51 (PB-051) Poster

SPECT/CT lymphoscintigraphy can accurately localize the sentinel lymph nodes and the clipped node in breast cancer patients undergoing targeted axillary dissection after neoadjuvant chemotherapy

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Background: Targeted axillary dissection (TAD) after neoadjuvant chemotherapy (NAC) for breast cancer has proven safety and led to de-escalation of axillary surgery with low false negative rates (FNR). When the sentinel lymph node (SLN) is not the clipped node, retrieval of the clip might be challenging. Single Photon Emission Computed Tomography with integrated CT (SPECT/CT) is used for SLN identification in various diseases, providing information about the anatomical location of SLNs. In this study we aimed to show whether SPECT/CT could guide TAD by localizing where the SLN and clipped nodes are, and its reliability assisting surgery.

Patients and methods: We reviewed the medical records of locally advanced breast cancer patients, diagnosed between September 2017 and June 2022. Sixty-two female breast cancer patients had biopsy-confirmed axillary nodal metastases and had NAC followed by breast surgery with TAD. Each patient had a metallic clip placed in the sampled lymph node prior to NAC. After completion of treatment the patients had breast surgery and sentinel lymph node biopsy (SLNB) with or without axillary lymph node dissection (ALND). All of the patients had SPECT/CT lymphoscintigraphy on the day of surgery. Periareolar 99mTechnetium-nanocolloid intradermal injection followed by dynamic, planar and SPECT/CT images were taken. The images were interpreted in workstation by the nuclear medicine specialist to assist the surgeon. We localized the sentinel node and the clips on CT images, before surgery. Depending on the surgeons choice blue dye (isosulphane-blue) was also administered. Removal of the clip was confirmed by specimen radiographs or macroscopic evaluation on table.

Results: Sixty-two patients with T1-4, N1-2 breast cancers were enrolled in this study. The median age was 46.5 (25–74). The mean number of SLNs were 2.5 (range 1–6). Thirty-four (55.7%) patients had confirmed metastases intraoperatively and had further ALND; whereas 27 (44.3%) had SLNB only. SPECT/CT identified 1–5 (mean 1,8) SLNs in each patient. In 54 (88.5%) patients clipped node was the SLN. In 3 (4.9%) patients the clip was found in the nonSLN. In the remaining 4 patients the clips were neither localized by SPECT/CT nor during surgery. In all of the patients (100%) SPECT/CT correctly localized the clipped lymph node (Table 1). Overall the false negative rate of TAD was 3.33%. There is no axillary relapse seen in follow up of median 25 months (2–59months).

Table 1:

	SPECT/CT (n)	SURGERY (n)
Clips in the SLNs	54	54
Clips in the non-SLNs	3	3
Clips not identified	4	4
Accuracy	100%	

Conclusion: SPECT-CT lymphoscintigraphy accurately localizes the SLN and the clips in the axilla, which can be reliably used to guide TAD in breast cancer surgery after NAC.

No conflict of interest.

52 (PB-052) Poster

Surgical outcomes after neoadjuvant systemic therapy in patients with lobular carcinoma

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Background: Breast cancer patients with invasive lobular carcinoma (ILC) have an increased risk of positive margins and show limited response to neoadjuvant systemic therapy (NST). Although magnetic resonance imaging is the most specific tool to assess response to NST, residual disease can be underestimated due to its diffuse growth pattern, resulting in tumor-positive margins. Re-excision as a result of tumor-positive margins may delay administration of adjuvant treatment and may have a negative effect on cosmetic outcome. Therefore, we aimed to investigate surgical outcomes in patients with ILC treated with NST.

Methods: We selected all breast cancer patients with ILC treated with NST who underwent surgery at the Netherlands Cancer Institute from 2010 to 2019. Patients with mixed type ILC in pre-NST core biopsies were excluded if the lobular component was not confirmed in the surgical specimen. Main outcome parameters were tumor-positive margins and re-excision rate. Associations between baseline characteristics and tumor-positive margins were assessed, as was locoregional recurrence rate (LRR), recurrence free survival (RFS) and overall survival (OS).

Table 1: Surgical outcomes in patients treated with BCS or mastectomy (n = 191)

	BCS (*n* = 107)		Mastectomy (*n* = 84)	
Tumor-positive margins	55	(51%)	12	(14%)
Focal	18	(17%)	5	(6%)
>Focal	37	(35%)	7	(8%)
Tumor-positive margins requiring re-excision	35	(33%)	4	(5%)
Definitive surgery				
Breast conserving surgery	82	(77%)	–	
Mastectomy	25	(33%)	84	(100%)
Tumor size (ypT in mm)	20	(9–40)	37	(17–50)

Numbers are in *n* (%) or median (IQR)

Results: We included 191 patients. After NST, 107 (56%) patients had breast conserving surgery (BCS) and 84 (44%) patients underwent mastectomy. In total, 67 (35%) patients had tumor-positive margins: 55 (51%) in the BCS and 12 (14%) in the mastectomy group (p-value <0.001). Re-excision was performed in 35 (33%) patients with BCS and in 4 (5%) patients with mastectomy (Table 1). BCS was preserved in 77% (*n* = 82) of patients that initially underwent BCS and in 33% (*n* = 25) a mastectomy was deemed necessary. Tumor-positive margins were associated with cT≥3 status (OR 4.62, 95% CI 1.26–16.98, *p*-value 0.021) in the BCS group. Five-year LRR (4.7%), RFS (80%) and OS (93%) was not affected by type of surgery after NST.

Conclusion: Although positive margins after NST in patients with ILC required re-excision in 33% of patients with BCS, it is considered safe given that five-year RFS remained excellent and LRR and OS did not differ between BCS or mastectomy.

No conflict of interest.

53 (PB-053) Poster

Targeted axillary dissection or sentinel node biopsy after neo-adjuvant treatment in clinically node positive patients – the West of Scotland experience

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Background: For patients with node positive disease who are exceptional responders for neo-adjuvant treatment (NAT), targeted axillary dissection (TAD) or sentinel node biopsy (SNB) with removal of minimum three nodes may be offered for staging. We compared clinicopathological outcomes of patients treated with TAD/SNB to ANC after NAT for node positive disease and describe clinicopathological outcomes after TAD with magseed localisation (TADm), wire localisation or no preoperative localisation (TAD) or SNB in three units in the West of Scotland.

Patients and methods: Node positive patients receiving NAT were identified from the prospectively collected West of Scotland Managed Clinical Network database, cross referenced with CRIS and electronic case note review was carried out to collect further clinicopathological outcomes. Chi-square and Mann-Whitney tests were used for statistics in SPSSv25.

Results:150 patients were treated either with TAD/SNB (n = 52; of these 11 had completion ANC) or ANC (n = 98) between February 2017 and October 2021. The rate of clinically palpable nodes (TAD/SNB: 83% (34/41) vs ANC/cANC: 73% (80/109)) and sonographically abnormal nodes (≥3;