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

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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.