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1177 – Oncologic outcomes of breast-conserving surgery following neoadjuvant versus adjuvant chemotherapy: a brazilian multicenter cohort study

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Introduction: Neoadjuvant chemotherapy (NAC) is a cornerstone in breast cancer treatment, particularly for locally advanced, triple-negative, and human epidermal growth factor receptor 2 (HER2)-positive disease. However, concerns remain regarding the oncologic safety of breast-conserving surgery (BCS) following NAC compared to BCS followed by adjuvant chemotherapy (AC).

Objective: To compare survival outcomes between these strategies in a real-world Brazilian cohort.

Methods: This retrospective multicenter cohort study included women aged ≥ 18 years with clinical stage I–III breast cancer who underwent BCS between 2016 and 2022 across six institutions. Patients were grouped according to NAC or AC. Clinicopathologic and demographic data were obtained from institutional registries. Survival outcomes—locoregional recurrence-free survival (LRRFS), recurrence-free survival (RFS), breast cancer-specific survival (BCSS), and overall survival (OS)—were estimated using Kaplan–Meier methods and compared using Cox proportional hazards models.

Results: A total of 268 patients underwent BCS: 138 (51.5%) received NAC and 130 (48.5%) AC. The mean age was 53.1 years, with younger patients in the NAC group. Invasive ductal carcinoma predominated (84.7%), and most patients had early-stage disease (73.8%). Lumpectomy was performed in 72.4% and therapeutic mastoplasmy in 27.6%. In the NAC group, 57.2% had stage IIB or higher disease. After a median follow-up of 60 months, no significant differences were observed between groups across all outcomes. LRRFS events occurred in 10% (NAC) vs. 3.6% (AC) (hazard ratio [HR] 1.35; $p=0.785$). No differences were found in RFS (HR 1.39; $p=0.763$), BCSS (HR 0.55; $p=0.519$), or OS (HR 0.73; $p=0.710$).

Conclusion: BCS after NAC was associated with no significant differences in survival outcomes compared to BCS followed by AC. These findings support the oncologic safety of BCS after NAC and its role in individualized breast cancer management.

Ethics: Research Ethics Committee Approval under Opinion No. 6.907.736 and Amendment No. 7.922.438.

Keywords: breast neoplasm; treatment outcome; mastectomy, segmental; chemotherapy.