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1054 – Predictors of axillary response after neoadjuvant chemotherapy in breast cancer: a clinicopathological analysis

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Introduction: Neoadjuvant chemotherapy in patients with breast cancer and clinically positive axillary lymph nodes (cN+) aims to achieve conversion to a pathologically negative status (ypN0), which is associated with better prognosis and possible surgical de-escalation.

Objective: This study aimed to evaluate clinicopathological predictors of axillary response after neoadjuvant chemotherapy to allow for individualized therapy.

Methods: This retrospective analytical study was conducted at a tertiary public breast cancer center. Initially, 587 patients were evaluated, with 129 patients included after applying the selection criteria (invasive ductal carcinoma, non-metastatic disease, cN+ axilla, and treatment with a doxorubicin plus cyclophosphamide followed by a taxane [AC-T] regimen). The following variables were analyzed: age, histological grade, tumor subtype (luminal, triple-negative, HER2), Ki67 (<20% vs. ≥20%), and pre-treatment clinical axillary status (cN). The outcome was pathologic complete response (pCR). The chi-square test, Cramer's V, and standardized residuals were used for analysis ($p < 0.05$).

Results: The mean age was 50.3 years. The pCR rate was 54.3% (70/129). There was a significant association between tumor subtype and pCR ($\chi^2=12.54$; $p=0.002$; $V=0.31$), with a higher response in triple-negative tumors and a lower response in luminal tumors. Initial axillary status was also associated with pCR ($\chi^2=11.32$; $p=0.003$; $V=0.30$), with a higher response in cN1 and a lower in cN2. There was no significant association with age ($p=0.68$), Ki67 ($p=0.21$), or histological grade ($p=0.40$), although there was a trend toward a higher response in high-grade tumors.

Conclusion: Tumor subtype and initial clinical axillary status were significant predictors of response to neoadjuvant chemotherapy, with a higher probability of response in triple-negative tumors and among cN1 patients, potentially allowing for less aggressive surgical strategies.

Ethics: Research Ethics Committee Approval (CAAE 52999321.4.0000.5149).

Keywords: breast neoplasms; neoadjuvant therapy; axillary lymph node; pathologic complete response.