



# AB013. SOH23ABS\_148. Imaging-based approach to axillary lymph node staging in breast cancer: identification of axillary lymph node metastasis in patients with breast cancer using CT

Peter Clinton, Shane Keogh, Mervyn Huston, Denis Evoy, Damian McCartan

Department of Surgery, St Vincent's University Hospital, Elm Park, Dublin, Ireland

**Background:** Axillary lymph node (ALN) metastasis is an important prognostic factor for patients with breast cancer. Sentinel lymph node biopsy (SLNB) is recommended for axillary staging. However, the rate of complications after SLNB can exceed 5%. A non-invasive measure for axillary staging is required. Computed tomography (CT) can visualise ALN metastasis however, its utility is unclear. The aim of this study was to assess the diagnostic performance CT in detecting ALN metastasis.

**Methods:** A single-centre, retrospective analysis from January 2019 to January 2022 was performed of patients who underwent axillary clearance. A database from radiology and histology reports was created. Preoperative imaging to assess the axilla included CT, mammography (MG) and ultrasound (US).

**Results:** A total of 50 patients, 96% female, with a mean age of 56 years where identified whom had an axillary clearance performed primarily. Seventy-eight percent (n=39) had clinically suspicious nodes identified in pre-operative CT scan. Of these 18 % (n=7) had nodes seen on mammogram and 72% (n=28) identified on US. Of the 11 CTs that didn't identify nodes 1 mammogram and 6 US identified nodes. Higher grade (G3 44% vs. 36%), multifocal disease (28% vs. 0%), and HER-2 expression (12

vs. 1%) were associated with identification of nodes on CT. This correlated with a sensitivity of 78%.

**Conclusions:** Conventional structural CT has high specificity for ALN disease however modest accuracy prohibits the use alone in axillary staging. Prospective research using advanced CT (e.g., positron emission tomography/CT) and standardised protocols could improve the diagnostic performance limiting surgical intervention in the axilla.

**Keywords:** Axillary lymph node (ALN); breast cancer; sentinel lymph node biopsy (SLNB); computed tomography (CT); mammography

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## Footnote

*Conflicts of Interest:* The authors have no conflicts of interest to declare.

*Ethical Statement:* The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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