

<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.