European Journal of Surgical Oncology 48 (2022) e189–e246

Contents lists available at ScienceDirect

European Journal of Surgical Oncology

journal homepage: www.ejso.com

Abstracts for oral presentation at the Association of Breast Surgery Conference, 16th – 17th May 2022

01

MARGIN INVOLVEMENT IN INVASIVE BREAST CANCER LEADS TO INCREASED DISTANT RECURRENCE AFTER BREAST CONSERVATION: SYSTEMATIC REVIEW

James Bundred [1], Sarah Michael [2], Ramsey Cutress [3], David Dodwell [4], Beth Stuart [3], Bernd Holleczek [5], Kerri Beckmann [6], Jane Dahlstrom [7], Nigel Bundred [8]. [1] *St James Hospital, Leeds, United Kingdom;* [2] *Manchester Foundation Trust, Manchester, United Kingdom;* [3] *University of Southampton, Southampton, United Kingdom;* [4] *University of Oxford, Oxford, United Kingdom;* [5] *Saarland Cancer Registry, Saarbrücken, Germany;* [6] *Cancer Epidemiology and Population Health Research Group, University of South Australia, Adelaide, Australia;* [7] *Australian National University Medical School, Canberra, Australia;* [8] *University of Manchester, Manchester, United Kingdom*

Background: International guidelines state any post-surgical margin wider than tumour on ink (ToI) following breast conserving surgery (BCS) for invasive cancer is acceptable, based on analyses of margin width and local recurrence (LR). We aimed to determine if margin involvement is associated with distant recurrence (DR) and to determine a minimum margin to minimize DR and LR.
Methods: A systematic review of literature published up to November 2021 was conducted according to PRISMA guidelines (PROSPERO: CRD42021232115). Unpublished data were sought from authors. Associations between pathological margin status, DR and LR were considered using random effects modelling.
Results: Sixty-nine studies comprising 103,806 cancer patients were included. Across studies, 9.7% of patients had ToI with a DR rate of 33.1% and 13.9% had ToI or close margins (<2mm) with a DR of 10.4% whilst patients with negative margins had a DR of 7.3%. Positive margins (ToI) were associated with increased DR and LR on multivariable analyses (Hazard ratio (HR): 2.10, (95% Confidence interval (CI) 1.65-2.69, p<0.001)) and HR: 2.04, (95%CI: 1.75-2.38), p<0.0011) respectively, compared to negative margins. Close margins (no ToI, but tumour < 2mm from ink) were associated with increased DR compared to wide margins (>2mm) (HR: 1.38, 95%CI: 1.13-1.69, p<0.001). In studies published post-2010, positive margins were associated with increased DR (HR:2.41 95%CI:1.81-3.21, p<0.001) as were positive or close margins compared to wide margins (HR:1.44, 95%CI:1.22-1.71, p<0.001).
Conclusions: Clear surgical margins(>2mm) after BCS for invasive breast cancer are associated with reduced DR and LR. International guidelines should be changed and risks of increased DR discussed with patients.

02

RADIOLOGICAL PREDICTION OF AXILLARY LYMPH NODE RESPONSE FOLLOWING NEOADJUVANT CHEMOTHERAPY - AN AID TO PATIENT SELECTION CRITERIA FOR REDUCING AXILLARY SURGERY

Sabreen Elbakri [1], Valentine Mberu [2], Andrew Evans [1], Jane MacAskill [1]. [1] *NHS Tayside, Dundee, United Kingdom;* [2] *NHS Lanarkshire, Bothwell, United Kingdom*

Introduction: Association of Breast Surgery guidelines recommend that sentinel node biopsy (SNB) can safely be considered in patients following neoadjuvant chemotherapy (NAC), with accuracy of SNB improved by combining targeted axillary dissection (TAD) with SNB (TAD-SNB) in initially node positive patients. However, patient selection criteria for TAD-SNB are still to be optimised. Local policy in NHS Tayside from July 2016 was to offer TAD-SNB to patients with complete and excellent response on MRI breast and normal axillary ultrasound (AUSS) after NAC.
Methods: A retrospective audit of all patients with proven axillary metastasis on core biopsy proceeding to NAC between February 2016 - December 2020 who had a baseline MRI and an interim or final MRI. Local Caldicott guardian approval was obtained.
Results: Of the 119 patients included, 53 (44%) underwent TAD-SNB, 65 (55%) underwent axillary lymph node dissection (ALND) and 1(1%) underwent axillary node sampling due to failed SNB. 47% of the patients who underwent TAD-SNB had complete nodal response on final pathology, compared to 14% in the ALND group. Complete response on breast and axilla MRI combined with normal AUSS had sensitivity of 93.9% and specificity of 48.6% in predicting lymph node response in the axilla.
Conclusion: Tumour response on breast and axilla MRI combined with USS of the axilla can be used to guide decision making on patients who can safely proceed to SNB.

03

PATIENT-REPORTED OUTCOMES OF PREPECTORAL IMPLANT-BASED BREAST RECONSTRUCTION: EARLY RESULTS FROM THE PRE-BRA PROSPECTIVE MULTI-CENTRE COHORT STUDY

Kate Harvey [1], Parisa Sinai [2], Nicola Mills [1], Paul White [3], Chris Holcombe [4], Shelley Potter [5]. [1] *Department of Population Health Sciences, University of Bristol, Bristol, United Kingdom;* [2] *Surgical Intervention Trials Unit, University of Oxford, Oxford, United Kingdom;* [3] *University of the West of England, Bristol, United Kingdom;* [4] *University of Liverpool, Liverpool, United Kingdom;* [5] *North Bristol NHS Foundation Trust, Bristol, United Kingdom and University of Bristol, Bristol, United Kingdom*

Introduction: Prepectoral breast reconstruction (PPBR) has been widely adopted due to a perceived reduction in post-operative pain and improved patient satisfaction but high-quality evidence to support these benefits is lacking. The Pre-BRA prospective multicentre cohort study aimed to explore the safety and effectiveness of PPBR prior to definitive evaluation in an RCT. Here we report the 1st analysis of the 18-month patient-reported outcome (PRO) data.
Methods: Consecutive women undergoing PPBR at 40 UK centres were recruited to the Pre-BRA study between July 2019 and Dec 2020 with a 4 month pause to recruitment (March-July 2020) due to the COVID-19 pandemic. Demographic, operative, oncological, and 3-month safety data were collected. Women were asked to complete the BREAST-Q© (V2.0) at baseline, 3 and 18-months. Questionnaires were scored according to the developers' instructions and compared with the 18-month PRO results from the iBRA study which included mainly subpectoral mesh-assisted reconstruction.
Results: 347 women underwent PPBR in the Pre-BRA study. Of these, 221 patients recruited pre-COVID have reached 18-month follow-up and 164 (74%) have completed the 18-month questionnaire. The median Satisfaction with Breasts score was 60 (48.5-71; 0-100) [inter-quartile range;

https://doi.org/10.1016/j.ejso.2022.03.022

range] compared to 59 (48-71; 0-100) in the UK iBRA study.
Conclusions: Satisfaction with breasts at 18-months following surgery appears to be equivalent following pre and subpectoral breast reconstruction. Further analysis is needed, but this study supports the need for an RCT to definitively compare techniques and establish best practice for implant-based reconstruction.

