC.

Methods: This systematic review and meta-analysis was conducted according to the PRISMA guidelines and registered in PROSPERO (CRD4202460366). The databases PubMed, Embase, Cochrane Library, Scopus, and Web of Science were searched for studies published from January 2007 to December 2025. Randomized and observational studies including women with early breast cancer treated with NAC and mastectomy who achieved nodal pCR were eligible if they compared PMRT with no PMRT. Primary outcomes were overall survival (OS), disease-free survival (DFS), and locoregional recurrence (LRR). Pooled effect estimates were calculated using random-effects models, and risk of bias was assessed with ROBINS-I.

Results: Twenty studies comprising 36,380 patients were included; 23,228 received PMRT and 13,143 did not. Most studies were retrospective and had a low-to-moderate risk of bias. PMRT was associated with a marginal improvement in OS (relative risk [RR] 1.02; 95% confidence interval [CI] 1.00–1.03), DFS (RR 1.05; 95%CI 1.02–1.09), and LRR (RR 1.02; 95%CI 1.01–1.03). Heterogeneity was moderate for OS and DFS and low-to-moderate for LRR. Egger's test suggested possible small-study effects for DFS and LRR. Given the very small absolute effect sizes and the already favorable prognosis of ypN0 patients, the clinical relevance of these pooled differences appears limited. **Conclusions:** In breast cancer patients achieving nodal pCR after NAC and mastectomy, PMRT was associated with at most minimal improvements in survival and locoregional control. These findings, together with the neutral randomized evidence from NSABP B-51/RTOG 1304, support a selective, risk-adapted approach rather than routine PMRT for all ypN0 responders in contemporary practice.

Ethics: Public data – Literature review.

Registry: International Prospective Register of Systematic Reviews (PROSPERO) CRD4202460366.

Keywords: breast neoplasms; neoadjuvant therapy; radiotherapy; mastectomy; pathologic complete response.

PRESENTATION: ORAL PRESENTATION (GENERAL SESSION)

<https://doi.org/10.29289/259453942025V36S11041>

1041 – Quality of life associated with extreme oncoplasty: a matched case-control study

Luiz Carlos Navarro de Oliveira^{1,2}, Rene Aloisio da Costa Vieira^{1,2,3}

¹Universidade Estadual Paulista “Júlio de Mesquita Filho”, Faculdade de Medicina de Botucatu, Programa de Pós-graduação em Tocoginecologia – Botucatu (SP), Brazil.

²Hospital de Câncer de Muriaé, Divisão de Mastologia, Departamento de Cirurgia Oncológica – Muriaé (MG), Brazil.

³Faculdade de Medicina da UNIFAMINAS – Muriaé (MG), Brazil.

Introduction: Extreme oncoplasty (EO) allows patients who would otherwise be candidates for mastectomy to undergo breast-conserving treatment (BCT). In the literature, only one case-control study has evaluated quality of life (QoL) related to EO, showing better results in this group; however, those patients underwent reconstruction with a myocutaneous flap. There is a lack of studies evaluating patients under similar conditions.

Objective: This study aimed to evaluate QoL in patients undergoing EO techniques compared to traditional BCT.

Methods: This is a cross-sectional, prospective, matched case-control study. The minimum total samples size was 135 patients (1:1.5 ratio). Matching variables included age group, educational level, T stage (TNM), and neoadjuvant chemotherapy. BCCT.core software evaluated cosmesis. The QoL questionnaires used were EORTC QLQ-C30, EORTC QLQ-BR42, Breast-Q for BCT, BCTOS, and HADS. The Mann–Whitney test was applied for group comparisons.

Results: From February to December 2025, 213 patients undergoing BCT were evaluated (83 EO and 130 control group; 1:1.5 ratio). The groups were adequately matched ($p > 0.05$). Indications included multicentric tumors ($n = 20$), tumors larger than 5 cm ($n = 4$), and unfavorable breast-to-tumor ratio ($n = 39$). The symmetrization rate was low, occurring only in the case group in 16.9% ($n = 14$) of patients. Patients undergoing classic BCT showed better excellent/good cosmesis (70.7% BCT vs. 27.7% EO). When comparing QoL questionnaire scores, differences were observed only in BCTOS cosmesis ($p < 0.001$), with greater asymmetry between breasts in EO patients. A nonsignificant but relevant difference was noted in the Breast-Q questionnaire regarding sexual satisfaction ($p = 0.06$) and overall satisfaction ($p = 0.06$), with better results in patients undergoing traditional BCT.

Conclusion: Inferior cosmetic outcomes were influenced by the low symmetrization rate. In patients undergoing EO, QoL was not inferior to that of patients undergoing classic BCT, fully supporting the use of this surgical approach, as it avoids mastectomies.

Ethics: Research Ethics Committee Approval (CAAE 81166124.9.0000.5105).

Funding: Research Hour Grant – Muriaé Cancer Hospital.

Keywords: breast neoplasms; quality of life; oncoplastic surgery; extreme oncoplasty; segmental mastectomy.

PRESENTATION: ORAL PRESENTATION (GENERAL SESSION)

<https://doi.org/10.29289/259453942025V36S11072>

1072 – Oncologic and aesthetic outcomes of extreme versus standard oncoplastic breast surgery: a matched cohort study

Aline Regina Nunes-Reis¹, Regis Resende Paulinelli², Rosemar Macedo Sousa Rahal¹

¹Universidade Federal de Goiás, Hospital das Clínicas – Goiânia (GO), Brazil.

²Hospital Araújo Jorge – Goiânia (GO), Brazil.

Introduction/Objective: This study compared extreme oncoplasty (EO), defined as partial breast reconstruction for T3, T4 and/or multicentric tumors, with standard oncoplasty (SO), defined as partial breast reconstruction for unifocal T1 or T2 tumors.

Methods: This was a retrospective cohort study of 414 women including 138 patients with multicentric or locally advanced tumors (T3/T4) and 276 patients with early-stage tumors (T1/T2). All underwent breast reconstruction between March 2004 and September 2025. Patients were matched 1:2 by age and date of surgery, with a maximum variation of five years. Clinical and pathological parameters, complications, local recurrence, survival, and aesthetic outcomes were assessed. The study was approved by the centers' ethics committees, and informed consent was obtained from all participants.

Results: The mean follow-up was 44 months for EO and 54 months for SO ($p=0.17$). Tumor size prior to chemotherapy was significantly larger in EO (60 mm) compared to SO (25 mm; $p<0.01$). Neoadjuvant chemotherapy was administered to 72% of EO patients *versus* 30% of SO patients. Immediate reconstruction was performed in 89% of both groups. No significant differences were observed in positive margins, re-excision rates, conversion to mastectomy, or complication rates. BREAST-Q analysis showed no statistical differences across most parameters, except for nipple satisfaction, which was higher in the SO group ($p<0.01$). Harvard scale and BCCT.core software indicated better symmetry in SO. Five-year overall survival was similar (94.4% EO *vs.* 98.6% SO; $p=0.35$), as was locoregional recurrence-free survival (97.0% EO *vs.* 96.8% SO; $p=0.13$).

Conclusion: EO surgery achieved oncologic outcomes comparable to SO despite being performed in patients with larger and more advanced tumors. Aesthetic results were generally similar, although nipple satisfaction and breast symmetry favored SO. EO may therefore be considered a safe and feasible option for selected patients.

Ethics: Research Ethics Committee Approval, Opinion No. 2.198.758.

Keywords: extreme oncoplasty; standard oncoplastic surgery; locally advanced breast cancer; multicentric breast cancer.

PRESENTATION: ORAL PRESENTATION (FAST PRESENTATION)

<https://doi.org/10.29289/259453942025V36S10886>

886 – Sentinel and axillary lymph node marking with charcoal suspension in breast cancer after neoadjuvant chemotherapy: a systematic review with meta-analysis

Rebeca Ferreira de Souza, Ana Carolina Bosch Ximenes, Caroline Vidal, Lara de Holanda Jucá Silveira, Lorrany Larisse Costa Rodrigues, Matheus Hissa Lourenço Ferreira, Leonardo Ribeiro Soares, Danielle Laperche-Santos

¹Instituto do Câncer do Ceará – Fortaleza (CE), Brazil.

²Oncoclínicas & Co, Instituto de Ensino e Pesquisa Sírio-Libanês – São Paulo (SP), Brazil.

³Universidade Estadual de Goiás, Unidade Universitária de Itumbiara – Itumbiara (GO), Brazil.

Introduction: Accurate axillary staging following neoadjuvant chemotherapy in breast cancer requires reliable techniques for identifying sentinel lymph nodes (SLNs). Activated charcoal tattooing has emerged as a viable marking agent, particularly in resource-constrained settings.

Methods: A PRISMA-compliant systematic review and single-arm meta-analysis was conducted. The databases PubMed, Embase, Cochrane CENTRAL, Scopus, and Web of Science were searched through January 2026 for observational studies evaluating breast cancer patients (cT1–T4, cN1–N2) who underwent carbon tattooing of suspicious or metastatic lymph nodes prior to neoadjuvant chemotherapy. Pooled proportions were estimated using random-effects meta-analysis. Proportions were logit-transformed to stabilize variances and pooled using the inverse variance method with restricted maximum likelihood estimation. Between-study heterogeneity was assessed using Cochran's Q and I^2 statistics. The primary endpoints were the intraoperative identification rate (IDR) of tattooed nodes and the false-negative rate (FNR). Secondary outcomes included local events. All analyses were performed using R (v.4.5.1).

Results: A total of 1,182 articles were retrieved, and 16 studies were included in the meta-analysis of primary outcomes. The combined IDR of carbon-labeled lymph nodes was 92% (n=1,221; 95% confidence interval [CI] 88–95%) with moderate heterogeneity ($I^2=65.5\%$), and the FNR was 12% (n=374; 95%CI 8–18%), with moderate heterogeneity ($I^2=41.3\%$). The concordance between SLN and carbon-marked nodes was 76% (n=1,035; 95%CI 63–86%) with high heterogeneity ($I^2=85.9\%$). Local events occurred at a combined rate of 7% (n=726; 95%CI 2–22%), with high heterogeneity ($I^2=91.9\%$); unintentional skin tattooing and diffuse carbon staining were the most common events.

Conclusion: Carbon tattooing has a high IDR for tattooed lymph nodes, suggesting that it is a viable strategy for intraoperative localization and a more cost-effective option in centers with limited resources. However, the moderate agreement with the SLN and the FNR >10% limit definitive conclusions, justifying the need for more high-quality studies to establish its clinical accuracy and the learning curve.

Ethics: Public data – Literature Review.

Registry: International Prospective Register of Systematic Reviews (PROSPERO) CRD42023464355.

Keywords: breast neoplasms; carbon; sentinel lymph node.

PRESENTATION: ORAL PRESENTATION (FAST PRESENTATION)

<https://doi.org/10.29289/259453942025V36S10994>

994 – Multimodal interventions for sexual dysfunction in breast cancer survivors: a systematic review of randomized controlled trials

Antonio Carlos Queiroz de Aquino¹, Nicoli Serquiz¹, Pedro Fernandes Vital¹, José Arthur Freitas¹, André Souza de Lima¹, Raphael Lucas de Araújo Teixeira¹, Ayane Cristine Alves Sarmiento¹, Ana Khatherine Gonçalves¹

¹Universidade Federal do Rio Grande do Norte – Natal (RN), Brazil.

Introduction: Sexual dysfunction is a distressing consequence of breast cancer and its treatment. The etiology is multifactorial, involving endocrine alterations, treatment-related toxicity, and psychosocial factors. Although several interventions have been proposed, their effectiveness remains uncertain.

Objective: To evaluate interventions to manage sexual dysfunction in breast cancer survivors.

Methods: A systematic review of randomized controlled trials (RCTs) was conducted by searching the Embase, PubMed, Scopus, Web of Science, Cochrane Library, PsycINFO, and PEDro databases, and ClinicalTrials.gov. RCTs assessing pharmacological, physical, psychological, and educational interventions in breast cancer survivors with sexual dysfunction were eligible. Two authors independently performed study selection, data extraction, and risk-of-bias assessment using the Revised Cochrane risk-of-bias tool for randomized trials (RoB 2). The certainty of the evidence was evaluated using the Grading of Recommendations Assessment, Development and Evaluation (GRADE).

Results: A total of 4,112 records were identified, of which 32 RCTs met the inclusion criteria. Among these, 9 studies evaluated pharmacological interventions (vaginal lubricants, moisturizers, and hormonal therapies), 6 investigated physical interventions (pelvic floor muscle training and physiotherapy), 11 addressed psychosocial interventions (including cognitive-behavioral therapy and sexual counseling), and 6 evaluated educational or psychoeducational interventions, often combined with other approaches. Psychosocial and educational interventions were the most frequently investigated and demonstrated consistent improvements in sexual function and satisfaction. Pharmacological interventions were effective in alleviating genitourinary symptoms, particularly vaginal dryness and dyspareunia. Physical interventions showed beneficial effects in reducing pain and improving aspects of sexual response, although the number of trials was limited. The overall risk of bias was low, and the certainty of the evidence was rated as moderate.

Conclusion: RCT evidence suggests that interventions for sexual dysfunction in breast cancer survivors are effective, especially multimodal strategies combining psychosocial and biological approaches. However, heterogeneity in protocols and outcomes limits comparability. Further well-designed RCTs are needed to strengthen the evidence and guide practice.

Ethics: Public data – Literature review.

Registry: International Prospective Register of Systematic Reviews (PROSPERO) CRD42024509028.

Keywords: breast neoplasm; sexual dysfunction, physiological; survivors; randomized controlled trial; systematic reviews.

PRESENTATION: E-POSTER

<https://doi.org/10.29289/259453942025V36S10881>

881 – Quality indicators in the surgical treatment of breast carcinoma within the brazilian public health system in a tertiary oncology hospital

Polyana da Silva Caçador^{1,2}, Mateus Augusto de Souza Santos^{1,2}, Luiz Carlos Navarro de Oliveira³, René Aloisio da Costa Vieira^{1,2,3}

¹Centro Universitário Faminas, Faculdade de Medicina – Muriaé (MG), Brazil.

²Hospital de Câncer de Muriaé – Muriaé (MG), Brazil.

³Faculdade de Medicina de Botucatu, Programa de Pós-graduação em Tocoginecologia – Botucatu (SP), Brazil.

Introduction: In Brazil, within the Unified Health System (SUS), differences are observed in breast cancer treatment compared to developed countries. The European Society of Breast Cancer Specialists (EUSOMA) and the National Accreditation Program for Breast Centers (NAPBC) developed indicators for early breast cancer. The Brazilian Society of Surgical Oncology (SBCO) proposed indicators for surgical de-escalation after neoadjuvant systemic therapy (NST) in locally advanced breast tumors. The performance of these indicators within the SUS is unknown.

Methods: This was a cross-sectional, retrospective study of patients with breast cancer treated between May 2019 and April 2024. All patients were managed by two breast surgeons with extensive experience in oncoplastic surgery. Approximately 250 patients were randomly selected per year. A standardized data form was used to collect clinical characteristics, tumor features, pre-treatment staging, clinical and surgical treatment, and pathology results. Surgeries were classified as upfront or after NST. Breast and axillary procedures were analyzed separately. In patients undergoing NST, the response to therapy and surgical de-escalation were evaluated. In these patients, the 23 surgical quality indicators were applied.

Results: A total of 1,293 patients were evaluated; 45.6% had early-stage disease (stages 0 and I), and 60.8% were initially node-negative (N0). Neoadjuvant systemic therapy was administered to 39.2% of patients. Among these, 50.2% received classic breast-conserving treatment (BCT), 28.2% had BCT with oncoplastic techniques, and 17.3% underwent BCT with extreme oncoplastic surgery. The mastectomy rate was 21.4%, and the conversion rate from mastectomy to BCT was 10.0%. Axillary preservation rates were 90.3% for cN0, 53.6% for cN1, and 28.4% for cN2 patients. Of the 23 quality indicators, 21 showed favorable results.

Conclusion: Quality indicators guide surgical standards and highlight areas for institutional improvement. De-escalation strategies are increasing and, despite the limitations of the SUS setting, good outcomes are achieved. This study demonstrates treatment outcomes comparable to international standards, even in patients treated within the public health system.

Ethics: Research Ethics Committee Approval (CAAE 85751824.5.0000.5105).

Funding: Scientific initiation scholarship for Polyana da Silva Caçador.

Keywords: breast neoplasms; public health; quality indicators; surgical procedures.

<https://doi.org/10.29289/259453942025V36S10887>

887 – Glucagon-like peptide-1 receptor agonists as agents affecting breast cancer recurrence in women survivors: a systematic review

Paulo Gustavo Tenorio do Amaral¹, Giuliano Tavares Tosello¹, Leonardo Fleury Orlandini¹, Rafael Pelorca¹, Eliana Aguiar Petri Nahas¹, Daniel de Araujo Brito Buttros¹

¹Universidade Estadual Paulista “Júlio de Mesquita Filho”, Faculdade de Medicina de Botucatu – Botucatu (SP), Brazil.

Introduction: Breast cancer survivors frequently experience obesity and weight gain during and after treatment, which may have an impact on tumor recurrence. The use of glucagon-like peptide-1 receptor agonists (GLP-1 RAs) may influence body weight in these patients and potentially affect recurrence rates.

Objective: To evaluate the effectiveness of GLP-1 RAs compared with standard care on body weight and tumor recurrence among breast cancer survivors.

Methods: A systematic review was conducted based on the PECOS strategy (population = adult women after completion of primary treatment for breast cancer; exposure = use of GLP-1 analogues; comparator = standard care; outcomes = weight reduction and recurrence; study design = observational studies). The search was performed without restrictions on publication date or language across six databases and the grey literature. A total of 648 records were identified, of which three observational studies met the eligibility criteria, comprising 145 participants. Risk of bias was predominantly low across the included studies.

Results: The use of GLP-1 analogues resulted in weight loss ranging from 2.9 kg to 3.03 kg over six months in two studies. In one study, weight loss was lower than that in the general population when patients were receiving aromatase inhibitors. Only one study reported recurrence, with rates of 0% in the GLP-1 group *versus* 4.7% in the general population; however, this difference was considered not clinically significant by the authors. Due to the unavailability of complete data, a meta-analysis could not be performed.

Conclusion: The use of GLP-1 analogues may aid in reducing body weight among breast cancer survivors without affecting recurrence. Larger studies are needed to support and optimize the use and dosing of GLP-1 RAs for weight loss and to evaluate their effects on breast cancer recurrence among these patients.

Ethics: Public data – Literature review.

Registry: International Prospective Register of Systematic Reviews (PROSPERO) CRD420261284948.

Keywords: breast neoplasms; survivorship; glucagon-like peptide-1 receptor agonists; recurrence.

<https://doi.org/10.29289/259453942025V36S10907>

907 – Do surgical techniques influence survival in early breast cancer? A retrospective cohort study of 1,517 patients in Brazil

Natalie Rios Almeida¹, Nicoli Serquiz de Azevedo¹, Fabricio Palermo Brenelli¹, Maria Beatriz de Paula¹ Leite Kraft¹, Cesar Cabello dos Santos¹, Renato Zocchio Torresan¹, Giuliano Mendes Duarte¹, Luiz Carlos Zeferino¹

¹Universidade Estadual de Campinas – Campinas (SP), Brazil.

Introduction: Surgical choice in breast cancer (extent of oncologic resection and use of reconstruction) is primarily guided by oncologic safety and patient preference. Prognosis is mainly driven by tumor biology and stage, but perceived survival differences across surgical techniques persist.

Objective: To compare survival outcomes in patients undergoing breast-conserving surgery (BCS), oncoplastic breast-conserving surgery (OBCS), total mastectomy (TM), and immediate breast reconstruction after mastectomy (IBRM).

Methods: This was a retrospective cohort study of consecutive patients with invasive unilateral nonmetastatic breast cancer treated surgically between 2012 and 2016 at a women's health center in Brazil. Surgical groups were BCS, OBCS, TM, and IBRM. Clinicopathological variables, treatments, and outcomes were collected. Survival outcomes were overall survival (OS), disease-free survival (DFS), and breast cancer-specific survival (BCSS), estimated using Kaplan–Meier methods and compared using Cox regression. Multivariable models were adjusted for age, tumor size, nodal status, and adjuvant therapy.

Results: Among 1,517 patients, 703 (46.3%) underwent BCS, 104 (6.9%) OBCS, 444 (29.3%) TM, and 266 (17.5%) IBRM. Mean follow-up was 5.9 years. Five-year OS, DFS, and BCSS were 84.4%, 81.4%, and 89.0%, respectively. In the univariate analysis, compared with BCS, OBCS had inferior DFS ($p=0.002$) and TM had poorer DFS, BCSS, and OS (all $p<0.001$). After multivariable adjustment, surgical technique was not independently associated with OS, DFS, or BCSS.

Conclusion: In this large Brazilian cohort of primary unilateral nonmetastatic breast cancer, survival differences observed across surgical techniques in unadjusted analyses were explained by clinical and treatment factors. Surgical technique itself was not an independent predictor of survival outcomes.

Ethics: Research Ethics Committee Approval (CAAE 84450518.9.0000.5404).

