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950 – Clinical and prognostic characteristics of patients with HER2-low breast cancer: a retrospective cohort study at a referral center in southern Brazil

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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.

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