04

DEVELOPMENT OF A TRAINEE ONCOPLASTIC BREAST SURGERY EDUCATIONAL PROGRAM, BY TRAINEES FOR TRAINEES

Hugh Lurcott, Kirakoula Georgas, Carol Norman, Elizabeth Clayton. *Royal Surrey County Hospital, Guildford, United Kingdom*

Introduction: The learning environment domains in oncoplastic breast surgery are predominantly of outpatient management, day case surgery and MDT discussions. Trainees' clinical responsibilities are different to other ward-based rotations, thus we have tailored learning experiences to reflect the local opportunities. As trainees working in an oncoplastic breast surgery team we developed an educational opportunity booklet to maximise the trainee experience for ourselves and future doctors on the placement. This booklet was linked to the UK Foundation Program core competencies and the Joint Committee in Surgical Training Curriculum to streamline educational value.
Methods: A team of junior doctors considered a local curriculum linked to the educational opportunities available, consulting all members of the team, including senior surgeons, radiologists, pathologists, anaesthetists, and breast care nurses. This included surgical skills training in theatre, assessment and management of patients presenting via a breast abscess pathway and via ward referrals (and subsequent MDT presentation), managing a drain removal clinic and involvement in one stop and other more specialist clinics.
Results: During the placement, whilst undertaking these activities, we determined the frequency and logistics of the educational opportunities. An initial training program was devised with review by senior surgeons and distributed to subsequent trainees, who used and updated the booklet to ensure ongoing educational value. Completion resulted in a comprehensive reflective portfolio with increased trainee placement satisfaction.
Conclusions: Development of an educational opportunity booklet by trainees, for trainees, maximises educational opportunities and placement satisfaction for trainees in Breast Surgery rotations.

05

SYSTEMATIC REVIEW OF PARTIAL BREAST RECONSTRUCTION WITH PEDICLED PERFORATOR ARTERY FLAPS: CLINICAL, ONCOLOGICAL AND COSMETIC OUTCOMES

Ojas Pujji[1], Vivienne Blackhall[2], Laszlo Romics[3], Raghavan Vidya[4]. [1]*Department of Surgery, Morriston Hospital, Swansea, United Kingdom;* [2]*Gartnavel General Hospital, Greater Glasgow and Clyde, NHS Scotland, United Kingdom;* [3]*New Victoria Hospital, Greater Glasgow and Clyde, United Kingdom;* [4]*The Royal Wolverhampton NHS Trust, United Kingdom*

Introduction: The use of chest wall perforator flaps (CWPFs) following breast conservation surgery for breast cancer has become a useful tool in the armamentarium of the oncoplastic breast surgeon, however robust evidence for the technique is lacking. The aim of this study was to conduct a systematic review appraising the current evidence for the use of CWPFs, evaluating clinical, oncological and cosmetic outcomes.
Methods: A PRISMA-compliant systematic review, with PROSPERO published protocol a priori and search of all relevant database and trial registries between 1990 to July 2020. Eleven studies amounting to 432 cases were reviewed and considered to be at high risk of bias due to small sample size, selective outcome reporting and selection bias.
Results: Fifty-two (12.3%) clinical complications were recorded: seroma (n = 9; 2.1%), fat necrosis (n = 9; 2.4%), haematoma (n = 8; 1.9%), infection (n = 9; 2.1%), and flap necrosis (n = 9; 2.1%). Thirty-four (10.8%) patients had an involved positive margin, 29 patients underwent re-excision (9.3%) and four underwent completion mastectomy (1.3%). One local recurrence and six distant recurrences were observed during a mean follow up of 21 months (1-49). A pooled patient cosmetic satisfaction descriptor of good or excellent was described in 93% of cases.
Conclusion: CWPFs are a safe method of partial breast reconstruction following BCS. They are associated with a low complication rate, acceptable short-term oncological outcomes and satisfactory cosmetic outcome. There is a relative paucity in quality

06

THERAPEUTIC MAMMOPLASTY IS ASSOCIATED WITH FEWER LONG-TERM SIDE-EFFECTS FROM BREAST RADIOTHERAPY

Arjuna Brodie[1], Ahmed Gaber[1], Monika Kaushik[1], Frances Kenny[1], Jaroslaw Krupa[1], Kelly V. Lambert[1], Simon M. Pilgrim[1], Walid Sasi[1], Sheila Shokuhi[1], Kalliope Valassiadou[1], Kiran Kancherla[1], Kufre Sampson[1], Christopher J. Talbot[2], Catharine West[3], Tim Rattay[2]. [1]*University Hospitals of Leicester NHS Trust, Leicester, United Kingdom;* [2]*University of Leicester, Leicester, United Kingdom;* [3]*University of Manchester, Manchester, United Kingdom*

Background: Larger breast size and volume are predictors of clinically significant radiotherapy side-effects (toxicity). Therapeutic mammoplasty (TM) extends the role of breast-conserving surgery (BCS) by combining wide local excision of the cancer with breast reduction and mastopexy techniques. The aim of this study was to determine the effect of TM using level 2 oncoplastic techniques on the incidence of early and long-term radiotherapy toxicity.
Methods: Breast cancer patients recruited prospectively into the multicentre REQUITE cohort study (www.requite.eu) at the University Hospitals of Leicester were included (n=346) with toxicity (CTCAE v4.0) scored at baseline, following radiotherapy, and 2-year follow-up. Specimen resection weight and TM were investigated in association with toxicity in multivariable regression (MVR) models adjusted for patient and treatment co-variates.
Results: At 2 years, 20.1% of patients had grade $\geq$2 atrophy, 23.2% grade $\geq$1 tumour bed induration (fibrosis), 12.6% grade $\geq$1 breast induration, and 12.1% telangiectasia. 22.5 % of patients (n=78) underwent TM. Tumour size and resection weight were larger for TM than conventional BCS (T-test, p=0.006 and p<0.001). TM but not specimen resection weight was associated with reduced induration in the tumour bed (Odds ratio=0.21, p=0.003, MVR), across the breast (OR 0.19, p=0.03) and telangiectasia (OR 0.12, p=0.02). Neither TM nor specimen weight had any effect on atrophy or early toxicities.
Conclusions: TM but not resected specimen weight is associated with fewer long-term side effects from breast radiotherapy. This implies that toxicity is affected not by reducing overall radiotherapy target volume but re-shaping the breast, which is likely to improve dose homogeneity.