Keywords: breast neoplasms; mastectomy; breast reconstruction; breast conserving surgery; survival analysis.

<https://doi.org/10.29289/259453942025V36S10922>

922 – Oncoplastic surgery versus total breast reconstruction in locally advanced and multicentric carcinomas: a matched comparative cohort study of oncologic and aesthetic outcomes

Aline Regina Nunes-Reis^{1,2}, Regis Resende Paulinelli¹, Rosemar Macedo Sousa Rahal², Luiz Fernando Jubé Ribeiro¹, Ruffo Freitas-Júnior^{1,2}

¹Hospital Araújo Jorge – Goiânia (GO), Brazil.

²Universidade Federal de Goiás, Hospital das Clínicas – Goiânia (GO), Brazil.

Introduction: The oncologic safety and aesthetic outcomes of extreme oncoplastic (EO) surgery remain uncertain.

Objective: To compare EO, defined as partial breast reconstruction for tumors larger than 5 cm or multicentric lesions, with extreme reconstruction (ER), defined as total breast reconstruction under similar conditions.

Methods: A retrospective cohort of 276 women with T3, T4, and/or multicentric breast cancer who underwent breast reconstruction between March 2004 and September 2025 was analyzed. Patients were matched 1:1 by age and date of surgery, with a maximum variation of five years. Clinical and pathological parameters, complications, local recurrence, survival, and aesthetic outcomes were assessed. The study was approved by the centers' ethics committees, and informed consent was obtained from all participants. Data were analyzed using the Statistical Package for the Social Sciences (SPSS) software.

Results: The mean follow-up was 44 months for EO and 57 months for ER ($p=0.03$). The clinical tumor size prior to chemotherapy was 60 mm in both groups. However, after neoadjuvant chemotherapy, the tumor measured 37 mm in the EO group and 44.5 mm in the ER group ($p=0.023$). The rates of positive and close surgical margins and the need for re-excision were similar between the groups. EO required fewer procedures, with 74% of patients completing the reconstruction in a single surgery, while ER more often required multiple operations ($p<0.01$). Complications were less frequent and less severe in the EO group. Five-year overall survival was similar (94.4% EO vs. 97.5% ER; $p=0.53$), as was locoregional recurrence-free survival (97.0%; $p=0.118$). Both patients and physicians reported higher satisfaction with the aesthetic outcomes of EO.

Conclusion: Extreme oncoplasty represents a valid alternative to mastectomy with reconstruction for selected patients with large or multicentric breast cancer, providing equivalent oncologic safety, fewer surgical procedures, lower complication rates, superior aesthetic outcomes, and higher patient satisfaction.

Ethics: Research Ethics Committee Approval, Opinion No. 2.198.758.

Keywords: extreme oncoplasty; locally advanced breast cancer; multicentric breast cancer; mastectomy; oncologic outcomes.

<https://doi.org/10.29289/259453942025V36S10930>

930 – Association between upper limb dysfunction, phase angle, and body composition in breast cancer survivors

Naiany Pereira Silva¹, Vitor Alves Marques¹, Fernando Silva¹, Eduarda Padilha Arruda¹, Flavia Batista Noleto¹, Talita Rosa Moraes¹, Tatiane Nunes Rodarte¹, Carlos Alexandre Vieira¹

¹Universidade Federal de Goiás – Goiânia (GO), Brazil.

Introduction: Breast cancer surgery leads to changes in body composition and to upper limb dysfunction, with a direct impact on survivors' health. Although phase angle is recognized as a marker of cellular integrity and upper limb dysfunction is frequently reported in this population, the association between these variables remains unknown.

Objective: This study aimed to investigate the association of upper limb dysfunction with phase angle and body composition in breast cancer survivors (BCS).

Methods: This cross-sectional study was conducted with 45 BCS, with a mean age of 58.7 years (standard deviation ± 9.2 years) who had undergone mastectomy or quadrantectomy and were recruited from the Breast Clinic Service of the Hospital das Clínicas in Goiânia, Goiás, Brazil, between January and December 2025. Upper limb dysfunction was assessed using the Disabilities of the Arm, Shoulder and Hand (DASH) questionnaire, a validated instrument that measures the degree of functional disability on a scale of 0–100, with higher scores indicating greater dysfunction. Body composition and phase angle were assessed by segmental octopolar bioelectrical impedance analysis (Sanny BIA1012-8S, São Paulo, Brazil). Normality was assessed using the Shapiro–Wilk test, and correlations were examined using Spearman's correlation coefficient ($p < 0.05$).

Results: No statistically significant correlations were observed between DASH scores and phase angle ($p = 0.067$; $p = 0.66$), skeletal muscle mass ($p = -0.19$; $p = 0.20$), or total fat mass ($p = 0.075$; $p = 0.62$).

Conclusion: No statistically significant associations were observed among the variables investigated. However, the study sample size should be considered a limitation when interpreting the findings.

Ethics: Research Ethics Committees of the Federal University of Goiás (CAAE 50717115.4.0000.5083) and Hospital das Clínicas (CAAE 50717115.4.3001.5078).

Keywords: breast neoplasms; body composition; upper extremity; cancer survivors; bioelectrical impedance.

<https://doi.org/10.29289/259453942025V36S10937>

937 – Can a physical exercise session immediately after chemotherapy reduce adverse effects in breast cancer patients? A pilot study

Evandro Luiz Cardoso da Silva, Leonardo Fleury Orlandini, Debora Alves Guariglia

¹Universidade Estadual do Norte do Paraná, Centro de Ciências da Saúde – Jacarezinho (PR), Brazil.

²Instituto Federal do Paraná – Londrina (PR), Brazil.

³Serviço de Oncologia da Santa Casa de Ourinhos – Ourinhos (SP), Brazil.

Introduction: Physical exercise has been shown to be a valuable adjunct in cancer treatment; however, most patients undergoing treatment do not achieve the minimum recommended levels of physical activity. Therefore, brief targeted interventions may represent feasible alternatives during therapy.

Objective: This study aimed to examine the effects of a physical exercise session performed after chemotherapy infusion on adherence to the intervention, fatigue, pain, and perceived quality of life in women undergoing breast cancer treatment.

Methods: A randomized crossover intervention was performed. Patients were invited to participate; adherence and intervention effects were monitored across two chemotherapy sessions (with or without exercise). The exercise session included the Short Physical Performance Battery (SPPB) and 40 minutes of treadmill walking at 61–71% of maximum heart rate (HR_{max}). The primary outcomes assessed were adherence, fatigue (FACT-F), pain (BPI), and quality of life (FACT-B+4).

Results: Of the eligible patients invited (n=30), only 47% (n=14) agreed to participate or remained in the study during the interventions, and 36% (n=5) of these were unable to complete the full intervention. Improvement in the physical well-being subscale one week after chemotherapy was observed only among patients who completed the full 40-minute walking session (p=0.04). No significant changes were found in fatigue or pain outcomes.

Conclusion: A single exercise session performed immediately after chemotherapy improved physical well-being one week later. However, no significant effects were observed on fatigue or pain. The findings also suggest that even a single post-chemotherapy exercise session may not be feasible for all patients.

Ethics: Research Ethics Committee Approval (CAAE 79062324.8.0000.8123).

Funding: Coordination for the Improvement of Higher Education Personnel (CAPES), Finance Code 001.

Keywords: physical exercise; breast cancer; chemotherapy; quality of life; fatigue; pain.

<https://doi.org/10.29289/259453942025V36S10948>

948 – Papillary breast cancer: therapeutic and prognostic real-world data on a rare histologic type

Wesley Antonio Lopes Lima¹, Iara Garcia Nakashima¹, Yedda Nunes Reis¹, Aniceto Lopes Silva Neto¹, Jose Roberto Filassi¹, Renata Colombo Bonadio¹, Laura Wesley Testa¹

¹Instituto do Câncer do Estado de São Paulo – São Paulo (SP), Brazil.

Introduction: Papillary carcinoma is classified as a special subtype of breast neoplasm with an estimated incidence of 0.5% to 1.7% of all invasive breast carcinomas. Due to its rarity, treatment for these tumors is generally based on extrapolation from data on non-special tumor types.

Objective: This study aimed to describe the epidemiological, therapeutic, and prognostic characteristics of patients with papillary carcinoma treated at an oncology center in the city of São Paulo.

Methods: In this retrospective cohort, patients with histopathological confirmation of invasive papillary breast carcinoma diagnosed at the Cancer Institute of the State of São Paulo between 2008 and 2022 were included. Data were collected from the medical records of patients treated at the institution. *In situ* papillary carcinomas were excluded. The variables analyzed included demographic data, tumor characteristics, types of therapies administered, and survival outcomes.

Results: A total of 121 cases were identified. The median age was 66 years, with a predominance of white patients (68.1%), postmenopausal women (82.2%), early-stage disease (clinical stage I: 28.1%; clinical stage II: 66.9%), and early tumors (T1: 28.9%; T2: 53.7%; N0: 50.4%). There was a higher prevalence of hormone receptor-positive tumors (Luminal A: 24.4%; Luminal B: 51.3%) and histological grade II tumors (53.3%). All patients underwent surgery, with most receiving adjuvant chemotherapy (59.1%) and radiotherapy (66.4%). The mean follow-up time was 5.1 years, with 85.1% of patients alive and without evidence of disease at five years.

Conclusion: This study contributes to characterizing, in a real-world setting, the clinical behavior and prognosis of papillary breast carcinoma. The high 5-year recurrence-free survival indicates a favorable prognosis for this histological type. This information may, in the future, help guide more individualized treatment and follow-up strategies, with the potential to improve long-term outcomes for these patients.

Ethics: Research Ethics Committee Approval (CAAE 85497124.5.0000.0068).

Keywords: papillary carcinoma; breast cancer; hormone receptor-positive.

<https://doi.org/10.29289/259453942025V36S10953>

953 – Adherence to sentinel lymph node biopsy guidelines in breast cancer: temporal trends in a real-world public reference center cohort

Marcelo Antonini^{1,2}, Luana Medrado Vitorino Oliveira¹, Andre Mattar¹, Felipe Zerwes¹, Francisco Pimentel Cavalcante¹, Eduardo Camargo Millen¹, Fabricio Palermo Brenelli¹, Antonio Luis Frasson¹

¹Brazilian Breast Cancer Association Team – São Paulo (SP), Brazil.

²Hospital do Servidor Público Estadual – São Paulo (SP), Brazil.

Introduction: Sentinel lymph node biopsy (SLNB) is the standard approach for axillary staging in clinically node-negative breast cancer and has progressively expanded after neoadjuvant chemotherapy (NAC). However, adherence to evidence-based axillary de-escalation remains variable, particularly in public healthcare settings. Objectives: To evaluate adherence to guideline-based indications for SLNB in women with non-metastatic invasive breast cancer treated in a public referral center and to identify factors associated with non-adherent axillary management.

Methods: A retrospective cross-sectional study was conducted including women with non-metastatic invasive breast cancer treated at a public reference center in São Paulo, Brazil, from 2015 to 2025. The primary endpoint was agreement between the guideline-based theoretical SLNB indication and the procedure actually performed. Secondary endpoints included adherence by clinical setting, factors associated with non-adherence, and temporal trends.

Results: A total of 1,672 patients were analyzed. Overall, 1,298 (77.6%) were managed according to guideline-based SLNB criteria, whereas 374 (22.4%) underwent discordant management. Adherence was higher in upfront surgery than after NAC (80.8% vs. 67.8%; $p < 0.001$). In the upfront setting, agreement between theoretical indication and actual practice was moderate ($\kappa = 0.578$; $p < 0.001$), whereas in the post-NAC setting it was negligible ($\kappa = 0.028$; $p = 0.300$). In upfront surgery, older age, lobular histology (odds ratio [OR] 6.6; 95% confidence interval [CI] 2.7–16.2), and positive SLNB (OR 6.0; 95%CI 3.7–9.9) were independently associated with incorrect management. After NAC, the Luminal/human epidermal growth factor receptor 2 (HER2)-positive subtype (OR 2.50; 95%CI 1.10–5.66), T3–T4 tumors (OR 3.40; 95%CI 1.45–7.98), subsequent axillary surgery (OR 6.44; 95%CI 2.91–14.26), and SLNB omission were associated with non-adherence. Adherence increased over time, with a mean annual rise of 1.84 percentage points ($R^2 = 99.1\%$; $p < 0.001$).

Conclusion: Evidence-based axillary de-escalation was well incorporated into upfront surgery but remained less consistent after NAC, supporting institutional protocols, surgical education, and improved technical resources in public practice.

Ethics: The study was approved by Plataforma Brazil (CAAE 83327324.0.0000.5463).

Keywords: breast neoplasms; sentinel lymph node biopsy; neoadjuvant therapy; guideline adherence; time factors.

<https://doi.org/10.29289/259453942025V36S10976>

976 – Breast-conserving surgery after neoadjuvant chemotherapy: which patients are eligible?

Renata Brandão Santos¹, Marina de Paula Canal¹, Anna Gabriela Lacerda Santos¹, Fabiana Baroni Alves Makdissi¹, Renato Cagnacci-Neto¹, Fabiana Kain de Moura¹

¹A.C. Camargo Cancer Center – São Paulo (SP), Brazil.

Introduction: Surgical management of breast cancer has progressively shifted toward de-escalation strategies aimed at minimizing morbidity while preserving oncologic safety. Neoadjuvant chemotherapy (NAC) plays a key role by allowing *in vivo* assessment of tumor response, reducing tumor size, and increasing the likelihood of breast-conserving surgery (BCS), particularly in triple-negative and human epidermal growth factor receptor 2 (HER2)-positive subtypes.

Objective: To identify clinical, pathological, and radiological factors associated with the feasibility of BCS following NAC.

Methods: This retrospective study included 1,618 women with non-metastatic invasive breast cancer treated with NAC followed by surgery between 2007 and 2023. Data were collected using the REDCap[®] platform. Statistical analyses included the chi-square or Fisher's exact test for categorical variables and the Student's *t*-test or Mann-Whitney U test for continuous variables, with $p < 0.05$ considered significant.

Results: Median age was 45 years. Invasive ductal carcinoma was the predominant histology (84.3%). Luminal B was the most frequent molecular subtype (38.5%), followed by triple-negative (28.0%) and HER2+/hormone receptor-positive (19.3%). Most tumors were grade 3 (75.8%). Clinical staging was predominantly T2 (42.2%) and N1 (44.7%), consistent with the magnetic resonance imaging findings. Pathologic complete response (pCR) was observed in 38.6% of cases. BCS was more frequent in patients with T2 tumors, lower nodal burden, chemosensitive subtypes (especially triple-negative), and those achieving pCR. Mastectomy was more common in T3–T4 tumors, N2–N3 disease, and luminal subtypes with lower chemosensitivity ($p < 0.001$).

Conclusion: The feasibility of BCS after NAC is strongly associated with tumor size, nodal status, molecular subtype, and pathologic response. NAC significantly increases the potential for breast preservation, particularly in biologically chemosensitive tumors, thereby reinforcing the importance of individualized, multidisciplinary surgical planning.

Ethics: Research Ethics Committee Approval (CAAE 92435525.8.0000.5432).

Keywords: breast neoplasms; mastectomies; segmental; neoadjuvant therapies.

<https://doi.org/10.29289/259453942025V36S10987>

987 – Oncoplastic breast-conserving surgery enables wider resections without compromising oncologic outcomes in a public hospital cohort

Bianca Rodrigues Silva, Gabriel Salum D'Alessandro, Fernanda de Angelis Morandi Ometto, Jonathan Yugo Maesaka, Ariane Andrade Anacleto Bricks, Roberta Amparado Miziara

¹Hospital Israelita Albert Einstein – São Paulo (SP), Brazil.

²Hospital Municipal Dr. Gilson de C. Marques de Carvalho (Vila Santa Catarina) – São Paulo (SP), Brazil.

Introduction: Breast-conserving surgery (BCS) combined with adjuvant therapy is an established oncologically safe approach for breast cancer treatment. However, conventional techniques may lead to suboptimal cosmetic outcomes, particularly in cases requiring larger resections. Oncoplastic surgery was developed to allow wider excisions while preserving breast shape.

Objective: This study aimed to evaluate the oncologic safety of oncoplastic BCS compared to standard BCS in a public hospital.

Methods: This retrospective cohort study included 142 women with breast cancer who underwent BCS between July 2023 and July 2025 at a municipal public hospital in São Paulo, Brazil. Clinical and pathological data were obtained from medical records. Patients were divided into two groups according to surgical technique: standard BCS and oncoplastic BCS. The primary outcome was positive margin rate. Secondary outcomes included specimen weight and postoperative complications.

Results: Oncoplastic BCS was associated with significantly larger resection weights (median 123 g *vs.* 31 g; $p < 0.001$), with no difference in complication rates (7.5% *vs.* 4.9%; $p = 0.687$). Patients undergoing oncoplastic surgery were significantly younger (57.0 years, standard deviation ± 13.6 *vs.* 62.7 years ± 11.6 ; $p = 0.021$) and presented with more advanced tumors ($p < 0.001$), with a higher proportion of T2+ (80.0%) and T3–T4 disease (20.0%). Despite this, negative margins were achieved in 90% of cases at initial surgery. The positive margin rate was 10.0% (95% confidence interval [CI] 4.0–23.1%), consistent with rates reported in the literature. No positive margins were observed among patients with T3–T4 tumors.

Conclusion: Oncoplastic BCS allowed wider resections without increasing complications and achieved acceptable margin rates, even in patients with more advanced disease. These findings support oncoplastic BCS as a safe and effective breast-preserving alternative to mastectomy, particularly in patients with unfavorable tumor-to-breast ratios in the public health setting.

Ethics: Research Ethics Committee Approval (CAAE 28003220.2.0000.0071).

Keywords: breast neoplasm; segmental mastectomy; breast reconstruction; margins of excision; postoperative complications.

<https://doi.org/10.29289/259453942025V36S11024>

1024 – Correlation between phase angle, anxiety, and quality of life in women breast cancer survivors

Vitor Alves Marques, Fernando Silva, Naiany Pereira Silva, Eduarda Padilha Arruda, Flavia Batista Noleto, Talita Rosa Morais, Tatiane Nunes Rodarte, Carlos Alexandre Vieira

¹Programa de Pós-Graduação em Ambiente e Sociedade – Quirinópolis (GO), Brazil.

²Programa de Pós-Graduação em Produtos Aplicados à Saúde – Quirinópolis (GO), Brazil.

³Universidade Estadual de Goiás – Quirinópolis (GO), Brazil.

⁴Universidade Federal de Goiás – Goiânia (GO), Brazil.

Introduction: Breast cancer is one of the most prevalent cancers among women. Worsening indicators of quality of life and anxiety may be associated with the phase angle. Studies show that low values in the phase angle are related to decreased quality of life and anxiety disorders.

Objective: To identify whether there is a correlation between the phase angle and the quality of life and anxiety levels of women who are breast cancer survivors (BCS).

Methods: This cross-sectional study was conducted with 45 BCS (58.7 years, standard deviation ± 9.2 years), selected from the Hospital das Clínicas of the Federal University of Goiás (UFG), from January to December 2025. The inclusion criteria were having undergone chemotherapy and radiotherapy, having received any hormonal therapy, and not having performed any type of exercise in the last six months. Quality of life was assessed using the FACT B+4 questionnaire; anxiety was assessed using STAI-STATE and STAI-TRAIT; and phase angle was measured using octopolar bioelectrical bioimpedance (Sanny brand; BIA). Data normality was verified using the Shapiro-Wilk test, and correlations were analyzed using Spearman's coefficient ($p < 0.05$).

Results: Findings showed that there was no significant correlation between the phase angle and anxiety, both in the STAI-STATE ($\rho = 0.19$; $p = 0.21$) and in the STAI-TRAIT ($\rho = 0.07$; $p = 0.62$). No correlations were found between phase angle and quality of life ($\rho = 0.068$ and $p = 0.656$).

Conclusion: The phase angle did not correlate with anxiety levels and quality of life in women who are breast cancer survivors.

Ethics: Research Ethics Committees of the UFG (CAAE: 50717115.4.0000.5083) and the HC/UFG (CAAE: 50717115.4.3001.5078).

Keywords: cancer; body composition; psychobiological aspects.

<https://doi.org/10.29289/259453942025V36S11027>

1027 – Wire guided localization associated with target axillary dissection after neoadjuvant chemotherapy for breast cancer: real-world data and clinical implications

Angélica Pereira de Almeida, Bertha Andrade Coelho, Geraldo Felício Cunha Junior, Aleida Nazareth Soares, Eduardo Carvalho Pessoa, Henrique Silva Bartels, Tereza Cristina Ferreira de Oliveira, Henrique Lima Couto

¹Cetus Oncologia – Belo Horizonte (MG), Brazil.

²Faculdade de Saúde Santa Casa – Belo Horizonte (MG), Brazil.

³Mater Clinic – Montes Claros (MG), Brazil.

⁴Redimasto-Redimama – Belo Horizonte (MG), Brazil.

⁵Universidade Estadual Paulista “Júlio de Mesquita Filho” – Botucatu (SP), Brazil.

Objective: To evaluate the accuracy, complications, and clinical implications of wire-guided localization (WGL) of metastatic clipped axillary lymph nodes (CAN) associated with targeted axillary dissection (TAD) after neoadjuvant chemotherapy (NAC) in patients with breast cancer.

