Table 1. Surgical outcomes of patients who underwent RNSM and CNSM in total study population.

|                      | Before PSM | After PSM | p value | SMD | Before PSM | After PSM | p value | SMD |
|----------------------|------------|-----------|---------|-----|------------|-----------|---------|-----|
|                      | RNSM (n = 292) | CNSM (n = 463) |          |     | RNSM (n = 95) | CNSM (n = 190) |          |     |
| Nipple necrosis      | 261 (97.8) | 427 (92.2) | 0.002 | 0.255 | 54 (98.9) | 174 (91.6) | 0.001 | 0.352 |
| None                 | 6 (2.2) | 36 (7.8) | 0.003 | 0.245 | 3 (1.1) | 16 (8.4) | 0.011 | 0.284 |
| Yes                  | 238 (89.1) | 373 (80.6) |          |     | 84 (88.4) | 148 (77.9) |          |     |
| Clavien Dindo        | 29 (10.9) | 90 (19.4) |          |     | 11 (11.6) | 42 (22.1) |          |     |
| Classification No    | ≥ Grade II |            |          |     | ≥ Grade II |            |          |     |
| Grade III/a          |            |          |          |     |            |          |          |     |

Values are represented as number (percentage).

**Conclusion(s):** RNSM can provide favorable surgical outcomes in terms of the rates of high grade post-operative complication and nipple necrosis compared to CNSM for women with early breast cancer or germline mutations. **Conflict of Interest:** Hyung Seok Park received honoraria including consulting fee and travel support from Intuitive Surgical Korea and a research grant from Intuitive Surgical, Inc.

**P140**

Savi scout radar versus wire-guided localisation in breast cancer surgery: a systematic review and meta-analysis of surgical outcomes

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**Goals:** Wire-guided localisation (WGL) has been the standard technique for pre-operative localisation of non-palpable breast cancer (NPBC) for almost 40 years. However, WGL has several pitfalls including peri-operative scheduling challenges and patient discomfort. Savi Scout localisation (SSL) is a novel FDA-approved potential alternative, that utilises an implantable wireless non-radioactive reflector. A systematic review and meta-analysis was performed to compare the surgical outcomes of SSL versus WGL in NPBC surgery.

**Methods:** Embase, MEDLINE, PubMed and the Cochrane Library (1946 to December 2020) were searched using PRISMA guidelines for studies comparing SSL and WGL in NPBC surgery. Outcome measures including operative duration, positive margins and re-excision were analysed. Results were pooled into meta-analyses using a Mantel-Haenszel Random-Effects model as Odds Ratios for dichotomous data and Mean Difference for continuous data with a 95% Confidence Interval.

**Results:** Four eligible peer-reviewed studies involving 808 patients were identified comparing SSL (n = 462) and WGL (n = 346), including one prospective and three retrospective cohort studies. There was no significant difference between SSL and WGL in operative duration (minutes) (95% CI -0.27, -7.89 to 7.34, p = 0.94), positive margins (OR 0.73, 0.36 to 1.45, p = 0.36) and re-excision (OR 0.62, 0.33 to 1.16, p = 0.13). Inclusion of two excluded non-peer-reviewed retrospective cohort studies (additional SSL n = 143, WGL n = 424) altered statistical significance for re-excision in favour of SSL (OR 0.55, 0.36 to 0.83, p = 0.004).