07

NO OCCULT MALIGNANCY IDENTIFIED IN 1130 TRANSMALE GENDER-AFFIRMING MASTECTOMY SPECIMENS

Brogan Rudge, Rachel Lee, Ioannis Ntanos, Sami Titi, Kate Williams, Chloe Wright. *North Manchester General Hospital, Manchester, United Kingdom*

Introduction: Bilateral mastectomy with chest reconstruction is the principal gender-affirming surgery undertaken by transmen. Routine practice is for histopathological analysis of all mastectomy specimens to identify occult malignancy. There is minimal published evidence to support this.
Methods: A retrospective cohort case note study of all patients undergoing gender-affirming mastectomy (GAM) at North Manchester General Hospital between 2014 and 2021 was performed. Data was collected on age, date of surgery, and presence of pathology on histopathological examination of the mastectomy.
Results: Complete datasets were retrieved for 565 patients, median age 24 (range 17-62). 472 (83.5%) were under 30 years old. No malignant or pre-malignant lesions were detected in the 1130 mastectomy specimens.
Conclusion: Despite the increase in delivery of gender-affirming care, there are few evidence-based guidelines to support best practice, and none for screening for occult breast malignancy. No occult malignancy was

found in this cohort, where 83.5% were under 30. This is in-keeping with the known, low incidence of breast cancer in cis women under 30 (13.2 per 100,000). It is noted that histopathological assessment is recommended for all breast specimens by the Pathological Society of Great Britain and Ireland. Routine histopathological assessment of GAM specimens at the study institution consists of macroscopic examination and, if unremarkable, routine histology of 4 random tissue blocks. The findings of this study indicate that more conservative examination of GAM specimens may be safe. The authors hope that publication of this data will aid national bodies in development of guidelines for this patient group.

08

CHEST WALL PERFORATOR FLAPS FOR WHOLE BREAST RECONSTRUCTION - FEASIBILITY

Peter Barry [1], Nihal Gönen-Yildirim [2], Anna Heeney [3], Rachel O'Connell [1], Edward St John [4]. [1] *Royal Marsden NHS Foundation Trust, London, United Kingdom;* [2] *Nottingham University Hospital, Nottingham, United Kingdom;* [3] *Mater Misericordiae University Hospital, Dublin, Ireland;* [4] *Portsmouth Hospitals University NHS Trust, Portsmouth, United Kingdom*

Introduction: Chest wall perforator flaps (CWPFs) can replace resected volume during breast conserving surgery. Their use can also be extended to whole breast reconstruction (WBR) after mastectomy with a recovery and hospital stay similar to implant-based techniques and shorter than autologous reconstruction. We introduced and audited this procedure for feasibility.
Methods: Cases were extracted and collated from a prospective database of patients who underwent CWPFs between 23/12/2019-15/11/2021. Patient demographics, indication for surgery, surgical technique and complications were analysed.
Results: Local audit approval was obtained. Of 91 females who underwent CWPF, 8 had WBR, bilateral in 2 (performed metachronously). Median age was 52.9 years, mean BMI 28.4 kg/m2 and 2 were ex-smokers. Four were BRCA1 and 1 BRCA2 germline mutation carriers (including the 2 bilateral patients). Five had neoadjuvant chemotherapy. The most common perforator vessels used were lateral intercostal artery perforator (LICAP) or combination LICAP and lateral thoracic artery perforator (n=4 each) and 8 patients had skin reduction. Mean operative time was 3.6 hours and mean specimen weight was 595g. Length of hospital stay was n=1 one day, n=8 one night, n=1 two nights. Three patients had post-operative radiotherapy and 1 had unplanned surgery for lateral mastectomy skin flap necrosis debridement. Median follow-up was 6.4 months.
Conclusions: The use of chest wall perforator flaps for whole breast reconstruction is a safe and feasible approach which may provide another option for patients who prefer reconstruction but are less suited to alternative methods and provides a short length of hospital stay.

09

PERFORATOR FLAPS: DOCTOR NEEDS IN TRAINING AND ATTITUDES. THE PERDITA SURVEY

Peter Barry [1], Yazan Masannat [2], Andreas Karakatsanis [3]. [1] *Royal Marsden NHS Foundation Trust, London, United Kingdom;* [2] *Aberdeen Royal Infirmary, Aberdeen, Scotland;* [3] *Akademiska University Hospital, Uppsala, Sweden*

Introduction: Chest wall perforator flaps (CWPFs) have now been mandated as a component of trainees' logbooks by the new curriculum (JCST). The arbitrary volume per trainee has been set at 25 cases prior to CCT. Currently only selected breast centres offer CWPFs. The early Anthem survey results showed that of 144 UK centres, 58 completed the survey and of these, only 39 perform CWPFs (personal communication, Miss Shelley Potter). Given the likely selection bias of those who completed the survey, these 39 centres represent the majority of UK centres offering the procedure. Therefore, the needs of trainees as well as established consultant surgeons needs to be addressed to meet increasing demand.
Methods: An online survey using Microsoft forms survey platform (link: https://forms.office.com/r/SXK2MffHCR) has been deployed internationally to a cohort of iBreastBook attendees. This cohort will provide an international cross-section of training needs and will serve as a reference for a further deployment of the survey in early 2022 to both ABS and Mammary Fold members. Results will be compiled and presented in summary fashion to quantify the magnitude of perceived training and educational needs of UK trainees and consultants.
Results: Data summarising respondent demographics, level of experience, whether or not flaps are currently undertaken, intentions regarding the performance of CWPFs, availability of educational and training opportunities, and precise aspects of training needs.
Conclusions: The survey will provide an objective assessment of the magnitude of the demand for educational and training requirements for both trainees and consultants who would like to gain competency in CWPF.