Methods: A database analysis was performed of 48 node-positive breast cancer patients who underwent NAC followed by WGL-TAD between January 2016 and February 2025. Clinical and tumor characteristics, the WGL procedure, CAN retrieval rate, concordance with double-marking sentinel lymph node biopsy (SNB), pathological response after NAC, and impact on axillary clearance (AC) decision-making were evaluated.

Results: The mean age was 42.5 years (range 24–77 years); 31/47 (66%) had stage II disease and 16/47 (34%) stage III; 36/47 (77%) were N1, 10/47 (21%) N2, and 1/47 (2%) N3. Positive nodal status confirmed by fine-needle aspiration was found in 26/47 (55%) and by core-needle biopsy in 21/47 (45%). Invasive ductal carcinoma was identified in 42/48 (87.5%) patients. Immunohistochemistry showed 18/48 (37.5%) triple-negative, 15/48 (31.3%) Luminal B-like, 9/48 (18.8%) Luminal-like/human epidermal growth factor receptor 2-positive (HER2+), 4/48 (8.3%) pure HER2+, and 2/48 (4.1%) Luminal A-like tumors. Ultrasound-guided WGL was used in 42/48 (87.5%) patients and stereotactic-guided in 6/48 (12.5%). No complications (hematomas or pneumothorax) occurred (0/48). Overall, 35/48 (73%) patients underwent SNB+WGL-TAD; 9/48 (19%) underwent SNB+WGL-TAD followed by AC, and 4/48 (8%) had AC. After NAC, 21/48 (43.8%; $p<0.001$) patients achieved breast pathologic complete response (pCR), and 27/48 (56.2%; $p=0.003$) achieved axillary pCR. The CAN retrieval rate was 45/48 (93.8%). SNB was concordant with CAN in 39/46 (85%) cases. The SNB+WGL-TAD strategy avoided 12/26 (46%) ACs according to current guidelines when compared with SNB alone in yN0(sn) and supported shared decision-making to decline AC in 11/16 (69%) ypN1(sn).

Conclusion: SNB+WGL-TAD after NAC presented high CAN retrieval rate, absence of complications, reduced AC compared with SNB alone in yN0(sn), and played an essential role in shared decision-making to avoid AC in ypN1(sn) cases.

Ethics: Research Ethics Committee Approval (CAAE 35494220.9.0000.5109).

Keywords: breast cancer; neoadjuvant chemotherapy; sentinel lymph node biopsy; target axillary dissection.

<https://doi.org/10.29289/259453942025V36S11088>

1088 – Regional nodal irradiation versus omission in clinically node-positive breast cancer converted to complete axillary response: a systematic review and meta-analysis

João Victor Alves Alencar¹, Juarez Antônio de Sousa¹

¹Universidade Federal de Goiás – Goiânia (GO), Brazil.

Introduction: In clinically node-positive (cN+) breast cancer, neoadjuvant systemic therapy (NST) often results in a pathological node-negative status (ypN0). Whether regional nodal irradiation (RNI) remains mandatory post-conversion is a primary therapeutic dilemma, as clinicians must balance oncological control against morbidities, such as lymphedema.

Objective: To evaluate the safety of omitting RNI to guide safe treatment de-escalation in breast cancer.

Methods: Following PRISMA guidelines, a systematic review with meta-analysis was conducted and the databases PubMed, Cochrane, and Embase were searched for clinical trials and cohort studies comparing RNI omission (no radiotherapy or whole-breast irradiation alone) with RNI inclusion (nodal field irradiation) in cN+ patients converted to ypN0 after NST with ≥ 3 -year follow-up. Endpoints included overall survival (OS), locoregional recurrence-free survival (LRFS), disease-free survival (DFS), distant metastasis-free survival (DMFS), and breast cancer-specific survival (BCSS). Out of 3,708 initial records, 2,463 unique articles were screened. Of these, 2,454 articles were excluded due to pre-NST-era data, residual nodal disease (ypN+), male patients, or non-breast tumors, lack of radiotherapy comparators, upfront surgery, or missing hazard ratios (HR). The quantitative synthesis included nine studies. HRs and 95% confidence interval (CI) were pooled using random-effects models in R (version 4.5.3).

Results: Nine studies were included, encompassing 20,618 patients. No statistically significant differences were observed between RNI inclusion and omission across all endpoints. Pooled HRs comparing RNI inclusion to omission were: OS (HR 0.98; 95%CI 0.84–1.16; $p=0.84$; $I^2=21.7\%$), LRFS (HR 0.81; 95%CI 0.34–1.95; $p=0.642$; $I^2=55.5\%$), DFS (HR 0.85; 95%CI 0.59–1.24; $p=0.401$; $I^2=46\%$), DMFS (HR 0.68; 95%CI 0.23–1.95; $p=0.468$; $I^2=62.3\%$), and BCSS (HR 0.82; 95%CI 0.58–1.15; $p=0.243$; $I^2=0\%$).

Conclusion: Omitting RNI in cN+ patients achieving ypN0 does not appear to adversely affect survival or recurrence. These data support the feasibility of de-escalating radiotherapy in this population, potentially sparing patients from significant chronic morbidity without increasing oncological risk.

Ethics: Public data – Literature review.

Keywords: breast neoplasms; neoadjuvant therapy; lymphatic irradiation.

<https://doi.org/10.29289/259453942025V36S11091>

1091 – Laparoscopic sleeve gastrectomy following early breast cancer treatment: a retrospective case series

Jakeline Ferreira de Sousa Sampaio Borba, Geórgia Ferreira de Carvalho Linhares, Fernanda Caroline Leite Dias Moraes, Breno Dias Lima Ribeiro, Pedro José Aroucha Bringel Carvalho, Romerito Neiva Fonseca, Ozimo Pereira Gama Filho

¹Universidade Ceuma – São Luís (MA), Brazil.

²Universidade Federal do Maranhão – São Luís (MA), Brazil.

Introduction: High adiposity and obesity are associated with worse outcomes in breast cancer, including a higher risk of recurrence, particularly in hormone-dependent disease. While bariatric surgery reduces weight and improves metabolic markers—with evidence suggesting a reduction in overall cancer incidence and mortality—its role and feasibility after a definitive breast cancer diagnosis and treatment remain uncertain.

Methods: This retrospective case series included ten women previously treated for stage I–II breast cancer who underwent laparoscopic sleeve gastrectomy 12 to 36 months after completing oncologic treatment. The primary outcomes were recurrence (local, regional, or distant) and invasive disease-free survival, defined according to STEEP v2.0 criteria. Perioperative complications were graded using the Clavien-Dindo classification.

Results: The mean age at cancer diagnosis was 49.3 years (standard deviation ± 13.6 years), and the pre-bariatric body mass index was 43.1 ± 5.4 kg/m². The mean interval from oncologic treatment to surgery was 22.4 ± 6.8 months. Thirty-day complications occurred in 2/10 (20%) patients (all Clavien-Dindo I–II), with 0% mortality. Total weight loss at 12 and 24 months was $9.4 \pm 5.2\%$ and $26.8 \pm 6.1\%$, respectively. Glycated hemoglobin decreased from $6.6 \pm 1.0\%$ to $5.7 \pm 0.5\%$ at 12 months, and high-sensitivity C-reactive protein decreased from 6.8 ± 3.1 mg/L to 3.0 ± 1.5 mg/L. During a mean follow-up of 5.1 ± 2.3 years post-bariatric surgery, one distant recurrence (in bone) was observed.

Conclusion: Laparoscopic sleeve gastrectomy following early breast cancer treatment is feasible, demonstrating low morbidity and significant weight and metabolic improvements. The low recurrence rate serves as a hypothesis-generating finding, emphasizing the need for prospective studies using time-dependent exposure modeling to mitigate biases.

Ethics: Research Ethics Committee Approval (CAAE 83509724400005086).

Keywords: bariatric surgery; breast neoplasms; recurrence; weight loss; gastrectomy.

<https://doi.org/10.29289/259453942025V36S11096>

1096 – Oncological safety of sentinel lymph node biopsy with single mapping tracer in cN+/ypN0 breast cancer women post-neoadjuvant chemotherapy: a real-world data study

Maria Beatriz Kraft¹, Arthur Chaves de Almeida¹, Fabricio Palermo Brenelli¹, Renato Zocchio Torresan¹, Julia Yoriko Shinzato¹, Giuliano Mendes Duarte¹, César Cabello dos Santos¹, Luis Otávio Zanatta Sarian¹

¹Universidade Estadual de Campinas – Campinas (SP), Brazil.

Introduction: Sentinel lymph node biopsy (SLNB) safety after neoadjuvant therapy in initially node-positive (cN+) breast cancer remains controversial. Additionally, evidence regarding the use of a single mapping tracer in this setting is limited.

Methods: Women with non-metastatic cT1–3 cN0–cN2 breast cancer who were treated with neoadjuvant therapy between 2011 and 2018 at a Brazilian tertiary hospital were retrospectively included. Axillary stage was clinically defined. Clinicopathological characteristics and follow-up data (February 2022–November 2025) were analyzed.

Results: A total of 616 patients were included, with a mean age of 50.1 years (standard deviation ± 11.2 years) and median follow-up of 69.1 months; 322 were cN+. The cN+ group had more grade 3 tumors (44.4%; $p=0.04$) and more advanced T stage ($p<0.001$); 103 underwent SLNB (92% using a single tracer), with a nodal downstaging rate of 45%. Axillary lymph node dissection was performed in 37 cases. In the cN0 group, 257 patients underwent SLNB (96% with a single tracer). Axillary recurrence rates after SLNB were comparable between the cN+ and cN0 groups (3% *versus* 2%; $p=0.63$). In the whole cohort, 72-month overall survival (OS) was 81.7% and disease-free survival (DFS) was 74.3%. In ypN0 women, SLNB demonstrated similar OS and DFS compared to axillary lymph node dissection ($p=0.619$ and $p=0.849$ for cN0; $p=0.556$ and $p=0.903$ for cN+), regardless of the initial axillary status ($p=0.873$ and $p=0.285$). Furthermore, there were no differences in OS or DFS regarding the number of lymph nodes dissected at SLNB (1–2 *versus* ≥ 3) in either the cN0 ($p=0.546$ and $p=0.98$) or cN+ ($p=0.122$ and $p=0.605$) groups.

Conclusion: This real-world study suggests that there are no OS/DFS implications for ypN0 patients who undergo SLNB, after neoadjuvant therapy. Also, it seems that dissecting in excess of two lymph nodes yields no additional benefits. Importantly, these findings were obtained using a single mapping SLNB technique.

Ethics: Research Ethics Committee Approval (CAAE: 52444121.0.0000.5404).

Keywords: breast cancer; sentinel lymph node biopsy; neoadjuvant therapy; axillary surgery.

<https://doi.org/10.29289/259453942025V36S11104>

1104 – Factor analysis in a Brazilian population of breast-q questionnaires associated with breast cancer

Antonio Bailão Junior^{1,2}, Idam de Oliveira-Junior^{1,2,3}, Guilherme Novita Garcia³, João Bosco Ramos Garcia³, Vivian Aparecida Brancaglioni², Carlos Eduardo Paiva², René Aloisio da Costa Vieira^{1,3}

¹Universidade Estadual Paulista “Júlio de Mesquita Filho”, Faculdade de Medicina de Botucatu, Programa de Pós-graduação em Tocoginecologia – Botucatu (SP), Brazil.

²Hospital de Câncer de Barretos, Departamento de Mastologia e Reconstrução Mamária – Barretos (SP), Brazil.

³Sociedade Brasileira de Mastologia, Regional São Paulo – São Paulo (SP), Brazil

Introduction: The assessment of quality of life has become essential for understanding the impact of cancer treatment. The BREAST-Q questionnaire has emerged as one of the primary tools for measuring satisfaction and quality of life among patients undergoing breast surgery. Regarding the Brazilian Portuguese version, the cancer-related modules have been translated and recently subjected to various validation methodologies; however, factor analysis is still lacking. Factor analysis represents the final step in the validation process, as it evaluates how items cluster within domains, allowing comparisons across different populations.

Methods: This was a prospective, cross-sectional study of patients treated at a tertiary oncology hospital. The minimum sample size was 195 patients, who were divided into three groups according to surgical treatment: mastectomy without reconstruction, mastectomy with reconstruction, and breast-conserving treatment. The BREAST-Q questionnaires specific to each group were administered preoperatively and postoperatively. Structural validity was assessed using exploratory factor analysis. Sampling adequacy was evaluated using the Kaiser-Meyer-Olkin index and Bartlett’s test of sphericity.

Results: In all three groups, the Kaiser-Meyer-Olkin indices were greater than 0.60, and Bartlett’s test was statistically significant ($p < 0.05$), confirming suitability for factor analysis. A predominant single factor was observed across the evaluated domains. In the mastectomy without reconstruction group, a single factor explained approximately 65% of the total variance. In the mastectomy with reconstruction group, the dominant factor explained about 60–70% of the variance, with most factor loadings exceeding 0.50. In the breast-conserving treatment group, the explained variance ranged from 50–60%. Communalities were adequate for most items, indicating good representation within the extracted factor.

Conclusion: The Brazilian Portuguese version of the BREAST-Q demonstrated a simple and consistent factor structure, with a predominance of unidimensionality across different surgical groups, supporting the construct validity of the instrument in the Brazilian population.

Ethics: Research Ethics Committee Approval (CAAE 40093420.0.1001.5437).

Funding: RACV received a Research Productivity Scholarship (Level 2) from the Brazilian National Council for Scientific and Technological Development (CNPq-PQ).

Keywords: breast neoplasms; quality of life; surveys and questionnaires; mastectomy; segmental mastectomy.

<https://doi.org/10.29289/259453942025V36S11109>

1109 – Mastectomy with immediate reconstruction versus breast-conserving surgery for breast cancer treatment: quality of life assessment

Mirella Laranjeira Nunes¹, Roberta Helena Rodrigues de Oliveira Moura¹, Nathália Valois Montarroyos de Moraes¹, Ana Carolina Ferraz Pascoal¹, João Esberard Vasconcelos Beltrão Neto¹

¹Hospital Universitário Oswaldo Cruz – Recife (PE), Brazil.

Introduction: Breast cancer is a major public health problem, and high morbidity and mortality rates are mainly related to late diagnosis. Breast-conserving surgery (BCS) combined with radiotherapy is considered safe and effective; however, in some cases, mastectomy with immediate reconstruction (MIR) is necessary. Nevertheless, these approaches may impact patients' quality of life (QoL) differently, which should be taken into consideration in the therapeutic choice.

Objective: This study aimed to evaluate and compare QoL between women undergoing MIR and those undergoing BCS.

Methods: This cross-sectional study was conducted at an oncology reference hospital in Pernambuco. Forty patients with breast cancer were included: 20 who underwent MIR and 20 who underwent BCS, treated between 2023 and 2024. Metastatic or prophylactic cases were excluded. QoL was assessed using the EORTC QLQ-BR23 questionnaire, which contains 23 questions divided into functional and symptom scales. Descriptive statistical analysis of categorical variables was expressed in absolute and relative frequencies. For continuous variables, the mean and standard deviation were calculated. Pearson's chi-square test was used for categorical variables, with a 95% confidence interval and a significance level set at $p < 0.05$.

Results: The mean age was 49.7 years, and the demographic profile was similar between the groups. Regarding QoL, there were no statistically significant differences between the groups concerning breast and arm symptoms, systemic therapy side effects, sexual functioning and enjoyment, hair loss, and future perspective. The only variable with a significant difference was body image perception, with better scores in the group undergoing BCS compared to MIR ($p = 0.0005$).

Conclusion: The data show a relative benefit of BCS over MIR, which is expressed in the better body image perception of patients undergoing BCS. Study limitations include the lack of assessment of surgical complications and radiotherapy administration. The findings reinforce the need for personalized assessment to understand the impact on patients' global QoL.

Ethics: Research Ethics Committee Approval (CAAE 80537924.0.0000.5192).

Keywords: breast neoplasms; quality of life; mastectomy; breast conserving surgery.

<https://doi.org/10.29289/259453942025V36S11116>

1116 – Breast reconstruction patient profile patterns in oswaldo cruz university hospital: partial results of a retrospective study with 89 cases

Mirella Laranjeira Nunes¹, Amanda Carla Corrêa Viana¹, Maria Carolina da Trindade Henriques Assunção¹, Pryscila Correia de Queiroz e Silva¹, Vidianna Barbosa Sampaio¹, Carlos Eduardo Caiado Anunciação¹, João Esberard de Vasconcelos Beltrão Neto¹

¹Hospital Universitário Oswaldo Cruz – Recife (PE), Brazil.

Introduction: Several studies report the psychological benefits and oncologic safety of postmastectomy breast reconstruction (BR). Within holistic breast cancer care, patients choose among available reconstructive procedures. To understand BR patterns, it is vital to identify patient clinicopathologic profiles, the techniques performed, and postoperative complication rates.

Objective: To assess patient profiles and BR characteristics, generating data to understand patterns and predict risk factors for complications.

Methods: This retrospective analysis evaluated patients undergoing BR following mastectomy between 2017 and 2020 at Oswaldo Cruz University Hospital, in Recife, state of Pernambuco, Brazil. This initial phase included 89 patients attending consultations from October to December 2020. Data were compiled from medical records.

Results: A total of 89 BRs were analyzed: 60.7% underwent one-stage implant-based reconstructions and 39.3% two-stage expander/implant reconstructions. BR was immediate in 76.4% and delayed in 23.6% of cases. Most mastectomies were modified radical mastectomies (50.5%). The average age was 46 years (48.3% between 25–45; 43.8% between 45–60; 6.7% >60 years). Tumors were mainly T2 (34.8%) and T3 (30.3%). Most had stage II disease (48.3%) and hormone receptor-positive breast cancer (50%). Chemotherapy was predominantly neoadjuvant (51.7%). Radiotherapy was used before BR (19.1%), with empty (4.5%) or inflated expanders (7.9%), and after implant placements (31.4%). Complications occurred in 22.4% of cases: skin infection (27%), hematoma (27%), dehiscence (24.3%), implant loss (16.2%), implant exposure (2.7%), and capsular contracture (2.7%). In the complication group (average age of 45 years), tumors were T2 (25%), T3 (45%), or T4 (20%); 60% had immediate BR, and 60% had two-stage reconstruction. Furthermore, 85% of this group received radiotherapy: 40% before BR, 20% on inflated expanders, and 10% on implants.

Conclusion: Limited epidemiological data exist for BR patients. The high prevalence of larger tumors and radiotherapy in the complication group suggests an association with complication risks. Complete results are needed to accurately assess risk factors and establish a full epidemiological profile.

Ethics: Research Ethics Committee Approval (CAAE 34899720.3.0000.5192).

Keywords: breast reconstruction; mastectomy; breast cancer.

<https://doi.org/10.29289/259453942025V36S11117>

1117 – Approach to neuropathic pain in breast cancer patients undergoing mastectomy

Carolina Polo Salvador Vesentini, Izabelle de Fátima Frankiu, Melissa Polo Salvador Vesentini, Michele Neves Tomson Delazari, Bethina Piva Marafon, Nicole Lopes Alves

¹Hospital Universitário Evangélico Mackenzie – Curitiba (PR), Brazil.

²Máxima Fisioterapia em Oncologia – Curitiba (PR), Brazil.

³Pontifícia Universidade Católica do Paraná – Curitiba (PR), Brazil.

Introduction: Neuropathic pain following mastectomy is a frequent, chronic, and multifactorial complication that significantly impairs quality of life, functionality, and psychosocial well-being in breast cancer patients. It is mainly associated with peripheral nerve injury during surgery and may progress to post-mastectomy pain syndrome.

Objective: This study aimed to analyze therapeutic strategies for managing neuropathic pain following mastectomy, focusing on preventing chronicity, symptom control, and functional outcomes.

Methods: A systematic review was conducted in the PubMed/MEDLINE database in accordance with the PRISMA guidelines. The search included studies published between 2015 and 2025, in English or Spanish, involving human female subjects with neuropathic pain following mastectomy. Eligible study designs were clinical trials, meta-analyses, systematic reviews, and narrative reviews. A total of 26 articles were initially identified, of which 25 met the inclusion criteria after screening. Data extraction included study characteristics, interventions, and clinical outcomes.

Results: The identified strategies included intraoperative pharmacological interventions (ketamine and local anesthetics), regional techniques such as type II pectoral nerve block (PECS II), serratus anterior plane block, and stellate ganglion block, as well as minimally invasive procedures such as cryoneurolysis and pulsed radiofrequency applied to the dorsal root ganglion and paravertebral nerves. Nonpharmacological approaches, including physical exercise, physiotherapy, acupuncture, and virtual reality, were also reported. Most studies demonstrated reduced incidence of chronic pain and decreased postoperative opioid consumption. Severe acute pain, axillary dissection, and radiotherapy were identified as predictors of chronicity.

Conclusion: Effective management of post-mastectomy neuropathic pain requires early and multimodal strategies. Regional anesthesia combined with rehabilitation and adequate control of acute pain plays a key role in preventing chronic pain. However, further high-quality clinical trials with standardized methodologies and long-term follow-up are needed to strengthen current evidence.

