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1066 – Pathologic complete response and survival outcomes after carboplatin-based neoadjuvant chemotherapy in triple-negative breast cancer: a real-world cohort

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Introduction: Triple-negative breast cancer (TNBC) is an aggressive subtype of breast cancer associated with a high risk of early relapse. The addition of carboplatin to neoadjuvant chemotherapy increases pathologic complete response (pCR) rates, which are strongly associated with survival outcomes. In the Brazilian public healthcare system, immune checkpoint inhibitors are not routinely available, and chemotherapy-based regimens remain the standard of care.

Methods: This retrospective cohort included 184 women with TNBC treated with carboplatin-containing neoadjuvant chemotherapy between 2017 and 2023, with follow-up until June 2025. The study was approved by the institutional ethics committee. Associations between clinicopathological variables and pCR were evaluated. Disease-free survival and overall survival were estimated using Kaplan–Meier methods and Cox regression models.

Results: pCR was achieved in 40% of patients. Younger age, earlier clinical stage, and higher histologic grade were significantly associated with higher pCR rates. Patients achieving pCR had markedly improved outcomes, with an approximately 85% reduction in the risk of recurrence and death compared with non-pCR. Residual disease was associated with a nearly sevenfold increased risk of recurrence and death. The Ki-67 proliferation index was not associated with pCR but remained an independent prognostic factor for survival.

Conclusion: In this real-world cohort conducted within the Brazilian public healthcare system, where immunotherapy is not routinely available, carboplatin-based neoadjuvant chemotherapy achieved substantial pCR rates. In the absence of immunotherapy, optimizing chemotherapy strategies remains critical. Achieving pCR was the strongest determinant of survival, reinforcing its role as a major therapeutic goal in TNBC.

Ethics: Research Ethics Committee Approval (CAAE 57159722.3.2002.5404).

Keywords: triple-negative breast cancer; carboplatin; neoadjuvant therapy; pathologic complete response; survival.