10

COST OF DELAYED VERSUS IMMEDIATE AUTOLOGOUS BREAST RECONSTRUCTION

Michael Boland [1], Elisa Wylleman [1], Nathan Taylor [1], Lois Clay-Baker [1], Yasmin Grant [2], Lana Kovacevic [2], Elias Mossalios [3], Francis Henry [1], Simon Wood [1], Paul Thiruchelvam [1], Daniel Leff [1]. [1] *Imperial College Healthcare Trust, London, United Kingdom;* [2] *Imperial College London, London, United Kingdom;* [3] *Department of Social Policy, London School of Economics, London, United Kingdom*

Introduction: Delayed autologous breast reconstruction (DBR) is often performed in patients not deemed suitable for immediate breast reconstruction (IBR). Although previous studies suggest a negative impact on oncological outcomes in patients undergoing DBR, little is known about the financial and economic burden. The aim was to compare overall cost in patients undergoing DBR compared to IBR.
Methods: After service evaluation approval (ID=648) a retrospective review of all patients undergoing DIEP flap autologous reconstruction (immediate and delayed) between 2014-2020 was performed. Clinicopathological characteristics were recorded, and multivariate regression analysis performed between groups. Costing analysis was formulated using patient level information and costing system (PLICS) data.
Results: Preliminary financial data was available for 111 patients, of which 101 underwent IBR and 10 underwent DBR. The median cost of inpatient care for delayed autologous reconstruction (2nd procedure only) was £17450 (Range: £8533-£21297) and median length of stay was 4 days (Range: 3-12 days). The median cost of inpatient care for both procedures (combined) was £24202 vs. £21347 in patients undergoing IBR (unpaired t-test; p=0.67). Multivariate logistic regression analysis found that BMI was the only clinical factor influencing cost across both groups (p<0.02). Other factors including smoking status (p=0.10), diabetic status (p=0.40), adjuvant therapies received (chemotherapy; p=0.53 & radiotherapy; p=0.056) and tumour size (p=0.35) were not significantly different between the delayed and immediate group.
Conclusion: Although not statistically significant, delayed DIEP reconstruction is associated with an increased financial burden compared to those undergoing immediate reconstruction. Other clinical factors do not seem to differ significantly between groups, indicating that some of these patients could be considered for immediate reconstruction.

12

LONG-TERM PATIENT-REPORTED OUTCOMES OF IMMEDIATE BREAST RECONSTRUCTION: INITIAL RESULTS FROM THE BRIGHTER STUDY

Leigh Johnson [1], Paul White [2], Ranjeet Jeevan [3], John Browne [4], Carmel Gulliver-Clarke [5], Joe O'Donoghue [6], Syed Mohiuddin [1], Will Hollingworth [1], Patricia Fairbrother [7], Mairead MacKenzie [7], Chris Holcombe [8], Shelley Potter [9]. [1] *Bristol Medical School, Bristol, United Kingdom;* [2] *University of West of England, Bristol, United Kingdom;* [3] *University Hospitals South Manchester, Manchester, United Kingdom;* [4] *University College Cork, Cork, Ireland;* [5] *University Hospitals Sussex NHS Foundation Trust, Sussex, United Kingdom;* [6] *Department of Plastic Surgery, Royal Victoria Infirmary, Newcastle upon Tyne, United Kingdom;*

[7] *Independent Cancer Patients' Voice, London, United Kingdom;* [8] *Royal Liverpool University Hospital, Liverpool, United Kingdom;* [9] *Bristol Medical School and North Bristol NHS Trust, Bristol, United Kingdom*

Introduction: High-quality information about the long-term patient-reported outcomes (PROs) of different approaches to immediate breast reconstruction (IBR) is vital to allow women to make informed decisions about surgery but such data are currently lacking. The Brighter study explored long-term PROs in women who underwent mastectomy +/- IBR during the 2008/9 National Mastectomy and Breast Reconstruction Audit (NMBRA).
Methods: Women undergoing mastectomy +/- BR between 2008/9 were identified via NHS Digital in September 2021 and surviving women invited to complete validated BREAST-Q, EQ-5D-5L and ICECAP-A questionnaires and a single overall measure of satisfaction online or by post as per patient preference. Questionnaires were scored according to developers' instructions and the scores for women undergoing different types of IBR compared.
Results: Data collection is ongoing, but PRO data is currently available for 869 women who underwent 237 (27%) immediate implant-based; 432 (50%) latissimus dorsi +/- implant (LD) and 181 (21%) abdominal-flap procedures. Women undergoing abdominal-flap reconstruction reported significantly higher 'Satisfaction with Breasts' scores (median 65, interquartile range (IQR) 55-82) than those undergoing implant-based (median 52, IQR 42-65) or LD-flap (median 59, IQR 45-71) procedures ($p<0.001$). They were also significantly more likely to describe the results of their surgery as 'excellent' or 'very good' than women undergoing other types of IBR ($p<0.001$).
Conclusions: Women undergoing abdominal-flap reconstruction appear to report significantly better long-term satisfaction with the outcome of their reconstruction than women undergoing other IBR procedures. Final results of the Brighter study should be shared with patients to help them make more informed decisions about reconstructive surgery.

13

RATES OF REVISION AND SECONDARY RECONSTRUCTION PROCEDURES 8 YEARS FOLLOWING IMMEDIATE BREAST RECONSTRUCTION: RESULTS FROM THE BRIGHTER LONG-TERM BREAST RECONSTRUCTION OUTCOME STUDY

Leigh Johnson [1], Paul White [2], Ranjeet Jeevan [3], John Browne [4], Carmel Gulliver-Clarke [5], Joe O'Donoghue [6], Syed Mohiuddin [1], Will Hollingworth [1], Patricia Fairbrother [7], Mairead MacKenzie [7], Chris Holcombe [8], Shelley Potter [9]. [1] *Bristol Medical School, Bristol, United Kingdom;* [2] *University of West of England, Bristol, United Kingdom;* [3] *University Hospitals South Manchester, Manchester, United Kingdom;* [4] *University College Cork, Cork, Ireland;* [5] *University Hospitals Sussex NHS Foundation Trust, Sussex, United Kingdom;* [6] *Department of Plastic Surgery, Royal Victoria Infirmary, Newcastle upon Tyne, United Kingdom;* [7] *Independent Cancer Patients' Voice, London, United Kingdom;* [8] *Royal Liverpool University Hospital, Liverpool, United Kingdom;* [9] *Bristol Medical School and North Bristol NHS Trust, Bristol, United Kingdom*

Introduction: High-quality information on the long-term clinical outcomes of different types of immediate breast reconstruction (IBR) including the need for further surgery is currently lacking. The Brighter study aimed to compare the need for revisional surgery and secondary reconstruction by type of IBR to help women make more informed decisions about surgery.
Methods: Women undergoing unilateral mastectomy and IBR for breast cancer or DCIS in England between 01/04/09 and 31/03/11 were identified from NHS Hospital Episode Statistics. Frequencies of revision procedures and secondary reconstructions following IBR were compared by procedure type.
Results: 5,099 women underwent IBR with a minimum of 8 years' follow-up. Of these, 844 (16.6%) had a temporary tissue-expander inserted as their initial procedure. 4255 had definitive primary IBR including 1,075 (21.1%) implant-based; 994 (19.5%) autologous latissimus dorsi (LD); 1236 (24.2%) implant-assisted LD and 950 (18.5%) abdominal free-flap (AFF) procedures. In women undergoing definitive primary reconstruction, those receiving implant-based IBR were more likely to undergo one or more revision procedures (747/1075, 69%) than patients undergoing LD +/- implant (1131/2203, 51%) or AFF (454/960, 48%) ($p<0.001$) procedures. At 8 years, 189/1075 (18%) women with implant-based IBR had undergone a secondary reconstruction compared with 55/2203 (2%) women undergoing an LD +/- implant and 25/950 (3%) of those receiving an AFF ($p<0.001$).
Conclusions: Long-term rates of revision and secondary reconstruction surgery were considerably higher in patients undergoing implant-based reconstruction compared with those undergoing primary autologous procedures. These results should be shared with patients to inform decision-making and commissioners to support evidence-based provision of reconstructive services.