Ethics: Public data.

Keywords: breast neoplasms; mastectomy; neuropathic pain; post-mastectomy pain syndrome.

<https://doi.org/10.29289/259453942025V36S11124>

1124 – The post-mastectomy breast reconstruction outcomes: are we doing great from the patients' perspective?

Mirella Laranjeira Nunes¹, Amanda Carla Corrêa Viana¹, Maria Carolina da Trindade Henriques Assunção¹, Pryscila Correia de Queiroz e Silva¹, Vidianna Barbosa Sampaio¹, Carlos Eduardo Caiado Anunciação¹, Gabriela Rocha Branco Silveira¹, João Esberard de Vasconcelos Beltrão Neto¹

¹Hospital Universitário Oswaldo Cruz – Recife (PE), Brazil.

Introduction: The psychological benefits and oncologic safety of postmastectomy breast reconstruction (BR) are well established. Outcome evaluation is an essential step to understand the true benefit of BR regarding self-esteem, sexual function, and satisfaction. This should be the a key question among surgeons: Are we doing great from a patient's perspective? How should this be measured?

Objective: To provide a new perspective in this field by introducing an original appreciation method.

Methods: The survey included 23 patients who underwent postmastectomy BR from 2017–2020 at Oswaldo Cruz University Hospital, attended a consultation between October–December 2020, and completed questionnaires. To assess patient satisfaction, an analytical scale adapted from customer satisfaction scales were used, and questions about the process were asked. The EORTC-BRECON23 questionnaire was administered to measure sexual dysfunction and general satisfaction, and score ranged between 0–100.

Results: A total of 22 BRs were analyzed: 73% were implant-based and 27% were expander/implant-based. Modified radical mastectomies accounted for 50% of the procedures. The average age was 45 years. Tumors were predominantly T1/T2 (64%); radiotherapy was used in 23% of cases. Complications occurred in 13.6%. The average satisfaction score was 7.3/10. The EORTC QLQ-BRECON23 general satisfaction was mild/high in 55%, no/low in 27%, and low/mild in 18%. Identical percentages were reported for sexual dysfunction. Regarding patient perception, of 22 women, 20 would recommend the procedure, 16 achieved expected results, and 19 agreed with the proposed results.

Conclusion: Understanding BR patient satisfaction requires measuring it, especially within Brazil's public healthcare reality. High satisfaction was observed among patients, although ideally it should be higher. Over half of the patients had sexual dysfunction impacting self-esteem; however, there was conformity between expectations and outcomes. The small sample size limits establishing causality relations. Further studies on patients' perspectives are necessary to enhance understanding of BR patterns and improve outcomes.

Ethics: Research Ethics Committee Approval (CAAE 34899720.3.0000.5192).

Keywords: breast reconstruction; mastectomy; quality of health care; breast neoplasms.

<https://doi.org/10.29289/259453942025V36S11128>

1128 – Lifestyle matters – how physician behavior shapes patient adherence to exercise: a systematic review

Karimi Botelho Amaral¹, Leonardo Santos¹, Yasmin Ornellas¹

¹Oncologia D'Or – Brasília (DF), Brazil.

Introduction: Physical activity is a key component of cancer prevention and survivorship, with evidence supporting its role in improving treatment tolerance, reducing recurrence risk, and enhancing quality of life. Despite this, patient adherence to exercise recommendations remains suboptimal, and counseling practices are inconsistently implemented in clinical settings. Physician-related factors, including personal lifestyle behaviors, may influence the effectiveness of exercise counseling.

Methods: This systematic review was conducted in accordance with the PRISMA guidelines. A comprehensive literature search was performed in the PubMed, Scopus, and Web of Science databases for studies published between 2016 and 2026, reflecting contemporary clinical practice. Eligible studies included physicians or healthcare providers with assessed personal physical activity levels and outcomes related to patient counseling or adherence to exercise. Observational and cohort studies were also considered. Risk of bias was assessed using appropriate tools.

Results: A total of 42 studies were identified, of which eight met the inclusion criteria and were included in the primary analysis. Physically active physicians consistently demonstrated higher rates of exercise counseling, greater confidence in prescribing physical activity, and longer lifestyle discussions. Patients managed by physically active physicians showed improved adherence to exercise recommendations. These findings suggest that physician behavior may influence both the delivery and effectiveness of lifestyle interventions.

Conclusion: Physician lifestyle behavior represents a relevant and potentially modifiable determinant of patient adherence to physical activity in oncology care. Promoting healthy behaviors among physicians may enhance the effectiveness of survivorship strategies and preventive oncology.

Ethics: Public data – Literature review.

Keywords: exercise; physicians; counseling; patient compliance; neoplasms.

<https://doi.org/10.29289/259453942025V36S11140>

1140 – Comparative performance of indocyanine green across tracer strategies in sentinel lymph node biopsy for breast cancer: a systematic review

Matheus Ávila Marques Sandre¹, Ana Carolina Siqueira Bueno¹, Felipe Neres Siqueira Pires¹, Arthur Crisóstomo Basso de Paula¹, Marcelo Antônio Adad de Araújo Filho¹, Luiz de Paula Silveira Júnior¹, Luiz de Paula Silveira Neto¹, Maria Luiza Bessa de Paula¹

¹Pontifícia Universidade Católica de Goiás – Goiânia (GO), Brazil.

Introduction: Recent meta-analyses have reported non-inferiority or superiority of indocyanine green (ICG) *versus* conventional tracers for sentinel lymph node biopsy (SLNB) in breast cancer; however, structured analyses across clinically relevant comparator strategies remain limited, particularly with the incorporation of recent evidence.

Objective: To evaluate ICG performance across predefined tracer comparisons in early breast cancer.

Methods: A systematic review was conducted in accordance with the PRISMA statement. PubMed and Embase databases were searched for studies published between 2020 and 2026, using terms related to breast cancer, SLNB, ICG, and conventional tracers. After duplicate removal, records were screened using Rayyan. Eligible studies included clinical trials and observational studies comparing ICG with dual-tracer approach (radioisotope plus blue dye), blue dye alone, or radioisotope alone. Data were synthesized descriptively, with analyses stratified by comparator.

Results: A total of 454 records were identified, with 261 duplicates removed, yielding 193 screened records, of which 26 were included. Across studies, ICG demonstrated detection rates comparable to those of dual tracer approaches in most settings, although combined strategies occasionally achieved higher performance. In subgroup analyses, ICG consistently outperformed blue dye, with higher identification rates and increased detection of additional sentinel nodes and metastatic involvement. When compared with radioisotope alone, ICG showed equivalent performance in sentinel node detection and nodal assessment. Safety outcomes were favorable, with no severe allergic reactions reported and improved intraoperative visualization. Operational advantages, including real-time lymphatic mapping and independence from nuclear medicine infrastructure, were consistently reported.

Conclusion: ICG demonstrates consistent and competitive performance across tracer strategies and may represent a viable alternative to conventional techniques in selected clinical settings. Its superiority over blue dye and equivalence to radioisotope, together with practical and safety advantages, support its integration into clinical practice but do not support the universal replacement of dual-tracer approaches.

Ethics: Public data – Literature review.

Registry: International Prospective Register of Systematic Reviews (PROSPERO) CRD420261355134.

Keywords: breast cancer; sentinel lymph node biopsy; indocyanine green; breast neoplasms.

<https://doi.org/10.29289/259453942025V36S11168>

1168 – De-escalation of axillary management in breast cancer: analysis of real-life data from a mastology service

Stephani da Costa e Sousa Freire da Silva¹, Giulia Severini Lazarini¹, Fernanda Mayumi Tengan¹, Rodrigo Macedo da Silva¹, Vinicius Miranda Borges¹, Carlos Elias Fristachi¹, Fábio Francisco Oliveira Rodrigues¹

¹Instituto de Câncer Dr. Arnaldo Vieira de Carvalho– São Paulo (SP), Brazil.

Introduction: Axillary surgical management in breast cancer has evolved towards de-escalation. The ACOSOG Z0011 trial demonstrated that, in patients with early breast cancer and positive sentinel lymph node biopsy (SLNB) undergoing breast-conserving surgery, SLNB alone is non-inferior to axillary lymphadenectomy (ALND) in terms of overall survival and 10-year recurrence, with lower morbidity, and the SENOMAC randomized clinical trial has expanded this concept. Recently, studies have shown that omitting SLNB, even in locally advanced tumors, can be safe in selected cases with clinically negative axillae. However, the incorporation of this evidence into practice is gradual.

Objective: To evaluate the trend toward axillary surgical de-escalation in a mastology service between 2023 and 2025.

Methods: A retrospective descriptive study was conducted with analysis of medical records from the Mastology Service of the Dr. Arnaldo Cancer Institute. The database is ongoing, with preliminary data from breast surgical procedures with axillary management being included. The variables were the type of axillary procedure, type of surgery, and use of neo-adjuvant chemotherapy (NAC).

Results: A total of 270 axillary procedures were analyzed. SLNB was performed in 136 cases (50.4%) and ALND in 134 (49.6%). The SLNB rate increased from 37.9% in 2023 to 60.0% in 2024. In breast-conserving surgery, SLNB was predominantly performed, while in mastectomies, ALND was the most prevalent (75 ALND vs 17 SLNB). Without NAC, SLNB was more frequent (59.2%); post-NAC, ALND predominated (72.6%).

Conclusion: The service demonstrates progressive incorporation of evidence from Z0011, with a significant increase in SLNB over two years. The persistence of ALND post-NAC and in mastectomies reflects scenarios still under debate, with potential for future de-escalation.

Ethics: Research Ethics Committee Approval (CAAE 74462723.1.0000.5471).

Keywords: breast cancer; sentinel lymph node; axillary dissection; surgical de-escalation; real-world data.

<https://doi.org/10.29289/259453942025V36S11173>

1173 – Short incision for immediate breast reconstruction with fat-grafted latissimus dorsi flap after mastectomy: case series

Lígia Maria Teixeira Pereira Porciuncula¹, Gláucia Mesquita Cordeiro¹, Camila Fernanda Antunes Castanho Cavaleiro de Macedo Loureiro¹, Luciana Naíra de Brito Lima Limongi¹, Aline Carvalho Rocha¹, Pedro Henrique de Jesus Cerqueira¹, Paula Cristina Saab¹, Maria Nagime Barros Costa Yunes¹

¹Santa Casa de Misericórdia de Maceió – Maceió (AL), Brazil.

Introduction: The latissimus dorsi (LD) muscle flap, once widely used for delayed reconstructions with implant inclusion, has proven to be a feasible option for immediate, fully autologous breast reconstruction after mastectomy, thanks to the advent of fat grafting, which provides the muscle with the volume it naturally lacks. In cases of nipple-sparing mastectomies (SNM), where there is no need for skin replacement in the breast, the flap can be obtained without removal of a dorsal skin island, resulting in a muscular flap rather than a myocutaneous flap, and thereby allowing for scar de-escalation in this type of reconstruction.

Methods: Dissection and detachment of the LD muscle flap were performed entirely through the same incision used for the mastectomy, either in the inframammary fold or in a T-shaped breast incision. The entire procedure (mastectomy and reconstruction) was carried out with the patient in the supine position. Fat grafting was performed in the mastectomy skin flap and in the latissimus dorsi and pectoralis major muscles.

Results: Between June 2022 and August 2025, immediate reconstruction with a lipoenriched LD muscle flap through a single and minimal incision following SNM or skin-reducing mastectomy was performed in ten patients. The mean operative time was 307 minutes (5 h 7 min), including both mastectomy and reconstruction. The mean volume of grafted fat was 262 mL (range: 190–340 mL). Drain removal occurred at a mean of postoperative day 15 (range: 11–19 days). Six patients developed seroma at the donor site after drain removal.

Conclusion: This study shows that small- to medium-volume breasts can be immediately and autologously reconstructed using a lipoenriched LD muscle flap without extensive donor-site scarring, with a low number of complications, reoperations, and, in most cases, with only a single surgical procedure.

Ethics: Research Ethics Committee Approval (CAAE 69269723.0.0000.0155).

Keywords: breast reconstruction; mastectomy; latissimus dorsi.

<https://doi.org/10.29289/259453942025V36S1177>

1177 – Oncologic outcomes of breast-conserving surgery following neoadjuvant versus adjuvant chemotherapy: a brazilian multicenter cohort study

Anne Dominique Nascimento Lima¹, Andre Matter¹, Francisco Pimentel Cavalcante¹, Felipe Pereira Zerwes¹, Marcelo Antonini¹, Fabricio Palermo Brenelli¹, Antonio Luiz Frasson¹, Eduardo Camargo Milleb¹

¹Universidade Federal do Rio de Janeiro – Rio de Janeiro (RJ), Brazil.

Introduction: Neoadjuvant chemotherapy (NAC) is a cornerstone in breast cancer treatment, particularly for locally advanced, triple-negative, and human epidermal growth factor receptor 2 (HER2)-positive disease. However, concerns remain regarding the oncologic safety of breast-conserving surgery (BCS) following NAC compared to BCS followed by adjuvant chemotherapy (AC).

Objective: To compare survival outcomes between these strategies in a real-world Brazilian cohort.

Methods: This retrospective multicenter cohort study included women aged ≥ 18 years with clinical stage I–III breast cancer who underwent BCS between 2016 and 2022 across six institutions. Patients were grouped according to NAC or AC. Clinicopathologic and demographic data were obtained from institutional registries. Survival outcomes—locoregional recurrence-free survival (LRRFS), recurrence-free survival (RFS), breast cancer-specific survival (BCSS), and overall survival (OS)—were estimated using Kaplan–Meier methods and compared using Cox proportional hazards models.

Results: A total of 268 patients underwent BCS: 138 (51.5%) received NAC and 130 (48.5%) AC. The mean age was 53.1 years, with younger patients in the NAC group. Invasive ductal carcinoma predominated (84.7%), and most patients had early-stage disease (73.8%). Lumpectomy was performed in 72.4% and therapeutic mastoplasmy in 27.6%. In the NAC group, 57.2% had stage IIB or higher disease. After a median follow-up of 60 months, no significant differences were observed between groups across all outcomes. LRRFS events occurred in 10% (NAC) vs. 3.6% (AC) (hazard ratio [HR] 1.35; $p=0.785$). No differences were found in RFS (HR 1.39; $p=0.763$), BCSS (HR 0.55; $p=0.519$), or OS (HR 0.73; $p=0.710$).

Conclusion: BCS after NAC was associated with no significant differences in survival outcomes compared to BCS followed by AC. These findings support the oncologic safety of BCS after NAC and its role in individualized breast cancer management.

Ethics: Research Ethics Committee Approval under Opinion No. 6.907.736 and Amendment No. 7.922.438.

Keywords: breast neoplasm; treatment outcome; mastectomy, segmental; chemotherapy.

PRESENTATION: ORAL PRESENTATION (GENERAL SESSION) – BEST CONGRESS STUDY; BEST SYSTEMIC TREATMENT STUDY

<https://doi.org/10.29289/259453942025V36S10941>

941 – Prognostic impact of residual ductal carcinoma in situ following neoadjuvant chemotherapy for invasive breast cancer: a systematic review and meta-analysis

Augusto Ostermann Magalhães¹, Maria Beatriz de Paula Leite Kraft¹, Renato Torresan¹, Monique Possari Minari¹, Cassio Cardoso Filho¹, Luís Otávio Zanatta Sarian¹, Giuliano Mendes Duarte¹

¹Universidade Estadual de Campinas – Campinas (SP), Brazil.

Introduction: Despite the definition of pathologic complete response (pCR) in the 8th edition of the AJCC Cancer Staging Manual as the absence of residual invasive disease after neoadjuvant chemotherapy (NAC), the prognostic significance of residual ductal carcinoma in situ (DCIS) remains uncertain.

Objective: To assess the prognostic impact of residual DCIS following NAC.

Methods: A systematic review and meta-analysis was conducted comparing patients with residual DCIS (ypTis/ypN0) *versus* true pCR (ypT0/ypN0) after NAC for invasive breast cancer according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. The main scientific databases were searched (PubMed/MEDLINE, Embase, Scopus, LILACS, and SciELO) from inception to February 2026 and included randomized clinical trials and cohort studies. Disease-free survival (DFS) and overall survival (OS) were evaluated.

Results: After screening 452 abstracts, ten studies were included, comprising 3,360 patients. All studies reported DFS, while seven also reported OS. The residual DCIS group included 1,011 patients, compared with 2,349 in the true pCR group. Residual DCIS was associated with significantly worse DFS compared to true pCR (hazard ratio [HR] 1.50; 95% confidence interval [CI] 1.18–1.92; $p=0.001$), with minimal heterogeneity ($I^2=3.1\%$; p -heterogeneity=0.41). For OS, a similar trend was observed but did not reach statistical significance (HR 1.45; 95%CI 0.99–2.12; $p=0.054$), with $I^2=25.3\%$ (p -heterogeneity=0.23).

Conclusion: Residual DCIS after NAC is associated with significantly worse DFS compared to true pCR, with a trend toward worse OS. These findings, previously unreported in the literature, suggest that the current pCR definition (ypT0/is) may underestimate the full prognostic value of the complete absence of residual disease. The distinction between ypT0 and ypT0/is should be considered in future clinical trial design and in the individualized management of breast cancer patients undergoing NAC.

Ethics: Public data – Literature review.

Registry: The study protocol was registered in the International Prospective Register of Systematic Reviews (PROSPERO) CRD420261300828.

Keywords: breast cancer; chemotherapy; neoadjuvant therapy.

PRESENTATION: ORAL PRESENTATION (GENERAL SESSION) – 2ND BEST SYSTEMIC TREATMENT STUDY

<https://doi.org/10.29289/259453942025V36S10974>

974 – The relationship between tumor-infiltrating lymphocytes, pathologic complete response, and event-free survival in patients with early-stage triple-negative breast cancer treated with the KEYNOTE-522 regimen in a real-world scenario

Renata Colombo Bonadio¹, Mariana Ribeiro Monteiro¹, Wesley Antonio Lopes Lima¹, Matheus Oliveira Andrade¹, Mayana Lopes Brito¹, Debora Melo Gagliato¹, Maria Marcela Fernandes Monteiro¹, Romualdo Barroso-Sousa¹

¹Grupo Brasileiro de Estudos do Câncer de Mama – São Paulo (SP), Brazil.

Introduction: Tumor-infiltrating lymphocytes (TILs) are established prognostic and predictive biomarkers in early-stage triple-negative breast cancer (eTNBC). The addition of pembrolizumab to neoadjuvant chemotherapy (NAC) improves outcomes, as demonstrated in the KEYNOTE-522 trial. The role of TILs in this setting warrants further evaluation.

Methods: Neo-Real/GBECAM-0123 is a retrospective multicenter cohort including patients with stage II–III TNBC treated with pembrolizumab plus NAC in Brazil and Argentina since 2020. Baseline stromal TILs were assessed on pre-treatment biopsies according to international guidelines and categorized as <30%, 30–49%, or ≥50%. Associations with pathologic complete response (pCR) and event-free survival (EFS) were analyzed using logistic and Cox regression models.

Results: Among 248 patients (median age of 44 years; 70.8% had stage II disease), TILs <30%, 30–49%, and ≥50% were observed in 72.6%, 12.9%, and 14.5%, respectively. In multivariable analysis, TILs ≥50% (odds ratio [OR] 6.96; 95% confidence interval [CI] 1.88–25.65; $p=0.004$) and Ki-67 expression ≥50% (OR 4.88; 95%CI 2.31–10.32; $p<0.001$) were strongly associated with pCR. Nearly all patients with both high TILs and Ki-67 achieved pCR. At a median follow-up of 24 months, pCR was associated with improved 2-year EFS (95.9% *vs.* 76.5%; $p<0.001$). In multivariable Cox analysis, pCR (hazard ratio [HR] 0.20; 95%CI 0.07–0.54; $p=0.002$) and clinical stage (HR 3.68 for stage III *vs.* stage II; $p=0.002$) were independent predictors of EFS, whereas TILs were not. Among patients with pCR, 2-year EFS exceeded 93% across TIL strata. In those with residual disease, EFS appeared numerically higher with increasing TILs, though analyses were limited by small sample sizes.

Conclusion: In this real-world cohort, high baseline TILs and Ki-67 were strongly associated with higher pCR rates with pembrolizumab plus NAC. Long-term outcomes were primarily driven by pathologic response and stage, highlighting the prognostic importance of achieving pCR.

Ethics: Research Ethics Committee Approval (CAAE 67950623.0.1001.0068).

Keywords: triple-negative breast cancers; neoadjuvant therapy; pembrolizumab; tumor infiltrating lymphocytes.

PRESENTATION: E-POSTER

<https://doi.org/10.29289/259453942025V36S10912>

912 – Impact of delays in updating breast cancer brazilian clinical protocols and therapeutic guidelines on pathologic complete response

Daniela Cristina Camarotti, Edson Duarte Moreira Junior, Mauro Froes Assunção

¹Hospital Santo Antônio, Obras Sociais Irmã Dulce – Salvador (BA), Brazil.

²Fundação Oswaldo Cruz, Instituto Gonçalo Moniz – Salvador (BA), Brazil.

