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

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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.