14

ROUTINELY COLLECTING PATIENT-REPORTED OUTCOME MEASURES (PROMS) DATA IN BREAST SURGERY USING THE BREAST-Q AND REDCAP©

Saed Ramzi. *University Hospitals Plymouth NHS Trust, Plymouth, United Kingdom*

Background: Patient-Reported Outcome Measures (PROMs) have become increasingly important in cancer care. Policy makers require that PROMs are used routinely in oncoplastic breast surgery but for various reasons, the uptake has been slow.
Aims: Design electronic PROMs questionnaires for secure online administration and collection of contextual clinical data prospectively.
Methods: The BREAST-Q scales have been re-arranged. Four pre- and four post-operative operation-specific questionnaires; Lumpectomy +/- glanduloplasty, Mastectomy without reconstruction, Mammoplasty, and Reconstruction +/- mastectomy. Each includes all potentially relevant scales, overarching oncological and aesthetic elements, and encompassing new techniques (e.g., perforator flaps). Interactive stops were used so that patients can navigate away from irrelevant scales. REDCap© secure web application has been approved by the Research and Development Department to administer the BREAST-Q and clinical database.
Results: A pre-programmed cascade of questionnaires is triggered when project users enter patient name, NHS number, e-mail address or mobile phone number, and operation category. Depending on surgery date, the following questionnaires are automatically sent or scheduled; pre-operative, and 3 months, 1, 3, and 5-years post-operative. The questionnaires are sent via e-mail or SMS and take 5 minutes to complete. Collaboration with an unlimited number of sites is possible. The project enables sending questionnaires to an unlimited number of patients using patient information routinely held by the NHS.
Conclusion: Our PROMs project is effective, secure, easy-to-use, free-of-charge and ensures compliance with national guidance. It can support multi-centre collaboration and/or a large study to benchmark PROMs in breast patients in the UK through mass triggering using patient data routinely held by the NHS.

15

EFFICIENT MANAGEMENT OF NEW PATIENT REFERRALS: FURTHER DATA WITH INCREASED NUMBERS CONFIRMS THE SAFETY OF ADVANCED NURSE PRACTITIONER (ANP) LED TELEPHONE BREAST PAIN CLINICS

Claire Robinson [1], Katie Ellis [1], Hiba Fatayer [2], Nader Touqan [2], Ashu Gandhi [1]. [1] *Manchester University Hospitals NHS Foundation Trust, Manchester, United Kingdom;* [2] *North West Surgical Deanery, Manchester, United Kingdom*

Introduction: Seeing women with suspected breast cancer within 2-week targets continues to present considerable challenges for all breast units. Recognition that breast pain alone has minimal association with breast malignancy has produced innovative assessment pathways assessing these women outside of one-stop clinics. We present updated data with increased numbers and longer follow-up from an ANP-led telephone breast pain clinic.
Methods: GP-led triaging allows direct booking into weekly clinics. All referrals are reviewed by ANPs ensuring strict inclusion criteria are met. Over the past 6 months we have recorded data on diagnosed origin of pain

(breast v musculoskeletal).
Results: Of 1231 women referred over 17 months, 738 (60%) were aged over 40y, 493 (40%) younger than 40y. 1069 (87%) proceeded to telephone consultation (13% DNA'd). Of these, 328/1069 (31%) required simple reassurance and discharge with 220/1069 (21%) mentioning additional symptoms requiring one-stop clinic referral. Mammograms were required in 528/1069 (49%). Origin of pain was identified as musculoskeletal in 467/483 (97%) and true breast pain in 6/483 (1%). Breast cancer incidence was 7/1069 (0.6%); one patient (age 87y) was incorrectly triaged to telephone clinic with a fixed chest-wall mass. Six remaining patients (median 72y; range 55-81y) had contralateral (n=2) and ipsilateral (n=4) malignancies; 1 DCIS, 5 invasive carcinoma (median 9mm (6-27mm)).
Conclusion: Careful triage and assessment results in a safe, effective ANP-led telephone-based service for women with perceived breast pain in whom breast cancer incidence is equivalent to that seen in breast screening. The service is popular with patients (feedback will be presented) and creates extra capacity in one-stop clinics.

16

DEVELOPING AND TESTING A WEB-BASED INTERVENTION TO SUPPORT PAIN AND SYMPTOM SELF-MANAGEMENT IN BREAST CANCER SURGERY

Sue Hartup [1], Mark Johnson [2], Michelle Briggs [3], Laura Ashley [2], Galina Velikova [4]. [1] *Leeds Teaching Hospitals NHS Trust, Leeds, United Kingdom;* [2] *Leeds Beckett University, Leeds, United Kingdom;* [3] *University of Manchester, Manchester, United Kingdom;* [4] *University of Leeds, Leeds, United Kingdom and Leeds Teaching Hospitals NHS Trust, Leeds, United Kingdom*

Introduction: Surgery for breast cancer confers comorbidities including high rates of persistent post-surgical pain (PPSP). An audit revealed that the surgical pathway does not support patient self-management of symptoms. Web-based interventions (WBIs) have been shown to improve self-management in chronic conditions. A mixed-methods approach was used to develop a WBI to capture patient self-reported post-operative symptoms and provide individualised self-management advice.
Methods: Developing the WBI comprised a scoping review, systematic review and development study. The scoping review found a paucity of WBIs within breast cancer whilst the systematic review of WBIs in any surgical setting found tentative evidence of effectiveness. A development study including patient and HCP interviews confirmed post-surgical self-management was sub-optimal with a need for real-time symptom monitoring and informed the development of a WBI.
Results: The WBI comprised two parts; a website and daily post-operative symptom questionnaire. Intervention components included generic education and specific algorithm-based advice based on themes identified in development. Intervention questions included pain, infection, swelling, and factors reducing QoL. Advice was generated for all questions with different levels within each to ensure appropriate tailored advice generation. Levels were agreed with clinicians based on CTCAE grading. Testing included IT, patient, HCP and academic feedback to ensure the WBI was fit for purpose, user-friendly, accurate and reliable. Feedback was used to finalise the content of the intervention.
Conclusion: The WBI was developed in response to patient identified needs. A prospective clinical feasibility study was subsequently designed to evaluate acceptability, usability and perceived usefulness of the WBI in newly diagnosed breast cancer patients.