Introduction: Pathologic complete response (pCR) after neoadjuvant chemotherapy is associated with improved outcomes in breast cancer. In the Brazilian Unified Health System, delays in updating the Clinical Protocols and Therapeutic Guidelines (PCDT) limit access to modern therapies. Trastuzumab is the only anti-human epidermal growth factor receptor 2 (HER2) therapy available in the neoadjuvant setting. Although incorporated in 2012, access remains uneven. The 2024 PCDT update included trastuzumab emtansine (T-DM1) for HER2+ patients with residual disease; however, dual HER2 blockade and pembrolizumab are still unavailable, potentially impacting pCR rates.

Methods: This cross-sectional study included 286 women who underwent surgery after neoadjuvant chemotherapy between 2018 and 2021. Tumors were classified by molecular subtype. Trastuzumab use and the number of doses were recorded in HER2+ patients. pCR was defined as the absence of invasive disease in the breast and axilla.

Results: Mean age was 51 years; 58% had stage III disease. Overall pCR rate was 22%. Higher rates were observed in HER2/hormone receptor (HR)– (48.8%), triple-negative (26.1%), and HER2/HR+ (25%) tumors, while HR+ tumors had 8.5% ($p < 0.05$). Among HER2+ patients, 63.3% received trastuzumab, but only 31.6% received ≥ 4 doses. pCR rates according to the number of trastuzumab doses were 56%, 50%, 25%, and 20% for ≥ 4 , 3, 2, and 1 doses, respectively. In HER2/HR– tumors, the difference in pCR rates between no trastuzumab and ≥ 4 doses was 45.3 percentage points. In 66.7% of cases, the time from request to first dose exceeded three months. After a median follow-up of 4.3 years, pCR was associated with lower rates of metastasis (11.1% vs. 36.3%) and no deaths; 22.4% of patients with residual disease died ($p < 0.001$).

Conclusion: pCR rates were lower than those reported in clinical trials, reflecting outdated regimens and inconsistent access to trastuzumab. Under the 2024 PCDT criteria, inadequate neoadjuvant therapy may limit eligibility for T-DM1, reinforcing disparities between policy and real-world care.

Ethics: Research Ethics Committee Approval (CAAE 76014923.2.0000.0047).

Keywords: breast neoplasms; neoadjuvant therapy; pathologic complete response; health services accessibility; Brazil.

PRESENTATION: ORAL PRESENTATION (GENERAL SESSION)

<https://doi.org/10.29289/259453942025V36S10933>

933 – Impact of metabolic syndrome on survival outcomes in breast cancer: real-world evidence from a tertiary cohort

Marcelo Antonini^{1,2}, Amanda Leal Guimaraes^{1,2}, Andre Mattar¹, Francisco Pimentel Cavalcante¹, Felipe Zerwes¹, Fabricio Palermo Brenelli¹, Eduardo Camargo Millen¹, Antonio Luis Frasson¹

¹Brazilian Breast Cancer Association Team – São Paulo (SP), Brazil.

²Hospital do Servidor Público Estadual – São Paulo (SP), Brazil.

Introduction: Metabolic syndrome (MetS) has been increasingly recognized as a potential modifier of cancer outcomes. However, its impact on survival in breast cancer patients remains uncertain, particularly in real-world populations and across different molecular subtypes.

Objective: To evaluate the association between MetS and survival outcomes in breast cancer patients using real-world data.

Methods: This retrospective cohort study included 1,962 women with histologically confirmed invasive breast cancer treated with curative intent between 2014 and 2024 at a tertiary public center. MetS was defined according to established international criteria. Overall survival (OS) and breast cancer-specific survival (BCSS) were estimated using the Kaplan–Meier method and compared using the log-rank test. Multivariable Cox proportional hazards models were applied to adjust for age, clinical stage, molecular subtype, and treatment modalities.

Results: MetS was identified in 486 patients (24.8%). Patients with MetS were older and had significantly higher body mass index and prevalence of cardiometabolic comorbidities, including hypertension, dyslipidemia, and glucose intolerance (all $p < 0.001$). After a median follow-up of 96 months, MetS was associated with significantly worse survival outcomes. Mean OS was 112.4 months in the MetS group compared with 142.8 months in patients without MetS (log-rank $p = 0.012$). Similarly, BCSS was significantly reduced in the MetS group (115.1 vs. 145.3 months; log-rank $p = 0.018$). In multivariable analysis, MetS remained independently associated with worse OS (hazard ratio [HR] 1.42; 95% confidence interval [CI] 1.08–1.86; $p = 0.011$) and BCSS (HR 1.38; 95%CI 1.01–1.88; $p = 0.042$), without interaction with molecular subtype.

Conclusion: MetS is independently associated with worse survival outcomes in breast cancer in a real-world setting, regardless of tumor molecular subtype. These findings support the integration of metabolic assessment into oncologic risk stratification and management.

Ethics: The study was approved by the institutional ethics committee and registered in the Plataforma Brazil (CAAE 61004522.6.0000.5463).

Keywords: breast neoplasms; metabolic syndrome; survival analysis; prognosis; cohort studies.

PRESENTATION: ORAL PRESENTATION (GENERAL SESSION)

<https://doi.org/10.29289/259453942025V36S11068>

1068 – Adjuvant capecitabine in residual triple-negative breast cancer after carboplatin-based neoadjuvant chemotherapy: a real-world cohort

Grazielle Morais Tavares¹, Susana Oliveira Botelho Ramalho¹, Leonardo Roberto Silva¹, Guilherme Defante Telles¹, Geisilene Russano Paiva Silva¹, Renato Zocchio Torresan¹, Sophie Francoise Mauricette Derchain¹

¹Universidade Estadual de Campinas, Hospital da Mulher Prof. Dr. José Aristodemo Pinotti, Centro de Atenção Integral à Saúde da Mulher – Campinas (SP), Brazil.

Introduction: Patients with triple-negative breast cancer (TNBC) who do not achieve pathologic complete response (pCR) after neoadjuvant chemotherapy have a worse prognosis. Adjuvant capecitabine has demonstrated benefit in selected populations, but its role after prior carboplatin exposure remains uncertain, particularly in real-world public healthcare settings.

Methods: This retrospective cohort included 111 patients with residual TNBC after carboplatin-containing neoadjuvant chemotherapy between 2017 and 2023, with follow-up until June 2025. Patients were stratified according to adjuvant capecitabine use and residual cancer burden (RCB). Disease-free survival (DFS) and overall survival (OS) were estimated using Kaplan–Meier methods and Cox regression models.

Results: Among patients with residual disease, 44 received adjuvant capecitabine. Capecitabine-treated patients were younger and more likely to have higher residual tumor burden (RCB II–III), suggesting potential confounding by indication. No significant improvement in DFS (hazard ratio [HR] 0.96; 95% confidence interval [CI] 0.52–1.78) or OS (HR 0.70; 95%CI 0.33–1.46) was observed. Stratified analyses by RCB showed no significant benefit in either subgroup. Multivariable models confirmed that capecitabine was not independently associated with survival outcomes, while the Ki-67 proliferation index remained a prognostic factor.

Conclusion: In this real-world cohort of patients with residual TNBC after carboplatin-based neoadjuvant chemotherapy, adjuvant capecitabine was not associated with improved survival outcomes, regardless of residual disease burden. These findings differ from prior trials conducted in platinum-naïve populations and highlight the uncertainty regarding the benefit of capecitabine, particularly in the context of prior platinum exposure, reinforcing the need for optimized treatment strategies in this high-risk population.

Ethics: Research Ethics Committee Approval (CAAE 57159722.3.2002.5404).

Keywords: triple-negative breast cancer; capecitabine; residual disease; residual cancer burden; neoadjuvant therapy.

PRESENTATION: ORAL PRESENTATION (GENERAL SESSION)

<https://doi.org/10.29289/259453942025V36S11074>

1074 – Human epidermal growth factor receptor 2-low is not a distinct subgroup in breast cancer patients undergoing neoadjuvant chemotherapy

Daniel Guimarães Tiezzi^{1,2}, Laura de Martin Coletti^{1,2}, Gustavo Motta Cabello dos Santos^{1,2}, Anastácia de Souza Freias^{1,2}, Maria Fernanda Imperio Pereira^{1,2}, Renato Pontes Sader^{1,2}, Joao Paulo Cheles de Lima^{1,2}, Isabela Panzeri Carlotti Buzatto^{1,2}

¹Universidade de São Paulo, Faculdade de Medicina de Ribeirão Preto – Ribeirão Preto (SP), Brazil.

²Hospital das Clínicas de Ribeirão Preto, Setor de Mastologia – Ribeirão Preto (SP), Brazil.

Introduction: Breast cancer is a heterogeneous disease, and patients with low expression of human epidermal growth factor receptor 2 (HER2) benefit from antibody-drug conjugate therapies.

Objective: To investigate the association between HER2-low status and survival and pathologic complete response (pCR) in breast cancer patients undergoing neoadjuvant chemotherapy.

Methods: Prospectively collected data were analyzed from 2010 to 2021 for a total of 544 patients with locally advanced breast cancer subjected to neoadjuvant chemotherapy. HER2 expression was determined by immunohistochemistry and *in situ* hybridization, and HER2-low was defined as an immunohistochemistry score of 1+ or 2+ and non-amplified *in situ* hybridization. Kaplan–Meier methods and Cox regression models were used for survival analyses, and logistic regression for pCR.

Results: The study identified 78 HER2-low/hormone receptor (HR)–, 90 HER2-low/HR+, 76 HER2+/HR+, 74 HER2+/HR–, 92 luminal, and 134 triple-negative breast cancers (TNBC). Overall survival was strongly associated with hormone receptor (HR) status (hazard ratio [HR] 0.5; 95% confidence interval [CI] 0.3–0.8) and clinical stage (HR 2.4; 95%CI 1.6–3.6), independent of HER2-low status. Consequently, patients were stratified into subgroups according to HR: ER+ group (HER2-low/HR+, HER2+/HR+ and luminal) and ER- group (HER2-low/HR–, HER2+/HR– and TNBC). HER2+ patients achieved the highest pCR rate (52.7% in ER- group [p<0.001] and 33% in ER+ group [p<0.001]). HER2-low/HR+ and HER2-low/HR- patients achieved similar pCR rates (6.7% and 30.8%, respectively) compared to luminal tumors (8.7%; p= 0.80) and TNBC (25.4%; p=0.50), respectively. The prognosis of HER2-low tumors was similar to that of luminal or HER2+/HR+ tumors (HR 1.2; 95%CI 0.6–2.3 and HR 2.3; 95%CI 0.8–6.3), and TNBC or HER2+/HR- (HR 0.9; 95%CI 0.6–1.5 and HR 0.8; 95%CI 0.2–3.4), respectively.

Conclusion: HER2-low does not define an independent predictive and prognostic subgroup.

Ethics: Research Ethics Committee Approval (CAAE 38438620.3.0000.5440).

Funding: National Council for Scientific and Technological Development (CNPq), Process No. 307801/2025-0.

Keywords: breast cancer; molecular subtype; neoadjuvant therapy.

PRESENTATION: ORAL PRESENTATION (FAST PRESENTATION)

<https://doi.org/10.29289/259453942025V36S11062>

1062 – Breast pathologic complete response fails while axillary response persists: a breast multicenter study developing a nomogram for predictive accuracy across luminal subtypes

Marcelo Antonini^{1,2}, Andre Mattar^{1,3}, Francisco Pimentel Cavalcante¹, Felipe Zerwes¹, Fabricio Palermo Brenelli¹, Eduardo Camargo Millen¹, Antonio Luis Frasson¹, Luiz Henrique Gebrim¹

¹Brazilian Breast Cancer Association Team – São Paulo (SP), Brazil.

²Hospital do Servidor Público Estadual – São Paulo (SP), Brazil.

³Hospital da Mulher, Centro de Referência da Saúde da Mulher – São Paulo (SP), Brazil.

Introduction: Pathologic complete response (pCR) is commonly used as a surrogate endpoint in breast cancer; however, its clinical relevance in luminal tumors remains uncertain due to low response rates.

Objective: To evaluate breast and axillary response patterns and to develop and externally validate predictive models in luminal breast cancer (LBC).

Methods: This multicenter retrospective study included patients with LBC treated with neoadjuvant chemotherapy between 2011 and 2022. Patients were classified as Luminal A (LA) or Luminal B (LB) based on Ki-67 expression. The Hospital Pérola Byington cohort (n=725) was used for model derivation, and the Hospital do Servidor Público Estadual (HSPE) cohort (n=123) for validation. Breast pCR was defined as ypT0/is/ypN0. Multivariable logistic regression models incorporating age, clinical T and N stage, histological grade, estrogen and progesterone receptor expression, and the Ki-67 index were constructed. Discrimination was assessed using the area under the receiver operating characteristic (ROC) curve (AUC). Baseline characteristics were comparable between cohorts, demonstrating homogeneous populations.

Results: A total of 848 patients were analyzed. Breast pCR rates were low in both cohorts (Pérola: 3.8%; HSPE: 3.2%), particularly in LA tumors. Predictive modeling for breast pCR demonstrated poor discrimination (AUC=0.37), with similarly limited performance across subtypes (LA AUC=0.34; LB AUC=0.41). In contrast, axillary response rates were substantially higher (Pérola: 31.4%; HSPE: 28.5%) and showed clear biological stratification. LB tumors demonstrated higher response rates compared to LA tumors. The axillary predictive model showed moderate discrimination in the derivation cohort (AUC=0.68), with improved performance in LB (≈ 0.72) compared to LA (≈ 0.61). External validation confirmed consistent performance in the HSPE cohort (AUC=0.65), supporting the model's reproducibility.

Conclusion: Breast pCR is rare and poorly predictable in LBC, limiting its role as a surrogate endpoint. Conversely, axillary response is more frequent, biologically stratified, and reproducible across centers, supporting its use as a more clinically relevant endpoint.

Ethics: The study was approved by Plataforma Brasil (CAAE 39097520.4.1001.546).

Keywords: breast neoplasms; neoadjuvant therapy; luminal breast cancer; sentinel lymph node biopsy; real-world data.

PRESENTATION: E-POSTER

<https://doi.org/10.29289/259453942025V36S10946>

946 – Predictors of four versus six cycles of adjuvant docetaxel–cyclophosphamide in hormone receptor-positive early breast cancer

Wesley Antonio Lopes Lima¹, Rafaela Lopes da Silva Naves¹, Renata Colombo Bonadio¹, Beatriz Pego Damasceno¹, Carla Araujo Vieira Cavalcanti¹, Lucas Amorim Gouvea¹, Gabriela Junqueiro Filho¹, Laura Testa¹

¹Instituto D’Or de Pesquisa e Ensino – São Paulo (SP), Brazil.

Introduction: Docetaxel and cyclophosphamide (TC) are a commonly used anthracycline-free regimen for hormone receptor-positive (HR+) early-stage breast cancer. Although typically administered for four to six cycles, the optimal number remains uncertain.

Objective: To identify clinical and pathological factors associated with the number of TC cycles prescribed in real-world practice.

Methods: A retrospective multicenter analysis was conducted in Brazil, including patients with HR+ early-stage breast cancer treated between 2018 and 2025 who underwent surgery followed by adjuvant TC. Variables analyzed included age, menopausal status, tumor size, nodal status, histologic grade, and Ki-67 expression. The primary comparison was between patients receiving four *versus* six cycles. For those receiving four cycles, it was assessed whether this was preplanned or shortened due to toxicity. Logistic regression was used to evaluate factors associated with receiving six cycles.

Results: A total of 372 patients were included: 206 (55.4%) received four cycles and 166 (44.6%) received six cycles. Among patients receiving four cycles, 87.9% had this planned initially, while only 1.9% discontinued early due to toxicity. The reasons were undocumented in 10.2% of cases. Patients receiving six cycles were slightly younger (median 50 *vs.* 52 years; $p=0.025$), had more lymph node involvement (pN1: 42.2% *vs.* 19.9%; pN2: 3.6% *vs.* 0.9%; $p<0.001$), and more grade 3 tumors (34.3% *vs.* 28.6%; $p=0.048$). No significant differences were observed in tumor size, menopausal status, or Ki-67 expression. In multivariable analysis, younger age, higher tumor grade, and positive nodal status were associated with receiving six cycles.

Conclusion: TC treatment duration appears to be influenced by both disease characteristics and clinical judgment. Higher-risk features favor the use of six cycles, while older patients are less likely to receive extended treatment. Further studies are necessary to determine whether six cycles provide superior outcomes compared to four when adjusted for baseline risk factors.

Ethics: Research Ethics Committee Approval (CAAE 73097723.1.0000.0087).

Keywords: early breast cancer; hormone receptor-positive; adjuvant chemotherapy.

<https://doi.org/10.29289/259453942025V36S10967>

967 – Tumor-infiltrating lymphocytes predict pathologic complete response in human epidermal growth factor receptor 2 (HER2)-positive breast cancer treated with neoadjuvant therapy

Karen Lorena Morocho España¹, Cinthya Abigail Apolo Carrion¹, Martina Parenza Arenhardt¹, Cassio Fernando Paganini¹, João Pattussi Bertinatti¹, Tomás Reinert¹

¹Irmandade da Santa Casa de Misericórdia de Porto Alegre, Hospital Santa Rita – Porto Alegre (RS), Brazil.

Introduction: Tumor-infiltrating lymphocytes (TILs) have emerged as a relevant immune biomarker associated with response to systemic therapy in human epidermal growth factor receptor 2 (HER2)-positive breast cancer, with potential implications for treatment personalization.

Methods: A retrospective study was conducted at a tertiary cancer center between January 2021 and June 2025. Thirty-six patients with HER2-positive breast cancer treated with neoadjuvant chemotherapy combined with anti-HER2 therapy were included. TIL levels were assessed in pretreatment biopsy samples according to the International TILs Working Group recommendations. Pathological response was evaluated using the Residual Cancer Burden (RCB) classification, with pathologic complete response (pCR) defined as the absence of invasive disease in the breast and axillary lymph nodes. The association between TIL levels and pCR was analyzed using the Mann–Whitney U test.

Results: The median age was 54 years. Most patients had stage I–III disease, predominantly stage II and high-grade (grade 3) tumors, with 25% hormone receptor positivity. The pCR rate was 69.4% (25/36). TIL distribution was as follows: 30.6% very low (0–10%), 19.4% low (11–20%), 38.9% intermediate (21–50%), and 11.1% high (>50%). Patients who achieved pCR had significantly higher pretreatment TIL levels than those without pCR (mean rank 21.72 *vs.* 11.18; *p*=0.004).

Conclusion: Higher pretreatment TIL levels were significantly associated with an increased likelihood of pCR in HER2-positive breast cancer treated with neoadjuvant therapy. These findings support the role of TILs as predictive biomarkers and reinforce their potential to guide personalized treatment strategies.

Ethics: Research Ethics Committee Approval (CAAE 91378525.2.0000.5335).

Keywords: breast neoplasms; pathologic complete response; neoadjuvant therapy; tumor-infiltrating lymphocytes.

<https://doi.org/10.29289/259453942025V36S10975>

975 – The high unmet need among patients with early relapse after the KEYNOTE-522 regimen: evidence from the Neo-Real/GBECAM-0123 study

Renata Colombo Bonadio¹, Natalia Cristina Cardoso Nunes¹, Wesley Antonio Lopes Lima¹, Matheus Oliveira Andrade¹, Mayana Lopes Brito¹, Debora Melo Gagliato¹, Maria Marcela Fernandes Monteiro¹, Romualdo Barroso-Sousa¹

¹Grupo Brasileiro de Estudos do Câncer de Mama – São Paulo (SP), Brazil.

Introduction: Triple-negative breast cancer (TNBC) is an aggressive subtype marked by a high risk of early recurrence, typically within two years of treatment. With the incorporation of pembrolizumab into neoadjuvant chemotherapy as in the KEYNOTE-522 regimen, real-world data on recurrence patterns remain limited.

Objective: To describe rates and patterns of early recurrence in patients treated with pembrolizumab-based neoadjuvant chemotherapy.

Methods: Neo-Real/GBECAM-0123 is a real-world cohort including TNBC patients treated with pembrolizumab plus neoadjuvant chemotherapy across Brazil and Argentina since 2020. Early recurrence was defined as progression during therapy or recurrence within six months after treatment completion; subsequent events were classified as late recurrence. Event-free survival and overall survival were calculated from diagnosis.

Results: Among 726 patients (median age 44 years), most had stage II disease (70.5%), grade 3 tumors (68.9%), and high proliferation (Ki-67 expression $\geq 50\%$ in 71.1%); 14.5% carried BRCA1/2 pathogenic variants. After a median follow-up of 22 months, 74 patients (10.2%) developed recurrence, and eight (1.1%) died without recurrence. Two-year event-free survival was 86.9%. Of the recurrences, 67.6% were early, including a small proportion with progression during neoadjuvant therapy that precluded surgery. Early recurrence occurred in 2.1% of patients who achieved pathologic complete response *versus* 15.2% in those with residual disease ($p < 0.001$). Among patients with early recurrences after surgery, 80.4% had residual disease. Recurrence patterns differed by response: central nervous system involvement was common among patients with pathologic complete response, while locoregional, nodal, and visceral recurrences predominated in those with residual disease. Post-recurrence survival was poor among patients with early relapse. Two-year overall survival was 95.6%, but only 62.3% among patients with early recurrence *versus* 91.0% among those with late recurrence.

