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IMMUNOPHENOTYPING OF BREAST CANCER ASSOCIATED WITH MALIGNANT TUMOR CLASSIFICATION AND HISTOPATHOLOGICAL FEATURES

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Objective: The immunohistochemical profile of breast cancer is based on the evaluation of estrogen and progesterone receptors, HER2 expression, and cell proliferation index. An investigation of the association of immunophenotyping with the classification of tumors and the description of their anatomical extent becomes important in view of the scarcity of research in mixed populations such as the Brazilian. Thus, this research performed the association of immunophenotyping — luminal A, luminal B HER2-negative, luminal B HER2-positive, HER2-positive, and triple-negative — with the classification of malignant tumors and histopathological characteristics in patients with breast cancer seen in a cancer center in southeastern Brazil. **Methods:** This is a cross-sectional study with 583 female patients with invasive breast cancer in whom Pearson's chi-square test or Fisher's exact test was used for statistical analysis. **Results:** There was a higher frequency of women with the luminal B HER2-negative subtype (33.9%). Analysis of immunophenotyping with clinical characteristics found a higher frequency of clinical stage I in luminal A, 40% ($p<0.001$); pathological stage I in luminal A, 45% ($p<0.001$); invasive ductal carcinoma morphology in HER2-positive, 97.4% ($p<0.001$); histological grade G3 in triple-negative, 66.3% ($p<0.001$); nuclear grade 3 in HER2-positive, 87.2% ($p<0.001$); and e-cadherin positive in HER2-positive luminal B, 81.8% ($p<0.001$). **Conclusion:** There was a significant rate of pathological primary tumor T0 in the triple-negative (21.7%), which highlighted the advance of therapy in this subtype hitherto known to be of worse prognosis. Contrary to expectations, the molecular subtype that showed the most metastasis was luminal B-positive (10.8%). We observed that in the population analyzed, immunophenotyping showed an association with clinical and histopathological characteristics. The more severe molecular subtypes presented a more advanced stage.

Keywords: Breast cancer. Tumor biomarkers. Molecular biology.