17

EXPERIENCES AND VIEWS OF WOMEN UNDERGOING BRCA GENETIC TESTING IN THE UK; A QUALITATIVE SYSTEMATIC REVIEW

Zeinab Hassanein [1], Rachel Lee [2], Murad Ahmed [2], Kristjan Asgeirsson [2], Douglas Macmillan [2], Emma Wilson [1]. [1] *University of Nottingham, Nottingham, United Kingdom;* [2] *Nottingham University Hospitals NHS Trust, Nottingham, United Kingdom*

Introduction: Breast cancer has the highest cancers' incidence in the UK in 2017 (over 55,200 new cases per annum). Individuals who are BRCA1/2 mutation carriers tend to have higher levels of psychological morbidities. The aim of this SR is to identify, appraise, and synthesize evidence related to the experiences and views of women undergoing BRCA genetic testing in the UK National Health Service (NHS) system.
Methods: Qualitative studies that explored the experiences and views of women undergoing BRCA genetic testing were included. The systematic review was performed according to the Joanna Briggs Institute (JBI) guidelines for qualitative systematic reviews. MEDLINE, EMBASE, CINAHL, and PsycINFO databases were searched from inception to January 2021. Meta-aggregation was used to synthesize the findings.
Results: Of 2228, 14 studies (reported in 15 papers) representing the views of 14 partners and 522 women undergoing BRCA genetic testing aged between 18 and 68 years were included in the SR. The methodological quality of the studies was high. The findings of this review were classified into two themes, pre-and post-genetic testing experiences, with eight subthemes. The subthemes describe women's expectations/needs, barriers/facilitators to conduct genetic testing, experiences of women and their families, fears of reporting genetic testing, community/family reactions, meeting expectations/needs, and long-term impacts.
Conclusion: Women experienced uncertainty, a sense of guilt, trauma, and stigma. They need accurate information, which is up to date from health care professionals. Providing support for their children and creating a balance between psychological and information support is essential.

18

PREPARING TO SURVIVE: IMPROVING OUTCOMES FOR YOUNG WOMEN WITH BREAST CANCER

Alison Hunter-Smith [1], Colleen Cuthbert [2], Karen Fergus [3], Lisa Barbera [2], Yvonne Efegoma [2], Doris Howell [4], Susan Isherwood [4], Nathalie Levasseur [5], Adena Scheer [6], Christine Simmons [7], Amirrtha Srikantham [8], Claire Temple-Orberle [2], Yuan Xu [2], Kelly Metcalfe [9], May Lynn Quan [2]. [1] *St Helens and Knowsley Teaching Hospitals NHS Trust, Prescot, United Kingdom;* [2] *University of Calgary, Alberta, Canada;* [3] *York University, Toronto, Canada;* [4] *Princess Margaret Research Institute, Toronto, Canada;* [5] *Breast Cancer Agency, Vancouver, Canada;* [6] *St Michael's Hospital, Toronto, Canada;* [7] *The University of British Columbia, Vancouver, Canada;* [8] *The Ottawa Hospital, Ottawa, Canada;* [9] *Lawrence S Bloomberg Faculty of Nursing*

Introduction: Young women with breast cancer (YWBC) have unique needs compared to their older-age counterparts, due to life-stage at diagnosis; often yet to start a family, responsible for young children, and/or in the midst of career progression. Interventions to address this are limited. We aimed to understand the unmet needs of YWBC in order to develop a tailored self-management tool (SMT) to improve YWBC's experience and psychosocial-sexual wellbeing, long-term.
Methods: Using qualitative inquiry, semi-structured interviews conducted with YWBC survivors and clinicians.
Inclusion criteria: women aged < 40 years, stage 0-IV disease, minimum one-year post-diagnosis.
Clinicians: active members breast cancer MDT. Interviews recorded and transcribed verbatim, data analysed using Thorne's Interpretive Description.
Results: Thirty-six participants interviewed across seven Canadian provinces. Mean age 36 years. 36% received neo-adjuvant chemotherapy, 47% mastectomy with reconstruction and 41% contralateral prophylactic mastectomy. The majority of YWBC reported coping needs focused on psychological and emotional challenges (fear and anxiety), fertility support, negative self-image and sexual health morbidity. Coping needs were greatest at point of diagnosis and on discharge from acute care. Significant coping challenges also described for close family members; partners' needs often neglected with no offer of professional support, which in turn, negatively impacted survivor experience. YWBC requested SMT include: age-specific one-on-one peer support; psychology, age-specific sexual health and fertility education; post-treatment support.
Conclusions: We have identified unique biopsychosocial and educational needs from this young cohort of women. We will target these through a

novel and pragmatic SMT, to improve YWBC's experience and optimise long-term health.

19

EXPLORING THE NIPPLE ASPIRATE FLUID MICROBIOME IN BREAST CANCER PATIENTS

Natasha Jiwa [1], Nathan Danckert [1], Zoltan Takats [1], Julian Marchesi [1], Daniel Leff [2]. [1] *Imperial College London, London, United Kingdom;* [2] *Imperial College London, London, United Kingdom and Imperial College Healthcare Trust, London, United Kingdom*

Introduction: Nipple aspirate fluid (NAF) is the physiological biofluid lining ductal epithelial cells and has traditionally been thought of as a sterile biofluid. We aim to assess whether NAF has a microbiome that is unique to the nipple ductal system and whether the NAF microbiome profile differs between a normal breast versus a breast with cancer.
Method: Manual compression of the breast was undertaken to collect NAF samples alongside controls from the nipple skin, breast skin and arm skin. DNA extraction from NAF samples was optimised and analysed by 16S rRNA gene sequencing. Quantitative PCR analysis was performed to determine assigned sequence variant (ASV) counts.
Results: A total of 45 samples (n=23 normal; n=22 DCIS/invasive cancer) were processed [mean±StD age= 52.91±9.51 years]. Overall, Actinobacteria, Firmicutes and Proteobacteria were the most abundant phyla across all sample types. A higher alpha diversity (bacterial richness) was demonstrated in swabs taken from the cancer side of the patient than normal side with both Chao1 ($p=0.005$) and Faith's diversity index ($p=0.03$). Beta diversity comparisons by principal component analysis (PCA) demonstrated that paired samples (i.e. cancer vs. normal) did not converge, illustrating that the microbiome differs in normal vs. tumour breast samples from the same patient. Differential abundance identified Peptoniphilus increased in NAF from a normal breast and Cuvibacter increased in NAF from a cancer breast compared to NAF from a normal breast ($p<0.05$).
Conclusion: Results are promising in detecting the presence of a nipple fluid microbiome, with subtle unique differences between fluid from cancer versus non-cancer breasts.