Conclusion: Most recurrences following pembrolizumab plus neoadjuvant chemotherapy occur early and are strongly associated with residual disease and poor survival. These findings highlight a critical unmet need for effective post-neoadjuvant strategies in high-risk TNBC patients.

Ethics: Research Ethics Committee Approval (CAAE 67950623.0.1001.0068).

Keywords: triple-negative breast cancers; recurrence; treatment outcome; pembrolizumab.

<https://doi.org/10.29289/259453942025V36S10977>

977 – Dose adjustments and adherence to adjuvant abemaciclib in a Brazilian real-world scenario

Renata Colombo Bonadio¹, Livia Maria Gruber Holland¹, Carla Araujo Vieira Cavalcanti¹, Jordana Faria Bessa¹, Paulo Henrique do Amor Divino¹, Rafaela Lopes da Silva Naves¹, José Bines, Laura Testa¹

¹Instituto D'Or de Pesquisa e Ensino – São Paulo (SP), Brazil.

Introduction: Abemaciclib combined with endocrine therapy is an established adjuvant treatment for high-risk hormone receptor-positive (HR+), human epidermal growth factor receptor 2 (HER2)-negative early breast cancer. However, its prolonged use (up to two years) poses challenges related to tolerability and adherence, given the toxicity profile of CDK4/6 inhibitors. Common adverse events such as diarrhea, fatigue, and hematologic toxicity may lead to dose modifications or discontinuation. Real-world data are important to better characterize treatment patterns and adherence.

Methods: This retrospective study evaluated patients with high-risk HR+ early breast cancer treated with adjuvant abemaciclib between 2019 and 2025 in Brazil. Key endpoints included initial dosing, treatment interruptions, dose reductions, maintenance dosing, permanent discontinuation, and reasons for discontinuation.

Results: A total of 189 patients were included (median age 47 years; 58.7% premenopausal). Most tumors were stage II–III, grade 2–3, and had Ki-67 expression $\geq 20\%$. Over half received neoadjuvant chemotherapy. Most patients (86.8%) received aromatase inhibitors, and 53.9% had ovarian suppression. Nearly all patients (93.3%) initiated abemaciclib at the standard dose (300 mg daily). At the time of analysis, 18.5% had completed the planned two years. Dose interruptions occurred in 27.6% and dose reductions in 43.1%. After dose adjustments, 58.2% maintained 300 mg daily, while others required lower doses. Permanent discontinuation due to toxicity occurred in only 6.3%, typically after prior dose reductions. Grade ≥ 3 diarrhea and neutropenia occurred in 6.3% and 7.4%, respectively. Among patients with adherence data, 91.5% maintained good adherence ($\geq 70\%$ of prescribed doses).

Conclusion: Dose modifications are common during adjuvant abemaciclib therapy in real-world practice. However, discontinuation rates are low, suggesting that proactive toxicity management with dose adjustments supports treatment adherence. These findings reinforce the importance of close monitoring and individualized dosing strategies to maintain treatment persistence without compromising efficacy in the adjuvant setting.

Ethics: Research Ethics Committee Approval (CAAE 73097723.1.0000.0087).

Keywords: abemaciclib; hormone receptor-positive; early breast cancer.

<https://doi.org/10.29289/259453942025V36S10978>

978 – The impact of axillary lymph node dissection on the indication of adjuvant abemaciclib in high-risk hormone receptor-positive breast cancer: real-world analysis from a multicenter cohort in Brazil

Livia Maria Gruber Holland¹, Laura Testa, Carla Araujo Vieira Cavalcanti¹, Jordana Faria Bessa¹, Karolina Cayres¹, Rafaela Lopes Silva Naves¹, José Bines¹, Renata Colombo Bonadio¹

¹Instituto D'Or de Pesquisa e Ensino – São Paulo (SP), Brazil.

Introduction: Adjuvant abemaciclib combined with endocrine therapy improves outcomes in patients with high-risk, hormone receptor-positive (HR+)/human epidermal growth factor receptor 2 (HER2)-negative early breast cancer. Lymph node involvement is a key determinant of recurrence risk and treatment decisions. However, the role of axillary dissection remains uncertain, particularly when nodal burden may influence eligibility for systemic therapy.

Objective: To evaluate how often axillary dissection is essential to determine eligibility for adjuvant abemaciclib in real-world practice.

Methods: This multicenter retrospective study included patients with early-stage HR+/HER2– breast cancer treated between 2018 and 2025 in a Brazilian cancer network. Eligibility for adjuvant abemaciclib was assessed using the monarchE criteria, applied sequentially: (1) node-positive disease with a grade 3 or a tumor ≥ 5 cm; (2) node-positive disease with Ki-67 expression $\geq 20\%$; and (3) ≥ 4 positive axillary lymph nodes. Patients meeting only the third criterion were considered dependent on axillary dissection for treatment indication.

Results: Among 656 patients, 284 (43.3%) met the criteria for adjuvant abemaciclib. Median age was 49 years, and 52.8% were premenopausal. Most tumors were ductal (72.2%), grade 2–3, and had Ki-67 expression $\geq 20\%$ (80.6%). Clinical stages were predominantly T2–T3 and N1. Neoadjuvant chemotherapy was used in 46.8% of patients, and 51.1% received adjuvant chemotherapy. Axillary surgery included sentinel lymph node biopsy in 51.4% and axillary dissection in 44.0%. Most patients eligible for abemaciclib met criteria based on combinations of nodal involvement with tumor size, grade, or Ki-67 expression. Only a small proportion qualified exclusively due to having ≥ 4 positive lymph nodes, indicating reliance on axillary dissection for treatment eligibility.

Conclusion: In this real-world cohort, few patients required axillary dissection solely to establish eligibility for adjuvant abemaciclib. These findings suggest that axillary dissection should not be routinely performed for this purpose, supporting more conservative surgical approaches without compromising systemic treatment decisions.

Ethics: Research Ethics Committee Approval (CAAE 73097723.1.0000.0087).

Keywords: abemaciclib; early breast cancer; hormone receptor-positive.

<https://doi.org/10.29289/259453942025V36S11019>

1019 – Psychosocial and behavioral map of patients for decision-making and quality of life in breast cancer treatment

Gisele Sales Gengo¹, Solange Moraes Sanches¹, Silvana Soares Santos¹, Fabiana Baroni Makdissi¹

¹A.C. Camargo Cancer Center – São Paulo (SP), Brazil.

Introduction: In breast cancer, incorporating patient-centered care is associated with improved quality of life and psychosocial outcomes. Structured psychosocial assessment tools allow the characterization of individual preferences, enhancing shared decision-making and therapeutic alignment with patient priorities.

Objective: To evaluate the impact of psychosocial assessments on understanding the behavioral profile and expectations of breast cancer patients, aiming to optimize clinical management and treatment engagement.

Methods: This quasi-experimental study included 91 women aged 22–75 years undergoing treatment between 2021 and 2025, all of whom provided informed consent. The DISC assessment was applied, a structured behavioral profile instrument derived from William Marston's theory (1928), measuring four factors: Dominance (D) – assertive, decisive traits oriented to results and challenges; Influence (I) – sociable, persuasive, relational, and optimistic; Steadiness (S) – patient, loyal, collaborative, preferring predictability and routines; Conformity (C) – analytical, precise, systematic, and adherent to rules and quality. The DISC assessment was administered together with a structured psychosocial questionnaire (Likert scale) for evaluating values, expectations, distress, and therapeutic understanding. Descriptive analyses were performed.

Results: The Steadiness (S) profile was predominant (45%), exceeding the population average of 35–36% and demanding predictable communication, stable routines, and continuous emotional support. Influence (I) (27%) responded to relational bonds and recognition; Conformity (C) (18%), to analytical data, evidence, and clear processes; and Dominance (D) (10%), to direct, objective approaches and focus on quick resolutions. Expectations prioritized cure (76%) and disease control (20%), with 59% desiring the best treatment with low toxicity (40.7% accepting higher risk for benefit). Active participation in decisions was reported by 79.1% of patients. The main negative factors were hair loss (58.7%) and financial impact (70%). The positives were support groups (100%), partner support (72%), spirituality (51%), scientific trust (34%)—reinforcing personalized approaches for adherence.

Conclusion: Systematic integration of psychosocial assessments captures subjective dimensions often underreported, enhancing physician-patient communication and favoring shared decisions. This approach broadens therapeutic alignment, optimizes toxicity management, and contributes to social reintegration by integrating biomedical and psychosocial variables into oncology practice.

Ethics: Research Ethics Committee Approval (CAAE 82383624.4.0000.5432).

Keywords: breast cancer; shared decision-making; quality of life; social reintegration; overcoming.

<https://doi.org/10.29289/259453942025V36S11022>

1022 – Glucagon-like peptide-1 receptor agonists and breast cancer: current evidence and clinical perspectives

Isabella Azevedo Queiroz¹, Letícia Martins de Araújo Campos Linhares¹, Letícia Pereira Mendonça¹, Ana Claudia Barros de Laurentys¹, Waldeir José de Almeida Junior¹, Anna Dias Salvador¹, José Tadeu Campos de Avelar¹, Renata Capanema Saliba Franco¹

¹Rede Mater Dei de Saúde – Belo Horizonte (MG), Brazil.

Introduction: Breast cancer (BC) is the most common neoplasm in women. Obesity (body mass index ≥ 30 kg/m²) affects 1 in 8 individuals and coexists with BC in 19.6% of cases at diagnosis. Obesity is associated with higher BC incidence, worse prognosis, and is worsened by treatment-related weight gain in up to two-thirds of patients. Glucagon-like peptide-1 receptor agonists (GLP-1RA) effectively promote weight loss and reduce cardiometabolic risk, raising interest in their role among BC patients.

Objective: To assess the impact of GLP-1RAs on BC patients.

Methods: A narrative review was conducted, including English-language studies from the databases PubMed, Embase, and LILACS, and gray literature (2016–2026), using the terms “breast neoplasms”, “breast cancer”, “GLP-1 receptor agonists,” and “anti-obesity agents.” Of the 46 records identified, 27 were included following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA)-based selection.

Results: In BC patients, GLP-1RAs induce modest weight loss, potentially attenuated by endocrine therapy. Experimental studies show promising antiproliferative effects. Exenatide and liraglutide inhibit luminal cell line proliferation via AMPK α 2/miR-27a activation and NF- κ B inhibition. Semaglutide decelerates triple-negative growth in preclinical models by dendritic cell maturation and CD8+ cytotoxicity. However, supraphysiologic liraglutide concentrations promote proliferation and angiogenesis via the molecular mediators NOX4, ROS, and VEGF, accelerating tumorigenesis and underscoring the need for clinical validation of these divergent effects. Beyond direct effects, GLP-1RAs modulate the tumor microenvironment via adipokine changes, reduced systemic inflammation, and improved insulin resistance, factors tied to tumor progression. Retrospective studies show that GLP-1RA-induced metabolic benefits and weight loss mitigate obesity-driven hormonal imbalance, reducing BC risk and disease progression and enhancing treatment response, including lower circulating tumor DNA (ctDNA) levels.

Conclusion: GLP-1RA use in BC patients promotes significant weight loss with potential indirect prognostic impact. However, effects on tumor biology are inconsistent; thus, though promising as an adjuvant metabolic strategy, their oncologic role remains inconclusive. Accordingly, gaps regarding the interactions of these agents with different tumor subtypes are expected to be addressed, directing their use toward improved oncologic outcomes in well-selected patients.

Ethics: Public data – Literature review.

Keywords: breast neoplasms; glucagon-like peptide-1 receptor agonists; anti-obesity agents; breast cancer.

<https://doi.org/10.29289/259453942025V36S11034>

1034 – Molecular reclassification after neoadjuvant chemotherapy in breast cancer: a preliminary analysis from a breast oncology service

Stephani da Costa e Sousa Freire da Silva¹, Giulia Severini Lazarini¹, Fernanda Mayumi Tengan¹, Rodrigo Macedo da Silva¹, Vinicius Miranda Borges¹, Carlos Elias Fristachi¹, Fábio Francisco Oliveira Rodrigues¹

¹Instituto do Câncer Dr. Arnaldo de Vieira de Carvalho – São Paulo (SP), Brazil.

Introduction: Neoadjuvant chemotherapy can induce changes in the immunohistochemical (IHC) profile of breast cancer, with conversion of the status of the main biomarkers—estrogen receptor (ER), progesterone receptor (PR), human epidermal growth factor receptor 2 (HER2), and Ki-67 expression—directly impacting adjuvant therapeutic decisions.

Objective: To evaluate these changes in patients treated at the Breast Care Service of the Dr. Arnaldo Cancer Institute, São Paulo.

Methods: This retrospective descriptive study was based on a database (2023–2025). Patients undergoing neoadjuvant chemotherapy with IHC evaluation of pretreatment biopsy and surgical specimens were included. The variables analyzed were ER, PR, HER2, molecular subtype, and pathological response. Cases without paired IHC evaluations were excluded.

Results: Of the 182 patients who received chemotherapy, 51 had a documented pathological response: complete in six (11.8%), partial in 32 (62.7%), and absent in 13 (25.5%). Among the 49 cases with a defined pre-chemotherapy subtype, triple-negative (n=19; 38.8%) and Luminal B HER2- (n=16; 32.7%) predominated. In the 34 pairs with ER evaluation, two cases (5.9%) showed conversion from positive to negative. In the 39 pairs with HER2 evaluation, one case (2.6%) converted from HER2 3+ to negative. In the 22 cases with paired subtyping, molecular reclassification was observed in six (27.3%), including three conversions from Luminal B to Luminal A and one from Luminal B HER2+ to triple-negative.

Conclusion: The changes in the IHC profile observed after neoadjuvant chemotherapy may reflect the effect of treatment on the residual tumor and not necessarily the original tumor biology and therefore should be interpreted with caution. The study is ongoing, with data collection still in progress. Expanding the sample size will allow for analyses with greater statistical power and a more complete evaluation of the clinical impact of biomarker conversions on adjuvant treatment.

Ethics: Research Ethics Committee Approval (CAAE 74462723.1.0000.5471).

Keywords: breast neoplasms; neoadjuvant chemotherapy; immunohistochemistry; biomarker conversion; molecular subtype.

<https://doi.org/10.29289/259453942025V36S11066>

1066 – Pathologic complete response and survival outcomes after carboplatin-based neoadjuvant chemotherapy in triple-negative breast cancer: a real-world cohort

Grazielle Morais Tavares¹, Susana Oliveira Botelho Ramalho¹, Leonardo Roberto Silva¹, Guilherme Defante Telles¹, Geisilene Russano de Paiva Silva¹, Renato Zocchio Torresan¹, Sophie Francoise Mauricette Derchain¹

¹Universidade Estadual de Campinas, Hospital da Mulher Prof. Dr. José Aristodemo Pinotti, Centro de Atenção Integral à Saúde da Mulher – Campinas (SP), Brazil.

Introduction: Triple-negative breast cancer (TNBC) is an aggressive subtype of breast cancer associated with a high risk of early relapse. The addition of carboplatin to neoadjuvant chemotherapy increases pathologic complete response (pCR) rates, which are strongly associated with survival outcomes. In the Brazilian public healthcare system, immune checkpoint inhibitors are not routinely available, and chemotherapy-based regimens remain the standard of care.

Methods: This retrospective cohort included 184 women with TNBC treated with carboplatin-containing neoadjuvant chemotherapy between 2017 and 2023, with follow-up until June 2025. The study was approved by the institutional ethics committee. Associations between clinicopathological variables and pCR were evaluated. Disease-free survival and overall survival were estimated using Kaplan–Meier methods and Cox regression models.

Results: pCR was achieved in 40% of patients. Younger age, earlier clinical stage, and higher histologic grade were significantly associated with higher pCR rates. Patients achieving pCR had markedly improved outcomes, with an approximately 85% reduction in the risk of recurrence and death compared with non-pCR. Residual disease was associated with a nearly sevenfold increased risk of recurrence and death. The Ki-67 proliferation index was not associated with pCR but remained an independent prognostic factor for survival.

Conclusion: In this real-world cohort conducted within the Brazilian public healthcare system, where immunotherapy is not routinely available, carboplatin-based neoadjuvant chemotherapy achieved substantial pCR rates. In the absence of immunotherapy, optimizing chemotherapy strategies remains critical. Achieving pCR was the strongest determinant of survival, reinforcing its role as a major therapeutic goal in TNBC.

Ethics: Research Ethics Committee Approval (CAAE 57159722.3.2002.5404).

Keywords: triple-negative breast cancer; carboplatin; neoadjuvant therapy; pathologic complete response; survival.

<https://doi.org/10.29289/259453942025V36S11075>

1075 – Translating phase III trials into real-world practice: evaluation of pathologic complete response in HER2-positive breast cancer and the potential impact of antibody–drug conjugates in the neoadjuvant setting

Marina Sanches Montemor, Felicia Peterson Cavalher, Guilherme Rossato de Almeida, Fabiana Baroni Makdissi, Monique Celeste Tavares, Solange Moraes Sanches

¹A.C. Camargo Cancer Center – São Paulo (SP), Brazil.

²Universidade de São Paulo, Faculdade de Medicina, Hospital das Clínicas – São Paulo (SP), Brazil.

Introduction: Neoadjuvant therapy is a cornerstone in the management of early and locally advanced human epidermal growth factor receptor 2 (HER2)-positive breast cancer. Pathologic complete response (pCR) is a robust surrogate endpoint associated with improved prognosis and guides adjuvant treatment decisions. Dual HER2 blockade with trastuzumab and pertuzumab combined with chemotherapy has become the standard of care, yielding high pCR rates. However, lower sensitivity in estrogen receptor-positive (ER+) tumors suggests relevant biological heterogeneity. Antibody–drug conjugates, such as trastuzumab deruxtecan (T-DXd), have demonstrated high antitumor activity; data from DESTINY-Breast11 (DB-11) indicate increased pCR rates in the neoadjuvant setting. Translating these findings into clinical practice is essential to validate their real-world impact.

Methods: This retrospective study included patients with HER2-positive breast cancer treated with chemotherapy and dual anti-HER2 blockade at a cancer center between 2015 and 2024. pCR was evaluated according to ER status, chemotherapy regimen, and eligibility for DB-11.

Results: A total of 175 patients were included (median age: 44 years; stage I: 6.3%, stage II: 59.4%, and stage III: 34.3%; ER+: 69.1%; node-positive: 56.0%). The overall pCR rate was 61.1%, reaching 81.5% in ER– and 52.1% in ER+ tumors, with no differences across chemotherapy regimens. Among 116 patients eligible for DB-11, pCR was 58.6% (78.9% in ER–; 48.7% in ER+). These results were comparable to the control arm of DB-11 (56.3%; 67.1% in ER–; 52.3% in ER+).

Conclusion: Real-world findings reproduced the DB-11 control arm, reinforcing the study's external validity. The absolute increase in pCR with T-DXd (≈11%) suggests a potential clinical benefit regardless of ER status, despite response heterogeneity. These data support the rational incorporation of antibody–drug conjugates in the neoadjuvant setting and highlight the importance of translating phase III evidence into clinical practice to optimize oncologic outcomes. Cost-effectiveness analyses are ongoing.

Ethics: Research Ethics Committee Approval (CAAE 21308019.9.0000.5432).

Keywords: breast neoplasms; HER2; neoadjuvant therapy; molecular targeted therapy; pathologic complete response.

<https://doi.org/10.29289/259453942025V36S11095>

1095 – Impact of neoadjuvant systemic therapy on axillary surgical decision-making in node-positive invasive breast cancer: evidence from a tertiary public hospital in the federal district, Brazil

Érica Batista Morais, Mauro Pinto Passos, Carolina de Miranda Fuschino, Osvaldo de Alcântara Braga Aidar, Pedro Henrique Ferreira Gonzatti, Leticia Sousa Amancio da Costa, Amanda Gomes dos Santos, Miriam Monteiro Alvares Vilela

¹Hospital de Base do Distrito Federal – Brasília (DF), Brazil.

²Instituto de Gestão Estratégica de Saúde do Distrito Federal – Brasília (DF), Brazil.

Introduction: Axillary surgical de-escalation after neoadjuvant systemic therapy (NST) has emerged as a central strategy in the management of breast cancer with initial lymph node involvement; however, its safe implementation depends on accurate tumor biological stratification.

Objective: To evaluate clinical, histopathological, and molecular determinants of axillary response and their impact on surgical decision-making.

Methods: This observational, retrospective, and analytical study included 170 patients with invasive breast cancer and clinically positive axilla who underwent NST between 2022 and 2024 in a tertiary public hospital.

