Would clipping and removal of all ultrasound abnormal metastatic lymph nodes predict nodal response in breast cancer patients with neoadjuvant chemotherapy?

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Introduction: In node positive breast cancer patients, neoadjuvant chemotherapy (NACT) could result in nodal pathologic complete response (pCR) and avoid an axillary lymph node dissection (ALND). Axillary staging, in such cases, can be performed using targeted axillary dissection (TAD) with a low false negative rate (FNR). However, identification of sentinel lymph nodes (SLNs) after NACT can be difficult and currently, only 1 clipped node had been removed in TAD.

We aim to determine if removal of all sonographically abnormal metastatic clipped nodes, without SLN biopsy, could accurately predict the axillary status post NACT.

Methods: In this prospective study, breast cancer patients, with 1-3 sonographically abnormal metastatic axillary nodes were recruited. Each abnormal node had histology and clip insertion before NACT. After NACT, the patients underwent removal of clipped nodes using the Skin Mark clipped Axillary nodes Removal Technique (SMART) and ALND.
Results: 15 patients were recruited, having a total of 22 sonographically abnormal nodes clipped with 10, 3, 2 patients having 1,2,3 malignant nodes respectively. Mean age was 55.5 years old. 93.3% and 53.3% of patients had invasive ductal carcinoma and grade III tumors respectively. 33.3% patients achieved nodal pCR. The first clipped node predicted the axillary status with a FNR of 6.7%. Based on this and another second clipped node, the FNR was 0%. ypT (p=0.042) and first clipped node status (p=0.0020) were statistically significant for nodal pCR.

Conclusion: Removal of sonographically abnormal metastatic clipped nodes using SMART, without SLNB, could accurately predict axillary status. This is the first study, to date, which evaluated the accuracy of removal of multiple clipped nodes, without sentinel lymph node biopsy, on axillary staging after NACT.

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