20

LYMPHA FOR PRIMARY PREVENTION OF BREAST CANCER RELATED LYMPHEDEMA – PROSPECTIVE OBSERVATIONAL STUDY

Ashwin Rajagopal, B.C. Ashok, S.P. Somashekhar, Rohit Kumar. *Manipal Hospital, Bangalore, India*

Introduction: Breast Cancer related lymphedema (BCRL) remains a potentially life-altering sequela of breast cancer treatment. Sentinel lymph node (SLN) biopsy and Axillary reverse mapping (AR) has reduced the incidence & severity of BCRL. Lymphatic Microsurgical Preventive Healing Approach – (LY.M.P.H.A.) is a surgical technique requiring consisting of lymphatico-venous anastamosis (LVA) between arm lymphatic identified by injecting blue dye or ICG in the arm and an axillary vein branch.
Methodology: All patients diagnosed with unilateral breast cancer requiring axillary clearance were enrolled in the study after informed consent. Exclusion criteria included bilateral breast cancer, allergy to ICG, pregnancy, and pre-existing lymphedema. Lymphedema was defined as change in >15% of volume on subsequent reading calculated by formula for volume of frustum of cone, more than 3 splashes on ICG lymphography and also patient reported arm swelling or heaviness. Patients had a baseline volumetric analysis pre-op and intra-op ICG lymphangiography. They were followed up at 3, 6 & 12 months with volumetry, ICG lymphangiography and patient reported outcomes.
Result and Analysis: 50 patients were included in the study. The general characteristics & LYMPHA procedural findings were analysed. With a mean follow up of 20.4 ±2.8 months (8-26 months) 3/50 (6%) patients developed lymphedema. Looking into our retrospective cohort data of last 5 years, lymphedema rate was around 32%. ICG lymphangiography was able to detect lymphedema even before. LYMPHA is feasible, safe, and practical method for the primary prevention of clinical lymphedema. This technique serves to significantly reduce the rate of clinical Lymphedema in breast cancer patients with ALND.

21

DEVELOPING AN EFFECTIVE TRIAGING ALGORITHM FOR BREAST REFERRALS

Laura Smith, Sue Down. *James Paget University Hospital, Great Yarmouth, United Kingdom*

Background: Nationally, a significant increase in referrals has created unsustainable pressure on breast services. Radiology shortages have compounded this, reducing availability of triple assessment appointments. Despite revising our regional 2WW referral form, increasing primary care education and improving access to online advice and guidance, demand continued to outstrip supply. We developed a triaging algorithm to identify patients at higher risk of breast cancer based on a retrospective analysis of referrals. High risk patients were directed to a one stop hot clinic. The remaining patients attended cold clinic for clinical assessment and delayed imaging was requested as required. All referrals were seen within two weeks and their outcomes analysed.
Methods: Following development of the algorithm, we triaged all primary care referrals from 01/09/21 to 30/11/21. Patients responded to pre-determined algorithm questions by telephone. Demographics, presenting complaint and family history risk were assessed as part of the triage process. Following their appointment, clinical and imaging outcomes were reviewed to ascertain confirmed malignancies and determine triaging effectiveness and safety.
Results: Appropriate triage to cold clinic (Table 1):

Table 1

Time period	Referrals triaged (non-malignant/ total)	Triage accuracy
09/2021	105/106	99%
10/2021	85/86	99%
11/2021	100/100	100%

Conclusion: We have developed an effective and safe triaging tool to manage increased demand in our breast service. Although triple assessment is the gold standard, this can safely be targeted for high-risk cases, thereby reducing waiting times for initial appointments for all patients, and thus reducing delays in cancer pathways.

22

3-DIMENSIONAL INTRAOPERATIVE ANALYSIS OF SCREEN DETECTED BREAST MALIGNANCIES REDUCES RE-EXCISION RATES

Giuseppina Mondani, Kali Potiszil, Sarah Zee, Mona Sulieman, Rachel English, Sue Widdison, Nicola Jackson, Miklos Barta, Polly King, Philip Drew. *Royal Cornwall Hospitals NHS Trust, Truro, United Kingdom*

Introduction: In the UK 20-30% of patients undergoing breast conserving surgery require a re-excision due to positive margins. Intraoperative specimen radiography is often used to guide the primary excision in screen detected lesions. The recent introduction of 3-dimensional tomographic analysis of the specimen has the potential for a more accurate intraoperative assessment of excision margins to guide the extent of primary excision.
Objective: To compare surgical/pathological outcomes between 3D and 2D intraoperative specimen x ray.
Methods: Retrospective study comparing outcomes with 2D with 3D-imaging of the intraoperative specimen: 230 screen-detected breast cancers (2D Cohort) 4/2017 to 3/2018 - 249 screen-detected breast cancers (3D cohort) 4/2018 to 3/2019. Data were collected from NHSNSP database, patient files, operative notes, and histopathology reports: age, size, type, and grade of cancer, presence of DCIS, surgical shaves, specimen weight, re-excision rate.

Results: In the 2D vs 3D cohorts there was no significant difference in the incidence of DCIS (27% vs 24%), invasive disease (54% vs 53%), and mixed invasive and DCIS (19% vs 23%), specimen weights (mean 3g), performance of cavity shaves (75%), shave weight (29g vs 28g) or WLE weight (29g vs 28g). However, the rate of re-excision was 16% in the 2D cohort vs 9% in the 3D cohort (P=0.059). This represents a 26% reduction in relative risk of re-excision.
Conclusion: When compared with standard 2D specimen x ray 3D intra-operative specimen x ray tomography is associated with a reduced re-excision rate with no negative impact on other parameters.

23

ARE SENTINEL LYMPH NODE BIOPSIES NECESSARY IN OLDER BREAST CANCER PATIENTS - SHOULD WE BE "CHOOSING WISELY"?

Alison Luther [1], Avi Agrawal [2]. [1] *University Hospital Southampton, Southampton, United Kingdom;* [2] *Queen Alexandra Hospital, Portsmouth, United Kingdom*

Introduction: Concerns regarding the morbidity and necessity of sentinel lymph node biopsy (SLNB) in older breast cancer patients have resulted in guidance from the Society of Surgical Oncology "Choosing Wisely" programme. This suggests omitting SLNB in patients over 70 with ER-positive, HER2-negative disease, however there is limited supporting evidence. This study therefore assessed factors affecting nodal status and adjuvant treatments in older breast cancer patients.
Method: This was a 10-year retrospective observational study (1/1/2010 to 31/12/2019) performed at a single large hospital, assessing all women aged over 70 with invasive breast cancer who underwent SLNB. Data regarding disease characteristics and subsequent management was collected. Patients were excluded if they had a previous breast cancer or metastatic or contralateral nodal disease at presentation.
Results: 869 patients underwent SLNB during the study period; 17.4% were node positive. Size and histological subtype were identified as the main predicting factors for nodal positivity. Using logistic regression analysis, a predictive model was created, which found that patients aged over 70 with a T1 breast cancer had a 6.8-9.3% risk of node-positive disease. 38% (n=58) of node-positive patients had a change in their adjuvant management due to their nodal status, but there were no pre-operative factors associated with this outcome.
Conclusion: Omission of SLNB in the study unit based on the "Choosing Wisely" guidelines would have resulted in some older breast cancer patients being under-treated in the adjuvant setting. However, omission could be safely considered in patients with T1 disease.