Results: Sentinel lymph node biopsy (SLNB) was performed in 73 patients, with an identification rate of 90.1%, while 97 underwent axillary lymph node dissection (ALND). Luminal tumors were associated with SLNB, whereas high histological grade, aggressive molecular subtypes, and more advanced clinical stage were associated with ALND. Axillary pathologic complete response was observed in 38.1% of patients undergoing ALND. In multivariate analysis, histological grade 3 was an independent predictor of pathologic complete response (prevalence ratio [PR] 1.67; 95% confidence interval [CI] 1.01–2.77; $p=0.045$) and of undergoing ALND (PR 1.34; 95%CI 1.04–1.73; $p=0.021$), while aggressive molecular subtypes were also independently associated with ALND (PR 1.42; 95%CI 1.09–1.85; $p=0.009$). Clinicopathological discordance in post-NST axillary assessment was observed in 23.7% of cases, highlighting the limitations of conventional clinical methods and the potential for surgical overtreatment. The occurrence of metastases was higher in the ALND group (13.3% vs. 4.2%), reflecting a more aggressive biological profile.

Conclusion: Tumor biology represents the main driver of axillary management after NST, supporting safe surgical de-escalation in selected patients. The incorporation of more accurate axillary assessment strategies is essential to avoid unnecessary interventions and optimize the balance between oncologic safety and surgical morbidity.

Ethics: Research Ethics Committee Approval (CAAE 90556025.6.0000.5553).

Keywords: breast neoplasms; neoadjuvant therapy; sentinel lymph node biopsy; axillary lymph node dissection; treatment outcome.

<https://doi.org/10.29289/259453942025V36S11182>

1182 – Potential clinical impact of pembrolizumab incorporation for triple-negative breast cancer in Brazil's public health system: a 5-year survival modeling study

André Mattar, Marcelo Antonini, Guilherme Novita Garcia, Franklin Fernandes Pimentel, Felipe Pereira Zerwes, Ruffo Freitas-Júnior

¹Universidade de São Paulo, Faculdade de Medicina de Ribeirão Preto – Ribeirão Preto (SP), Brazil.

²Hospital da Mulher – São Paulo (SP), Brazil.

³Hospital do Servidor Público Estadual de São Paulo – São Paulo (SP), Brazil.

⁴Oncoclínicas – São Paulo (SP), Brazil.

Introduction: Triple-negative breast cancer (TNBC) is an aggressive subtype associated with poor outcomes and limited treatment options. Although pembrolizumab has demonstrated an overall survival benefit in early-stage TNBC, it has not yet been incorporated into Brazil's Unified Health System (SUS).

Objective: To estimate the potential clinical impact of pembrolizumab incorporation into the SUS for early-stage TNBC.

Methods: This retrospective observational modeling study used secondary DATASUS records to build a real-world SUS cohort and compared it with a counterfactual pembrolizumab cohort derived from published survival data. After deterministic linkage of hospitalization and outpatient datasets, 4,404 eligible patients composed the SUS cohort. For the 5-year survival analysis, 705 patients with adequate follow-up were included. A synthetic pembrolizumab cohort (n=784) was generated based on the phase III KEYNOTE-522 overall survival results. The primary outcome was 5-year overall survival. Cumulative mortality, absolute risk reduction, number needed to treat, and the number of additional lives preserved per 1,000 treated patients were also estimated.

Results: Five-year overall survival was 56.9% in the SUS cohort and 88.0% in the pembrolizumab cohort. The corresponding 5-year cumulative mortality was 43.1% *versus* 13.4%. Mean survival was 45.4 months in the SUS cohort and 55.1 months in the pembrolizumab cohort. The absolute reduction in mortality was 31.1%, with an estimated number needed to treat of 3.2. In a simulation per 1,000 treated patients, 570 patients were alive at five years under the current SUS scenario *versus* 864 with pembrolizumab, corresponding to 294 additional lives preserved over five years. Benefits were observed in both age subgroups.

Conclusion: The incorporation of pembrolizumab for TNBC in the SUS could substantially improve 5-year survival and translate into a major population-level survival gain, with nearly 300 additional lives preserved per 1,000 treated patients.

Ethics: Public data.

Keywords: triple-negative breast cancer; pembrolizumab; overall survival; public health; Brazil.

<https://doi.org/10.29289/259453942025V36S11191>

1191 – The use of denosumab in the treatment of osteoporosis in postmenopausal women with breast cancer: a systematic review (2015–2026)

Luiz Paula Silveira Júnior¹, Luiz Paula Silveira Neto¹, Maria Luiza Bessa Paula¹, Vyvian Paes Oliveira¹

¹Pontifícia Universidade Católica de Goiás – Goiânia (GO), Brazil.

Introduction: Osteoporosis is a prevalent condition in postmenopausal women, with a significantly increased risk in patients with breast cancer, especially due to estrogen deprivation induced by aromatase inhibitors, chemotherapy, and aging. In this context, denosumab, an anti-RANKL monoclonal antibody, has been used as an antiresorptive therapy to reduce osteoclastic activity and improve bone mineral density.

Objective: To evaluate the efficacy and safety of denosumab in postmenopausal women with breast cancer.

Methods: This systematic review was conducted according to the PRISMA guidelines and based on the PICO framework (Population, Intervention, Comparator, Outcomes). The PubMed/MEDLINE, Embase, Cochrane Library, SciELO, LILACS, ClinicalTrials.gov, NICE, and BVSM databases, as well as NIH resources, were consulted from 2015 to 2026, using descriptors related to the topic. A total of 93 studies were identified, of which 54 were included after applying the eligibility criteria.

Results: Denosumab significantly increases bone mineral density in the lumbar spine, femoral neck, and total hip, in addition to improving bone quality parameters. Evidence from randomized clinical trials indicated a reduction of up to 50% in the risk of fractures, especially in patients using aromatase inhibitors. Compared to bisphosphonates, it showed similar or superior efficacy, with advantages in therapeutic adherence and administration. The safety profile was favorable, with a low incidence of serious adverse events. However, treatment discontinuation was associated with a rebound effect, with accelerated bone mineral density loss and an increased risk of vertebral fractures, requiring therapeutic transition strategies.

Conclusion: Denosumab proved to be an effective and safe option for the management of osteoporosis in postmenopausal women with breast cancer and should be considered first-line therapy in high-risk patients, with special attention to discontinuation planning.

Ethics: Public data – Literature review

Registry: International Prospective Register of Systematic Reviews (PROSPERO) CRD420261357370.

Keywords: denosumab; osteoporosis; breast cancer; menopause.

PRESENTATION: ORAL PRESENTATION (GENERAL SESSION)

<https://doi.org/10.29289/259453942025V36S10938>

938 – TROFUSE-011: a phase 3, randomized, open-label study of sacituzumab tirumotecan with or without pembrolizumab versus treatment of the physician's choice for previously untreated, locally recurrent, unresectable, or metastatic triple-negative breast cancer with PD-L1 CPS<10

Pedro José Galvão Freire, Hope S. Rugo, Peter Schmid, Javier Cortés, Toshimi Takano, Peter A. Fasching, Yeon-Hee Park, Giampaolo Bianchini, Sandra Ximena Franco, Cynthia Villarreal Garza, Olivier Tredan, Yongmei Yin, Romualdo Barroso Sousa, Xuan Pen

¹Barts Breast Cancer Centre, Barts Cancer Institute, Queen Mary University of London – London, United Kingdom.

²Breast Medical Oncology Department, Cancer Institute Hospital of the Japanese Foundation for Cancer Research – Tokyo, Japan.

³Department of Medical Oncology & Therapeutic.

Introduction: The standard first-line therapy for most previously untreated, locally recurrent, unresectable, or metastatic triple-negative breast cancer (TNBC) with programmed death-ligand 1 (PD-L1) combined positive score (CPS)<10 is chemotherapy alone. New therapeutic options with superior efficacy are needed. Sacituzumab tirumotecan (sac-TMT) is a trophoblast cell surface antigen 2 (TROP-2)-directed antibody-drug conjugate with a unique, bifunctional linker that maximizes delivery of a belotecan-derived topoisomerase I inhibitor payload to tumor cells. Sac-TMT monotherapy has shown promising efficacy with a manageable safety profile in metastatic TNBC. There is a strong biologic rationale supporting the combination of an antibody-drug conjugate with pembrolizumab regardless of PD-L1 expression.

Objective: The TroFuse-011 study (NCT06841354) evaluates sac-TMT with or without ($\pm$) pembrolizumab *versus* treatment of the physician's choice (TPC) in participants with previously untreated locally recurrent unresectable or metastatic TNBC with PD-L1 CPS<10.

Methods: Eligible participants (≥ 18 years) with centrally confirmed locally recurrent unresectable or metastatic TNBC, measurable disease per RECIST v1.1, ECOG performance status 0 or 1, and a tumor tissue sample evaluable for central PD-L1 and TROP-2 testing were randomized 2:1:2 to receive sac-TMT 4 mg/kg Q2W (Arm A), sac-TMT 4 mg/kg Q2W + pembrolizumab 400 mg Q6W (Arm B), or TPC (Arm C). TPC consists of one of the following: paclitaxel, nab-paclitaxel, or gemcitabine plus carboplatin. Primary endpoints are progression-free survival per RECIST v1.1 as assessed by blinded independent central review (Arm A *vs.* C and Arm B *vs.* C) and overall survival (Arm A *vs.* C). Secondary endpoints are progression-free survival (Arm B *vs.* A), overall survival (Arm B *vs.* C and Arm B *vs.* A), objective response rate (Arm A *vs.* C and Arm B *vs.* C), duration of response, patient-reported outcomes, and safety. Tumor imaging is performed at baseline, every eight weeks after randomization until week 48, and every 12 weeks thereafter.

Results: Enrollment is ongoing across 254 sites in 33 countries.

Conclusion: Not applicable.

Registry: ClinicalTrials.gov, NCT06841354; European Union Clinical Trials Information System (EU CT) 2024-516834-36

Previous Publications: <https://doi.org/10.1158/1557-3265.SABCS25-PS5-08-18>; [https://www.annalsofoncology.org/article/S0923-7534\(25\)01964-7/fulltext](https://www.annalsofoncology.org/article/S0923-7534(25)01964-7/fulltext)

Keywords: clinical trial phase III; randomized controlled trial; pembrolizumab; triple-negative breast cancers.

PRESENTATION: ORAL PRESENTATION (GENERAL SESSION)

<https://doi.org/10.29289/259453942025V36S11197>

1197 – OPERA-02: a phase 3, randomized, double-blind, active-controlled study of palazestrant with ribociclib versus letrozole with ribociclib for the first-line treatment of ER+, HER2– advanced breast cancer

Gustavo Werutsky¹, Barbara Pistilli¹, Virginia F Borges¹, Wolfgang Anni¹, Komal L. Jhaveri¹, Peter Schmid¹, Kenneth Caldwell¹, Sara M. Tolaney¹

¹Latin American Cooperative Oncology Group (LACOG) – Porto Alegre (RS), Brazil.

Estrogen receptor-positive (ER+), human epidermal growth factor receptor 2-negative (HER2–) disease accounts for 70% of advanced breast cancer (ABC). The standard first-line treatment is an aromatase inhibitor (AI) plus a cyclin-dependent kinase 4/6 inhibitor (CDK4/6i). Ribociclib is the only CDK4/6i that, when combined with Ais, improved both progression-free survival (PFS) and overall survival (OS) in ER+, HER2– ABC. Despite this, endocrine resistance develops in many patients, often due to AI-induced activating mutations in the ESR1 gene. Early sustained suppression of both wild-type and mutated ERs during first-line treatment of ER+, HER2– ABC may enhance endocrine sensitivity, delay resistance to endocrine therapy, and improve clinical outcomes. Palazestrant (OP-1250) is a novel oral, complete estrogen receptor antagonist and selective estrogen receptor degrader (SERD). Early palazestrant studies showed favorable safety and encouraging antitumor activity both as monotherapy and in combination with ribociclib, regardless of ESR1 mutation status. Palazestrant showed no clinically meaningful drug interactions with ribociclib, and the combination safety profile was consistent with the known profiles of each drug. OPERA-02 (NCT07085767) is a phase 3, international, multicenter, randomized, double-blind study evaluating the efficacy and safety of palazestrant plus ribociclib *versus* letrozole plus ribociclib as first-line treatment for ER+, HER2– ABC. Approximately 1,000 patients will be randomized 1:1 to palazestrant plus ribociclib or letrozole plus ribociclib, with matching placebos. The primary endpoint is investigator-assessed PFS; secondary endpoints are OS, PFS by blinded independent review committee, overall response rate, duration of response, clinical benefit rate, safety, pharmacokinetics, patient-reported outcomes, and PFS2. Adults with de novo or recurrent endocrine therapy-sensitive disease and no prior systemic therapy for ABC are eligible. Patients must have measurable disease or evaluable bone disease, ECOG 0–1, and adequate organ function. Those with contraindication to ribociclib were excluded. Pre- or perimenopausal women and men must receive gonadotropin-releasing hormone agonists. The study is recruiting globally.

Funding: Olema Pharmaceuticals Oncology.

Registry: ClinicalTrials.gov (NCT07085767).

Previous publications: <https://doi.org/10.1158/1557-3265.SABCS25-PS5-12-18>; https://ascopubs.org/doi/10.1200/JCO.2026.44.16_suppl.TPS1152

Keywords: palazestrant; complete estrogen receptor antagonist; selective estrogen receptor degrader; endocrine therapy; ribociclib.

PRESENTATION: ORAL PRESENTATION (GENERAL SESSION)

<https://doi.org/10.29289/259453942025V36S11170>

1170 – Randomized clinical trial: breast cancer screening based on physical examination performed by community health workers – ReBEC (RBR-39vm2nd)

Danielle Cristina Netto Rodrigues, Rosangela da Silveira Corrêa, Luana Vieira Martins, Christina Souto Cavalcante Costa, Douglas Euclides da Silva, Priscila Dias Watanabe, Marcella Rezende de Mendonça, Ruffo Freitas-Junior

¹Centro Avançado de Diagnóstico da Mama (CORA), Universidade Federal de Goiás, Hospital de Clínicas – Goiânia (GO), Brazil.

²Rede Brasileira de Pesquisa em Câncer de Mama – Goiânia (GO), Brazil.

Introduction: The Itaberaí Project is an intervention based on training community health workers, grounded in evidence-based breast cancer screening through clinical breast examination.

Objective: To evaluate the effectiveness of screening actions based on clinical breast examination performed by community health workers in reducing the incidence of advanced-stage tumors (stage III and IV) and breast cancer mortality.

Methods: This was a prospective, open-label, phase III cluster-randomized clinical trial. The target population consists of women aged 40 years or older receiving care within the Primary Health Care Network. Clusters were defined as Primary Healthcare Units (PHU) and their respective Family Health Teams (FHT). The sample size was calculated to detect reductions in advanced-stage cases and mortality (10% and 20%, respectively). In the municipality of Itaberaí, 10 PHU comprised the study clusters and were allocated in a 1:1 ratio (5 PHU in the intervention group [IG] and 5 in the control group [CG]). The CG receives training according to the Brazilian Ministry of Health recommendations for breast cancer screening, whereas the IG receives the same training plus additional instruction in clinical breast examination. The estimated sample size is 4,208 participants, with 2,104 in each group.

Results: Of the expected 4,208 participants, 4,036 (96%) have been randomized to date: 2,056 (98%) in the CG and 1,980 (94%) in the IG. A total of 17 breast cancer cases (4 per 1,000 women) have been diagnosed, with 2 per 1,000 in the CG and 6 per 1,000 in the IG. Regarding clinical staging, 60% of cases in the CG were stage III and IV, compared to 25% in the IG.

Conclusion: Preliminary findings suggest that appropriately trained community health workers may effectively improve breast cancer screening. These results may support the development of new public health policy strategies in Brazil.

Ethics: Research Ethics Committee Approval (CAAE 56916522.8.0000.5078).

Registry: Brazilian Registry of Clinical Trials (ReBEC): RBR-39vm2nd.

Funding: Natura/Avon Institute and Libbs Pharmaceuticals.

Previous Publication: <https://doi.org/10.29289/259453942024V34S1005>

Keywords: clinical protocols; breast cancer; community health workers.

BEST CASE REPORT – HONORABLE MENTION

<https://doi.org/10.29289/259453942025V36S11111>

1111 – A rare case of a paraneoplastic neurological syndrome secondary to a her2-positive microinvasive breast carcinoma: the impact of coordinated clinical and surgical oncological care

Ana Carolina Pires¹, Lucas Zanetti Albuquerque¹, Felipe da Rocha Schmidt¹, Pedro Luiz Serrano Uson Junior¹, Gustavo Bretas¹, Carlos Frederico Freitas Lima¹, Aline Coelho Gonçalves¹

¹Instituto Oncoclínicas de Ensino, Pesquisa e Educação Médica Continuada – Rio de Janeiro (RJ), Brazil.

Introduction: Paraneoplastic cerebellar degeneration (PCD) is a rare yet clinically significant paraneoplastic neurological syndrome, often associated with breast and gynecological cancers. It develops from an immune response directed against antigens shared between tumor cells and central nervous system tissues. This report of PCD secondary to human epidermal growth factor receptor 2 (HER2)-positive microinvasive breast carcinoma underscores the importance of coordinated clinical and surgical oncological care. Case report: A 68-year-old woman presented with progressive gait instability over two months (cerebellar ataxia). Brain magnetic resonance imaging (MRI) revealed discrete cerebellar abnormalities. Cerebrospinal fluid analysis demonstrated pleocytosis, elevated protein, and low glucose (with negative results for infections or neoplastic cells). Inconclusive findings led to the hypothesis of a potential paraneoplastic syndrome. Right breast ultrasound revealed a focal non-nodular lesion (1.6 × 1.1 × 0.8 cm; BI-RADS 4), and breast MRI showed a 1.1 cm lump. Breast biopsy identified a HER2 3+, hormone receptor-negative microinvasive carcinoma of no special type. Anti-Yo autoantibody was detected in cerebrospinal fluid, confirming the diagnosis of PCD. Intravenous immunoglobulin was administered for five days, followed by referral for upfront breast-conserving surgery with sentinel lymph node biopsy (pT1mi [multiple microinvasion foci] pN0) and adjuvant radiotherapy. Significant neurological improvement occurred in the first month after surgery. Residual ataxia persisted. The patient currently has no evidence of disease. Discussion: PCD diagnosis is supported by the detection of IgG antineuronal autoantibodies; anti-Yo is the most common in breast cancer-associated PCD. The literature also suggests a strong association with HER2+ carcinomas. Even small-volume tumors can elicit significant immune-mediated neuronal loss and potentially irreversible deficits. Immune-modulating treatments (intravenous immunoglobulin, steroids, or plasmapheresis) have variable efficacy. Best responses seem to occur after tumor resection and appropriate adjuvant therapy, which may halt further neurological impairment. Early involvement of the neurology, mastology, and oncology teams allows for coordinated definitive cancer treatment, essential for optimizing neurological recovery.

Ethics: Research Ethics Committee Approval (CAAE 89996225.1.0000.0227).

Keywords: breast neoplasm; paraneoplastic syndromes; anti-yo antibodies; HER2 protein; microinvasive breast carcinoma.

PRESENTATION: E-POSTER

<https://doi.org/10.29289/259453942025V36S10928>

928 – Intracystic papillary carcinoma of the breast: a case report

Bruna Martins Rodrigues Neves¹, Carla Leticia Carius Ferreira¹, Carlos Vinicius Pereira Leite¹, Gabriela Noel Ratto¹, Rosivania Maria Albino¹, Roberta Nogueira Furtado Buçard¹

¹Centro Universitário Arthur Sá Earp Neto, Faculdade de Medicina – Petrópolis (RJ), Brazil.

Introduction: Intracystic papillary carcinoma is a rare breast neoplasm, accounting for less than 2% of malignant breast tumors, typically presenting with favorable biological behavior and predominantly affecting postmenopausal women. Diagnosis may be challenging due to clinical and radiological variability, as well as the limitations of core needle biopsy in distinguishing benign from malignant papillary lesions. Management and prognosis depend on the presence of invasive components or an association with ductal carcinoma *in situ*.

Case report: A 63-year-old woman with no personal or family history of breast cancer presented with bloody nipple discharge from the left breast. Ultrasound revealed a dilated duct associated with an irregular hyperechoic nodule measuring 0.8×0.6×0.6 cm, classified as BI-RADS 4. Excision of the main ducts was performed. Histopathological examination demonstrated a papillary lesion with atypia and clear surgical margins. Immunohistochemistry confirmed intracystic papillary carcinoma, with estrogen receptor positivity in 100% of tumor cells and progesterone receptor negativity. After oncologic evaluation, adjuvant radiotherapy was indicated. The patient remains under outpatient follow-up with no evidence of recurrence to date.

Discussion: Although intracystic papillary carcinoma generally has a favorable prognosis in the absence of invasion, it represents a diagnostic challenge, particularly when the clinical presentation is limited to nipple discharge. Surgical excision is essential for definitive diagnosis and therapeutic planning, and the indication for adjuvant therapy should be individualized, considering surgical margins, invasive components, and hormonal profile, which highlights the importance of a careful diagnostic approach to nipple discharge in breast surgery practice.

Ethics: Research Ethics Committee Approval (CAAE 96445926.8.0000.5245).

Keywords: breast neoplasms; papillary carcinoma; breast biopsy.

<https://doi.org/10.29289/259453942025V36S10982>

982 – Phyllodes tumor in an adolescent: case report and literature review

Marina Nobrega Augusto¹, Felipe Eduardo Andrade¹, Matheus Piccin¹, Mariela Degan¹

¹Hospital Israelita Albert Einstein – São Paulo (SP), Brazil.