**Conclusion(s):** This study provides evidence that SSL is a safe and effective alternative to conventional WGL for NPBC surgery. SSL has the advantage of uncoupling pre-operative localisation from surgery, reducing scheduling challenges. This is particularly useful in the current COVID-19 climate, with pre-operative elective surgery patient self-isolation requirements. SSL may decrease the need for re-excision however further studies including randomised controlled trials are required to investigate this further. **Conflict of Interest:** No significant relationships.
number of SN removed was 3.2. Stratifying by the number of SN removed, 24 (22.6%) patients had only one SN, 26 (24.5%) had two and 56 (52.8%) had three or more. SN was the only positive node in the 39.1% (18) of cases. On the other hand, there were 9 (15%) patients with negative SN but involved positive nodes in ALND. SLNB has a sensitivity value for lymph node detection of 81.8% (95% confidence interval, CI, 69.1–90.0%) with a false negative rate of 15.4%. When at least three SN were removed, sensitivity value was 90% (95% CI, 73.5–97.9%) with a false negative rate of 10%. However, we obtain at least three SN in only 52.8% of patients; the remaining 47.2% do not benefit from this criterion despite that the half were ypN0.

Conflict of Interest:

FNR and to increase the number of patients that could obtain benefit, we obtain at least three SN were removed, sensitivity value was 90% (95% CI, 73.5–97.9%) with a false negative rate of 10%. However, we obtain at least three SN in only 52.8% of patients; the remaining 47.2% do not benefit from this criterion despite that the half were ypN0.

Conflict of Interest: No significant relationships.

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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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Goals: 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: Breast cancer patients, with 1–3 sonographically abnormal metastatic axillary nodes were prospectively 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 7.2%. 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(s): Removal of sonographically abnormal metastatic clipped nodes using SMART, without SLNB, could accurately predict axillary status. This finding needs validation in larger studies.

Conflict of Interest: This research was supported by the KKH Health Fund (KKHHF/2017/001). Bard and Medquest provided their products UltraCor Twirl, Ultraclip dual trigger and HydroMARK markers respectively for this study. Bard and Medquest, however, had no part in the design of the study.

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Radiological evaluation of surgical margins after lumpectomy: comparison between mammography and ultrasound

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Goals: The aim of our study is the evaluation of specimen ultrasound accuracy in surgical margin status assessment after lumpectomy.

Methods: We retrospectively collected data of 70 patients who underwent 76 lumpectomy at Sant’Anna Hospital in Turin (Italy) from December 2018 and May 2020. Surgical margins were evaluated by intra-operative ultrasound and compared with histological examination, that is the the gold standard. If margins involvement was detected by the radiologist or pathologist, a re-excision was performed (during the same operation in the first case). Ultrasound sensitivity, specificity, diagnostic accuracy, positive (PPV) and negative predictive values (NPV) were obtained.

Results: Breast tumors of our samples were: invasive non-special histology carcinoma in 15/76 (18.9%), invasive lobular carcinoma in 11/76 (14.4%), invasive tubular carcinoma in 6/76 (7.8%), invasive mixed carcinoma in 5/76 (6.5%), B3 in 37/76 (48.6%), 1 case of papillary neuroendocrine carcinoma (1.3%) and 1 case of invasive apocrine carcinoma (1.3%). The average size of the lesion, assessed with ultrasound, was 11 mm (range: 5–30 mm). Pathological margin analysis was performed on all patients and revealed 69/76 (90.7%) negative margins and 7 (9.2%) positive margins. Ultrasound revealed 71 (93.4%) negative margins and 5 (6.5%) positive margins.

Conclusion(s): Ultrasound is an effective tool in the detection of the lesion within the lumpectomy, although margin evaluation is limited by the presence of the high rate of false negative and false positive cases with sensitivity, specificity, NPV and PPV respectively of 43%, 90.5%, 37.5% and 92%.

Although it is a simple and rapid method for verifying the correct excision of non-palpable neoplasms, the ultrasound of the operating piece is not reliable in predicting the status of the resection margins as it is limited by false negatives especially in the presence of involvement by the intraductal component or from thin lobular carcinomas. Excessive compression during the ultrasound of the sample (called “pancaking”) increases the false positivity that can cause unnecessary re-excisions. While it could be useful to confirm the complete excision of an echo-visible lesion and to exclude the presence of macroscopic invasive ductal carcinoma at the surgical margins.

Conflict of Interest: No significant relationships.