Initial experience with Targeted Axillary Dissection after neoadjuvant chemotherapy in breast cancer patients

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Introduction
Targeted Axillary Dissection (TAD) is a combination of sentinel lymph node biopsy (SLNB) and clipped lymph-node biopsy (CLNB), in which the clipped node (CN) previously marked is identified with perioperative ultrasonography and selectively removed. It has a high identification rate and negative predictive value and a low false negative rate.

TAD seems to be a reliable method for axillary restaging after neoadjuvant chemotherapy (NAC) and could allow some patients to be spared from axillary lymph node dissection (ALND).

Aim
We aimed to determine TAD and CLNB feasibility and the concordance rate between the CN and the retrieved sentinel nodes (SN), in a prospective and consecutive cohort of 27 female patients with invasive breast cancer, recruited between November 2019 and March 2021, cN1 axillary staging, that became cN0 after NAC.

Methodology
Suspicious nodes were biopsied and marked with an ultrasound-visible metal clip before NAC. At the operating room, the CN was searched for with the ultrasound device pre and perioperatively and that node was then radiographed to confirm the presence of the clip (figure 1).

SLNB was done with a combined technique using patent blue dye and fluorescence (indocyanine green).

If the CN and/or SN were metastatic after NAC, the patient was submitted to ALND.

Results
➢ TAD and CLNB, as any other surgical technique, required a learning curve (figure 2).
➢ TAD and CLNB identification rates were 96,3% and 81,5%, respectively. CLNB identification rate was higher when the CN was identified with the ultrasound device perioperatively (86,4% vs 75%) (figure 3).
➢ The concordance rate between the CN and the retrieved SN was 100%.
➢ The CN predicted positivity in 88,9% of cases with positive retrieved SN.
➢ There were no complications from TAD and 48,1% of our patients could be spared from ALND.

Conclusion
We present the first Portuguese series on the feasibility of TAD and CLNB.

To identify the CN after NAC with the ultrasound was sometimes a challenge, but when this was possible the CLNB identification rate was higher.

In our cohort, every CN was also a SN, and the CN predicted the metastatic status of the SN.

Almost half of our patients could be spared from ALND. Thus, our study supports that TAD concept could be safely implemented as a mean to spare ypN0 patients to an ALND and its related morbidity.

References