Introduction: Phyllodes tumor is a rare fibroepithelial breast neoplasm condition, particularly uncommon in adolescents. Its differentiation from benign fibroadenomas is challenging, and a definitive diagnosis relies on surgical excision. Conservative surgical approaches are preferred in pediatric patients to minimize long-term effects on breast development.

Case report: A 13-year-old female presented with a rapidly growing right breast mass. Physical examination demonstrated a mobile, fibroelastic mass of approximately 7 cm, without associated palpable lymphadenopathy. Imaging studies, including ultrasound and magnetic resonance imaging, identified a well-circumscribed, oval, solid-cystic lesion measuring 6.0×5.1×3.6 cm, with heterogeneous enhancement. No abnormal lymph nodes were observed. The patient underwent surgical excision (nodulectomy) and did not receive adjuvant therapy thereafter. Histopathological analysis confirmed a benign phyllodes tumor, measuring 12.0×7.5×2.0 cm, with clear margins and no signs of malignancy.

Discussion: The present case report demonstrates the rarity and difficulty of diagnosing phyllodes tumor, especially in an adolescent patient, an age group in which this condition is even rarer. The success of conservative and effective surgical management is encouraging, given the importance of the most conservative approach possible in a patient whose breasts are still developing, and may serve as a guide for similar cases in the future.

Ethics: Research Ethics Committee Approval (CAAE 95926225.0.0000.0071).

Keywords: breast tumor; phyllodes tumor; adolescent.

<https://doi.org/10.29289/259453942025V36S10992>

992 – Silicone axillary lymphadenopathy caused by gel hemorrhage with intact breast implants, mimicking occult breast carcinoma: a case report

Júlia Eduarda Feijó Belluco, Aline Feitosa Pessoa, Carlucio Pereira Leal Junior, Luiza Rocha de Souza, Gabriel Piau de Castro, Isabella Toscano Hayasaki, Camila Gomes de Sousa, Rosana Zabulon Feijó Belluco

¹Escola de Saúde Pública do Distrito Federal – Brasília (DF), Brazil.

²Escola Superior de Ciências da Saúde – Brasília (DF), Brazil.

³Hospital Regional da Asa Norte – Brasília (DF), Brazil.

⁴Universidade do Distrito Federal Professor Jorge Amaury Maia Nunes – Brasília (DF), Brazil.

Introduction: Breast implant gel hemorrhage occurs when microscopic droplets of silicone diffuse across the implant surface, resulting in capsular contracture and immune responses related to breast implant illness. Diagnosis is crucial, as gel hemorrhage can resemble breast cancer, making accurate differentiation difficult.

Case report: A 52-year-old woman underwent augmentation mammoplasty with bilateral silicone implants 13 years ago. She had no breast complaints and underwent annual clinical and mammographic follow-up after excision of a complex fibroadenoma and clustered calcifications. The breasts were heterogeneously dense, without palpable nodules or contractures. The lymph nodes in the right axilla were palpable, firm, coalescent, and suspicious. Mammography showed bilateral retroglandular silicone implants without signs indicative of extracapsular rupture and dense lymph nodes in the right axillary extension. Breast ultrasound showed intact implants and multiple diffusely hyperechoic lymph nodes with a “snowstorm” sign, suggestive of gel hemorrhage. Breast magnetic resonance imaging confirmed implant integrity. A biopsy was performed for pathological examination, which was negative for neoplastic cells and showed foreign body giant histiocytes containing well-defined translucent nodular formations of different sizes, consistent with siliconoma. Currently, the patient is under clinical and imaging follow-up, with no signs of contracture or rupture of the prosthesis, and has refused any surgical intervention.

Discussion: Silicone-related lymphadenopathy can be suspected based on clinical history, mammography, ultrasound, and magnetic resonance imaging in patients with silicone implants, with diagnosis confirmed by histopathological examination. Excision is recommended for symptomatic patients, while it may not be necessary for asymptomatic patients; removal may be considered if the patient indicates a preference for it. This case highlights the importance of considering gel hemorrhage as a possible cause of silicone-related lymphadenopathy, even in intact silicone implants, since implant insertion is increasingly common, especially in post-breast cancer reconstructions, and gel hemorrhage within the lymph nodes clinically mimics occult breast carcinoma.

Ethics: Research Ethics Committee Approval (CAAE 61355422000005553).

Keywords: axillary lymphadenopathy; silicone; gel hemorrhage; occult breast cancer.

<https://doi.org/10.29289/259453942025V36S10993>

993 – Late metastasis of papillary serous cystadenocarcinoma to an axillary lymph node simulating occult breast carcinoma: a case report

Carolina Martins Coelho, Leticia Araujo Ferreira, Talita Trindade França, Isabella Toscano Hayasaki, Jullia Eduarda Feijó Belluco, Letícia Sousa Amancio da Costa, Fernanda Cristina Afonso Salum, Rosana Zabulon Feijó Belluco

¹Escola de Saúde Pública do Distrito Federal – Brasília (DF), Brazil.

²Escola Superior de Ciências da Saúde – Brasília (DF), Brazil.

³Hospital Regional da Asa Norte – Brasília (DF), Brazil.

⁴Universidade do Distrito Federal Professor Jorge Amaury Maia Nunes – Brasília (DF), Brazil.

Introduction: Papillary serous cystadenocarcinoma is the most common epithelial tumor of the ovary; it has an aggressive course, a high recurrence rate, and is often diagnosed at advanced stages. The incidence of metastasis from ovarian cancer to the breast and/or axillary lymph nodes ranges from 0.03% to 0.6%. In cases of isolated axillary lymph node metastasis without breast involvement, the frequency is lower, described almost exclusively in case reports and small case series. It represents a diagnostic challenge, as axillary lymphadenopathy is frequently associated with breast cancer.

Case report: A 71-year-old woman was treated for bilateral papillary serous cystadenocarcinoma of the ovaries in 2004. She sought medical care in 2025 with no breast complaints, but with a palpable, hardened lymph node in the left axilla measuring 1.5 cm. Ultrasound revealed an atypical lymph node. Mammography and magnetic resonance imaging showed no suspicious breast lesions, but lymphadenopathy with diffuse cortical thickening. Core biopsy and immunohistochemistry revealed papillary carcinoma, estrogen receptor (ER)-positive and progesterone receptor (PR)-negative, suggesting a primary site in the female genital tract. After negative metastatic staging, she underwent left axillary lymphadenectomy. Histopathology and immunohistochemistry demonstrated three lymph nodes with papillary metastatic neoplasia, human epidermal growth factor receptor 2 (HER2)-negative, diffuse ER-positive, and paired box gene 8 (PAX-8)-positive, with focal PR and p53 positivity, favoring Müllerian epithelium as the primary site. Markers specific to the breast, lung, and thyroid were negative. She is currently under oncological follow-up.

Discussion: Late metastasis of ovarian cystadenocarcinoma to the axillary lymph node, mimicking occult breast carcinoma, represents an exceptional manifestation of tumor recurrence, especially when it occurs after a long disease-free interval. The identification of this rarity expands knowledge regarding late dissemination and reinforces the need to consider a Müllerian origin in the differential diagnosis of axillary lymphadenopathy in women with a distant history of gynecological neoplasia and no breast lesions.

Ethics: Research Ethics Committee Approval (CAAE 85735824600005553).

Keywords: metastasis; papillary serous cystadenocarcinoma; axillary lymph node; occult breast cancer.

<https://doi.org/10.29289/259453942025V36S11029>

1029 – Simultaneous BRCA1 and PALB2 pathogenic variants in a patient with triple-negative breast cancer

Samuel Castro Campos¹, Sabas Carlos Vieira²

¹Universidade Federal do Piauí – Teresina (PI), Brazil.

²Oncocenter – Teresina (PI), Brazil.

Introduction: Triple-negative breast cancer (TNBC) accounts for approximately 15% of breast cancers. BRCA1 mutations occur in up to 20% of TNBC cases; simultaneous pathogenic variants in BRCA1 and PALB2 in a single patient are exceedingly rare, with poorly characterized combined clinical implications.

Case report: A 54-year-old woman presented in 2017 with a progressively enlarging right breast mass. Physical examination revealed a 6 × 5 cm tumor; mammography showed a 4 cm irregular nodule and ultrasonography measured a 5 cm lesion, with no axillary lymphadenopathy. Personal history included bariatric surgery in 2015. Family history was notable for paternal lymphoma, maternal bladder cancer (two diagnoses), maternal aunt with gastric cancer, paternal grandfather with bone cancer, and maternal cousin with colorectal cancer. Core biopsy confirmed invasive breast carcinoma, no special type, grade 3, triple-negative, with Ki-67 expression of 80%, staged as T3N0M0. Staging computed tomography and bone scintigraphy showed no metastases. Neoadjuvant chemotherapy with doxorubicin, carboplatin, and paclitaxel achieved complete clinical and radiological response. Segmental resection with sentinel lymph node biopsy followed by radiotherapy confirmed complete pathological response with three negative sentinel nodes. Multigene panel testing (16 genes) identified two simultaneous pathogenic variants: BRCA1 (p.Gln1111Asnfs*5) and PALB2 (p.Gln348*). The patient is currently under investigation for a suspected ovarian malignancy (carbohydrate antigen 125 [CA-125] 450 U/mL).

Discussion: The co-occurrence of pathogenic variants in BRCA1 and PALB2 in a single patient is exceedingly rare. PALB2 mutations confer a lifetime breast cancer risk of 35–60%; their interaction with concurrent BRCA1 mutations is not well characterized. Complete pathological response to platinum-based chemotherapy is consistent with BRCA1-related homologous recombination deficiency. The suspected ovarian malignancy raises concern for a secondary BRCA1-associated tumor. This case supports multigene panel testing in TNBC, which is capable of detecting co-occurring actionable variants with implications for treatment, surveillance, and cascade testing for at-risk relatives.

Ethics: Research Ethics Committee Approval (CAAE 30154720.0.0000.5209).

Keywords: breast neoplasms; triple-negative breast neoplasms; mutation.

<https://doi.org/10.29289/259453942025V36S11030>

1030 – Seventeen-year survival in BRCA1-mutated stage IV ovarian cancer with subsequent breast ductal carcinoma in situ: a case report

Samuel Castro Campos¹, Sabas Carlos Vieira²

¹Universidade Federal do Piauí – Teresina (PI), Brazil.

²Oncocenter – Teresina (PI), Brazil.

Introduction: Advanced high-grade serous ovarian carcinoma (HGSOC) carries a five-year survival rate below 6% at stage IV. Mutations in BRCA1 and BRCA2 increase platinum sensitivity and confer a lifetime breast cancer risk of up to 72%.

Case report: A 47-year-old woman presented in 2008 with HGSOC, peritoneal carcinomatosis, and hepatic metastasis (International Federation of Gynecology and Obstetrics [FIGO] stage IV), with a family history of ovarian cancer. Six cycles of neoadjuvant carboplatin and paclitaxel achieved a complete clinical response and salvage surgery yielded no residual disease. Peritoneal recurrence in 2011 was managed with platinum-based chemotherapy followed by a second complete cytoreduction with hyperthermic intraperitoneal chemotherapy (HIPEC; cisplatin 50 mg/m², 42°C, 90 minutes), complicated with postoperative Ogilvie syndrome. Germline testing in 2019 identified a pathogenic BRCA1 variant (c.5329dupC); mammary surveillance was intensified, with annual magnetic resonance imaging added to standard mammography. In July 2020, magnetic resonance imaging detected an irregular right breast nodule (Breast Imaging Reporting and Data System, BI-RADS 4); biopsy confirmed ductal carcinoma *in situ* (0.6 cm, estrogen receptor [ER] 100%, progesterone receptor [PR] 70%, human epidermal growth factor receptor 2 [HER-2] 1+, Ki-67 expression 10%). She underwent breast-conserving surgery showing negative sentinel lymph node biopsy, then bilateral skin-sparing mastectomy in December 2020, with no residual disease. She remains disease-free as of September 2025, 17 years from initial diagnosis.

Discussion: Seventeen-year survival in FIGO stage IV HGSOC, where the five-year survival rate is below 6%, is exceptional. BRCA1-related platinum sensitivity, complete cytoreduction at both operations, and HIPEC at the second surgery are the most plausible contributors; poly(ADP-ribose) polymerase (PARP) inhibitors were unavailable during treatment. The detection of ductal carcinoma *in situ* rather than invasive carcinoma was made possible by structured surveillance after BRCA1 identification, 12 years post-diagnosis. This case supports universal germline BRCA testing at ovarian cancer diagnosis; timely identification enables breast surveillance and cascade testing for at-risk relatives.

Ethics: Research Ethics Committee Approval (CAAE 30154720.0.0000.5209).

Keywords: ovarian neoplasms; breast neoplasms; peritoneal neoplasms; survivors.

<https://doi.org/10.29289/259453942025V36S11108>

1108 – A hidden survivorship challenge: non-cirrhotic portal hypertension after adjuvant t-dm1 in breast cancer

Ana Carolina Pires, Lucas Zanetti Albuquerque, Gustavo Bretas, João Marcello Neto, Pedro Luiz Serrano Uson Junior, Aline Coelho Gonçalves

¹Hospital Israelita Albert Einstein – São Paulo (SP), Brazil.

²Hospital Universitário Pedro Ernesto – Rio de Janeiro (RJ), Brazil.

³Instituto Oncoclínicas de Ensino, Pesquisa e Educação Médica Continuada (IOPEMEC) – Rio de Janeiro (RJ), Brazil.

Introduction: Trastuzumab emtansine (T-DM1), an antibody–drug conjugate, demonstrated significant benefits in the treatment of human epidermal growth factor receptor 2 (HER2)-positive (+) breast cancer. Hepatotoxicity is a recognized concern, ranging from asymptomatic enzyme elevations to acute liver failure and, rarely, non-cirrhotic portal hypertension (NCPH). Most NCPH cases occur after prolonged exposure in the metastatic setting. Reports after adjuvant treatment are scarce. This report describes a case of NCPH following adjuvant T-DM1, emphasizing the risk of delayed hepatotoxicity and emerging challenges for long-term survivors.

Case report: A 33-year-old woman was diagnosed with hormone receptor-positive and HER2-positive breast invasive ductal carcinoma, cT2N0. She underwent neoadjuvant chemotherapy with dual HER2 blockade. Residual disease was identified after mastectomy. Adjuvant treatment included radiotherapy, endocrine therapy (goserelin and anastrozole) and T-DM1. New-onset thrombocytopenia (103,000/ μ L) required T-DM1 dose reduction and persisted after completion of the 14-cycle regimen (75,000/ μ L). Over the next year, liver enzymes progressively increased, while viral hepatitis and other differential diagnoses were ruled out. Abdominal ultrasound showed signs of chronic liver disease, whereas elastography was normal. Magnetic resonance imaging demonstrated splenomegaly, collateral vessels, and hepatic nodules (regenerative changes). Esophagogastroduodenoscopy revealed esophageal varices, indicating portal hypertension. Prophylactic band ligation was performed. Liver biopsy confirmed idiopathic NCPH. Currently, the patient remains clinically stable, with no additional hepatic decompensation or evidence of breast cancer.

Discussion: NCPH pathophysiology involves heterogeneous hepatic blood flow distribution leading to ischemia, hepatocyte atrophy, and compensatory hyperplasia with regenerative nodules. Symptoms mimic advanced cirrhosis and appear after months or years of T-DM1 exposure. This case report demonstrates that even short adjuvant courses may result in long-term hepatic toxicity. This is particularly relevant for young patients receiving curative-intent treatments and prolonged survivorship. Chronic toxicities may impact quality of life. This case report contributes to early recognition of a rare toxicity and may help inform future treatment and surveillance strategies.

Ethics: Research Ethics Committee Approval (CAAE 89411325.4.0000.0227).

Keywords: breast neoplasm; liver diseases; non-cirrhotic portal hypertension; trastuzumab emtansine; cancer survivors.

<https://doi.org/10.29289/259453942025V36S11156>

1156 – Giant epidermoid cyst in the breast as a differential diagnosis of locally advanced neoplasia: are we aware of this entity?

Geovanna Almeida Barros, Luiz Carolina Bigarella Alves, Talita Trindade França, Jullia Eduarda Feijó Belluco, Ana Laura de Queiroz Pereira, Fernanda Cristina Afonso Salum, Camila Gomes de Souza, Rosana Zabulon Feijó Belluco

¹Escola de Saúde Pública do Distrito Federal – Brasília (DF), Brazil.

²Escola Superior de Ciências da Saúde – Brasília (DF), Brazil.

³Hospital Regional da Asa Norte – Brasília (DF), Brazil.

⁴Universidade do Distrito Federal Professor Jorge Amaury Maia Nunes – Brasília (DF), Brazil.

Introduction: Epidermal inclusion cysts are benign, subepidermal, encapsulated, keratinous nodules of the follicular infundibulum. They are the most prevalent cutaneous cysts and can develop in any region of the body. They can grow slowly, be asymptomatic, and persist for years. In the breast, they are extremely rare, infrequently reported, and prone to complications such as infection, rupture, and malignant changes.

Case report: A 69-year-old woman presented with a 40-year history of a lesion in her left breast, characterized by slow, progressive growth and a significant increase over the last year. On physical examination, a solid-cystic nodule was observed in the upper outer quadrant of the left breast, measuring 15×13 cm, with a point of fluctuation on palpation, superficial telangiectasias, cutaneous hyperemia, without local heat, thin overlying skin, and an area of rupture with citrine exudate; the right breast showed no palpable changes or lymphadenopathy. Breast ultrasound revealed a solid, hypoechoic nodule with irregular contours and calcifications, measuring 12×10.8 cm; axillary lymph nodes had a normal appearance (BI-RADS 4). Mammography was not performed due to the risk of lesion rupture. Core biopsy was performed, and histopathology revealed keratin laminae. Surgical excision was performed for diagnosis and treatment. A large amount of sebaceous material with a fetid odor, consistent with the contents of an epidermoid cyst, was removed. The cavity was irrigated, and complete capsulectomy was performed. The patient remains under outpatient follow-up, without signs of inflammation or recurrence.

Discussion: The diagnosis of epidermoid cyst is primarily clinical, and complementary examinations are generally unnecessary. In this report, a giant breast nodule with atypical clinical presentation suggestive of malignancy was observed. In addition, ultrasound revealed findings suggestive of a BI-RADS 4 lesion, raising diagnostic suspicion. Surgery was chosen for histopathological confirmation and definitive treatment. Therefore, epidermoid cysts are an important entity in the differential diagnosis and treatment of nodular breast diseases.

Ethics: Research Ethics Committee Approval (CAAE 83101524000005553).

Keywords: epidermoid cyst; differential diagnosis; locally advanced neoplasia.

<https://doi.org/10.29289/259453942025V36S11196>

1196 – Discovery of a novel variant in the BRCA2 gene related to breast cancer in a patient with early diagnosis

Manuela Rocha Matos Rezende¹, Paula Francinete Faustino Silva¹, Flávia Barreto Sousa¹, Elisangela Paula Silveira-Lacerda¹

¹Universidade Federal de Goiás – Goiânia (GO), Brazil.

Introduction: Hereditary breast cancer is frequently associated with pathogenic variants in the BRCA1 and BRCA2 genes, and the identification of new alterations is essential for advancing clinical oncogenetics and genetic counseling.

Objective: To report the identification of a novel variant in the BRCA2 gene in a patient with early-onset breast cancer and to discuss its possible clinical relevance.

Methods: A 31-year-old woman diagnosed with invasive ductal breast carcinoma was referred for oncogenetic evaluation. DNA was extracted from peripheral blood, followed by analysis using next-generation sequencing, including the genes BRCA1, BRCA2, ATM, BARD1, BRIP1, CHEK2, PALB2, and TP53. Variant interpretation followed the criteria established by the American College of Medical Genetics and Genomics/Association for Molecular Pathology (ACMG/AMP, 2015), supported by public and clinical databases. Pre-test genetic counseling addressed indications and limitations, while post-test counseling provided proper interpretation of results and family guidance.

Results: A nonsense variant in the BRCA2 gene (c.8786delT) was identified, resulting in a premature stop codon (p.Leu2929Ter) with a likely loss of protein function. The variant was not found in databases such as gnomAD, ClinVar, dbSNP, and ABRAOM, suggesting a rare and possibly novel variant. According to the ACMG/AMP criteria, it was classified as likely pathogenic.

Discussion: The identification of this variant reinforces the importance of genetic sequencing, especially in underrepresented populations, and contributes to the understanding of genetic variability associated with breast cancer. It also highlights the relevance of integrating these findings into clinical practice, thereby enabling more accurate diagnosis, prevention, and management, as well as strengthening national databases.

Ethics: Research Ethics Committee of Hospital das Clínicas, Federal University of Goiás (CAAE 50626315.6.0000.5078).

Funding: Public, Hospital das Clínicas, Federal University of Goiás (HC-UFG) (CAAE: 50626315.6.0000.5078; Opinion No. 2.901.648) and Association for Cancer Control in Goiás (ACCG) (CAAE: 50626315.6.3001.0031; Opinion No. 4.093.502)

Keywords: hereditary breast cancer; BRCA2; novel variant; oncogenetics; NGS.

