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1096 – Oncological safety of sentinel lymph node biopsy with single mapping tracer in cN+/ypN0 breast cancer women post-neoadjuvant chemotherapy: a real-world data study

Maria Beatriz Kraft¹, Arthur Chaves de Almeida¹, Fabricio Palermo Brenelli¹, Renato Zocchio Torresan¹, Julia Yoriko Shinzato¹, Giuliano Mendes Duarte¹, César Cabello dos Santos¹, Luis Otávio Zanatta Sarian¹

¹Universidade Estadual de Campinas – Campinas (SP), Brazil.

Introduction: Sentinel lymph node biopsy (SLNB) safety after neoadjuvant therapy in initially node-positive (cN+) breast cancer remains controversial. Additionally, evidence regarding the use of a single mapping tracer in this setting is limited.

Methods: Women with non-metastatic cT1–3 cN0–cN2 breast cancer who were treated with neoadjuvant therapy between 2011 and 2018 at a Brazilian tertiary hospital were retrospectively included. Axillary stage was clinically defined. Clinicopathological characteristics and follow-up data (February 2022–November 2025) were analyzed.

Results: A total of 616 patients were included, with a mean age of 50.1 years (standard deviation ± 11.2 years) and median follow-up of 69.1 months; 322 were cN+. The cN+ group had more grade 3 tumors (44.4%; $p=0.04$) and more advanced T stage ($p<0.001$); 103 underwent SLNB (92% using a single tracer), with a nodal downstaging rate of 45%. Axillary lymph node dissection was performed in 37 cases. In the cN0 group, 257 patients underwent SLNB (96% with a single tracer). Axillary recurrence rates after SLNB were comparable between the cN+ and cN0 groups (3% *versus* 2%; $p=0.63$). In the whole cohort, 72-month overall survival (OS) was 81.7% and disease-free survival (DFS) was 74.3%. In ypN0 women, SLNB demonstrated similar OS and DFS compared to axillary lymph node dissection ($p=0.619$ and $p=0.849$ for cN0; $p=0.556$ and $p=0.903$ for cN+), regardless of the initial axillary status ($p=0.873$ and $p=0.285$). Furthermore, there were no differences in OS or DFS regarding the number of lymph nodes dissected at SLNB (1–2 *versus* ≥ 3) in either the cN0 ($p=0.546$ and $p=0.98$) or cN+ ($p=0.122$ and $p=0.605$) groups.

Conclusion: This real-world study suggests that there are no OS/DFS implications for ypN0 patients who undergo SLNB, after neoadjuvant therapy. Also, it seems that dissecting in excess of two lymph nodes yields no additional benefits. Importantly, these findings were obtained using a single mapping SLNB technique.

Ethics: Research Ethics Committee Approval (CAAE: 52444121.0.0000.5404).

Keywords: breast cancer; sentinel lymph node biopsy; neoadjuvant therapy; axillary surgery.