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P001. AN AUDIT OF PATIENTS UNDERGOING NEOADJUVANT CHEMOTHERAPY AND ANALYSIS OF NODAL DISEASE TO GUIDE MANAGEMENT

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Introduction: For patients recommended neo-adjuvant chemotherapy (NAC), current practice for involved lymph nodes (LNs) at diagnosis is performing axillary node clearance's (ANC's). We have audited our practice to assess the level of axillary node disease on diagnostic ultrasound and post NAC pathology and reviewed how this information may guide management.

Method: Data was collected from breast-cancer patients who underwent NAC 2014-2018. All suspicious nodes were core biopsied. Further categorisation was performed for those with LN involvement at diagnosis along with tumour biology.

Results: 266 patients underwent NAC; pre-operative ultrasound nodal statuses included:

- No LN involvement - 120 patients (Group1) − (Sentinel Node biopsy (SNB))
- LN involvement - 146 patients (ANC):
- 40 patients 1-2 LNs involved (Group2:low burden)
- 106 patients ≥3 LNs involved (Group3:high burden)

GROUP 1

- 19/120 patients had involved SNB's:
- Majority (89%) had low disease burden
- 10 patients underwent ANC's
- 3 had further disease
  Total, 118 patients (98%) had no, or low disease burden

GROUP 2:

- 40 patients:
- 14 patients had nodal PCR
- 17 patients had 1-2 LN's residually involved
- 9 patients had ≥3 LNs residually involved (8 were ER+)

GROUP 3

- 106 patients:
- PCR in 33 patients
- 20 patients reduction of LN involvement
- 53 patients had high burden of axillary disease

Conclusion: Pre-NAC ultrasound is 93% accurate in identifying no or low burden axillary disease. This preliminary information could be used to inform future work in NAC patients with individualised axillary management pathways based on risk profile.

P002. ONE STEP NUCLEIC ACID AMPLIFICATION SENTINEL LYMPH NODE SAMPLING AS A PREDICTOR OF AXILLARY NODE STATUS IN EARLY INVASIVE BREAST CANCER: A UK SINGLE CENTRE EXPERIENCE

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Introduction: RD-100i One-Step Nucleic Acid amplification (OSNA) system analyses and amplifies mRNA from solubilised sentinel lymph node sampling (SLN) by detecting the level of expression of the cytokeratin-19 gene (CK19), an epithelial marker associated with breast cancer, giving a total tumour load (TTL) defined as the number of mRNA copies of CK19 (copies/µmol/L) . TTL indicates the presence of micro or macrometastases, allowing the surgeon to intraoperatively proceed to axillary node clearance (ANC) where positive. Evidence has shown OSNA copy number to be a predictor of axillary node status and survival.

Methods: A retrospective single centre cohort study of 728 patients undergoing wide local excision or mastectomy for early invasive breast cancer with intraoperative OSNA SLN or SLN preceding neoadjuvant chemotherapy was performed. Data was collected on tumour type, grade, size, presence of lymphovascular invasion, number of lymph nodes sampled, TTL, and histological metastases where ANC performed. TTL ≥5000 was taken as macrometastasis, and 250< TTL <5000 was taken as micrometastasis, TTL≥250000 was stratified as high risk.

Results: 723 patients underwent SLN sampling using OSNA. 17.2% (n=124) had macrometastases, 7.5% (n=54) had micrometastases. All patients with macrometastases underwent ANC and 61/124 had further histological lymph node metastases. Univariate logistic regression showed that (log) TTL was positively associated with further axillary lymph node metastases (p=0.607). High risk TTL carried OR=1.38 for further axillary metastases.

Conclusion: TTL using OSNA is a predictor of axillary node status in our patient population with early invasive breast cancer, supporting current evidence.

P003. EFFICACY OF IMMEDIATE AXILLARY CLEARANCE (AC) IN METASIN POSITIVE SENTINEL LYMPH NODE (SLN) BIOPSY ASSAY: A LARGE SINGLE CENTRE EXPERIENCE

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Introduction: Intra-operative assessment of the SLN allows an immediate AC to be performed in Metasin positive macrometastases (macro) patients. Surgical management of macro vs micrometastases (micro) is different. Differentiating between macro and micro is therefore essential and this can be done by intraoperative Polymerase Chain Reaction assay (qRT-PCR). The aim of this study is to assess the efficacy of immediate AC in Metasin positive patients.

Methods: The Metasin assay is an intraoperative molecular test which utilizes qRT-PCR to detect two predictive markers of metastases, Cytokeratin 19 (CK19) and Mammaglobin (MGB). Alternate 2mm slices of SLNs were tested with Metasin and the remainder by routine histological