24

IMPACT OF RADIATION TREATMENT ON IMMEDIATE DIRECT TO IMPLANT RECONSTRUCTION WITH ADM

Konstantinos Siafakas, John Mathew. *North West Anglia NHS Foundation Trust, Peterborough, United Kingdom*

Introduction: This study looks into complications and revision procedures performed in patients receiving radiation treatment and compares it with those not receiving radiation treatment in immediate direct to implant reconstruction (IDTIR) with ADM.
Methods: Review of prospectively collected data of IDTIR using biological mesh by a single surgeon between Nov 2016 and Dec 2021. Patients were offered IDTIR with ADM irrespective of presentation (screening or symptomatic), smoking history, BMI and potential need for radiation treatment. Risk reduction procedures and IDTIR were not included in the analysis. Chi-squared test and independent t-test were done to analyse statistical difference between the groups and a P value of < 0.05 was considered significant.
Results: There were 130 IDTIR during this period. There were 98 breast cancer patients as shown in table 1 and 32 procedures were risk reduction operations with IDTIR.

Table 1

	Immediate direct to implant reconstruction with ADM + Radiotherapy 46 patients	Immediate direct to implant reconstruction with ADM + No radiotherapy 52 patients	P value
Age	47 (28-69)	49 (27-77)	0.659
Smoker	12 (26%)	9 (17%)	0.290
BMI	27 (19-48)	25 (19-45)	0.221
Nipple sparing mastectomy vs Nipple sacrificing mastectomy	16 vs 30	26 vs 26	0.128
Weight of breast	417 (127-1864)	411 (119-1551)	0.115
Weight of implant	420 (235-565)	395 (120-565)	0.078
Size on radiology	50 (6-100) (17 multifocal or multicentric)	28 (7-100) (26 multifocal or multicentric)	0.009
Size on pathology	60 (4-100) 14 pCR	35 (5-100) 7 pCR	0.721
Grade 3 or high grade	21 (46%)	21 (40%)	0.598
ER +ve	37 (80%)	26 (68%)	0.205
Her 2 +ve	13 (28%)	5 (13%)	0.093
Triple negative	6 (13%)	6 (16%)	0.720
Node positive	36 (78%)	6 (16%)	< 0.001
Locoregional recurrence	0	1 (2%)	0.344
Distant metastasis	5 (11%)	0	0.014
Revision procedures on index breast	24 (52%)	13 (25%)	< 0.001
Complication needing intervention before Radiotherapy or < 3 months of surgery	6 (13%)	10 (19%)	0.408
Wound related complications needing intervention post radiotherapy or > 3 months of surgery	3 (7%), 3 losses of reconstruction	2 (4%), 1 loss of reconstruction, 1 Threatened wound/ dehiscence	0.548
Breast cancer specific survival	44 (96%)	52 (100%)	0.128

Conclusion: Post radiotherapy or 3 months post-surgery wound related complications needing intervention were comparable between the two groups. Significantly more patients required revision procedures in the radiotherapy group.

25

DOES THE ASSOCIATION BETWEEN SURVIVAL AND RECEIPT OF POST-MASTECTOMY RADIOTHERAPY VARY BY AGE AT DIAGNOSIS AMONG WOMEN WITH EARLY INVASIVE BREAST CANCER?

Katie Miller [1], Melissa R. Gannon [1], Jibby Medina [2], Karen Clements [3], Kieran Horgan [4], David Dodwell [5], Min Hae Park [1], David A. Cromwell [1]. [1] *Clinical Effectiveness Unit, Royal College of Surgeons of England, London School of Hygiene & Tropical Medicine, London, United Kingdom;* [2] *Clinical Effectiveness Unit, Royal College of Surgeons of England, London, United Kingdom;* [3] *National Cancer Registration and Analysis Service, NHS Digital, Birmingham, United Kingdom;* [4] *Department of Breast Surgery, St James's University Hospital, Leeds, United Kingdom;* [5] *Nuffield Department of Population Health, University of Oxford, Oxford, United Kingdom*

Introduction: Clinical trials of post-mastectomy radiotherapy (PMRT) for early invasive breast cancer (EIBC) have included few older women. This study examined whether the association between overall survival (OS) and receipt of PMRT altered with age among women with EIBC, as part of the National Audit of Breast Cancer in Older Patients.
Methods: The study used linked cancer registration, routine hospital and radiotherapy datasets for England and Wales, and included women aged ≥50yrs diagnosed 2014-2018 with intermediate-risk (T3N0/T1-2N1/T2N0

grade 3) or high-risk (T1-2N2/T3N1/T3N2) EIBC who had mastectomy. Patterns of survival were analysed using a landmark approach. Multivariate Cox regression models were fitted in each risk group, with interaction terms to assess modification of the association between PMRT and OS by age.
Results: Among 4,848 women with high-risk EIBC, 84% had PMRT. 5-year OS was 63.3%. Receipt of PMRT was associated with reduced mortality compared to women who did not have PMRT (HR=0.726; 95%CI=0.607-0.869). This association did not vary with increasing age (interaction=1.003; 95% CI=0.988-1.019, p=0.659). Among 14,245 women with intermediate-risk EIBC, 51% had PMRT. 5-year OS was 70.7%. No association was found between OS and PMRT (HR=1.064; 95%CI=0.960-1.180). This did not vary with increasing age (interaction=0.992; 95%CI=0.983-1.002, p=0.102).
Conclusions: The association between PMRT and OS did not change with age at diagnosis for women with intermediate EIBC. Among the high-risk group, PMRT was associated with reduced mortality, which was found among both older and younger women. This work includes patient data collated by the National Disease Registration Service.

26

ARE SUPERO-LATERAL GROUP OF NODES AFFECTED IN AXILLA IN BREAST CANCER? A VALIDATION STUDY

Diptendra Kumar Sarkar, Ronit Roy, Rudradeep Banerjee. *The Institute of Post-Graduate Medical Education and Research, Kolkata, India*

Introduction: ALND is a standard intervention for high volume axillary disease. The arm lymphatics are indistinguishable from breast-lymphatics and are sacrificed in non-targeted dissection. Based on literature review and our experience with ICG-guided-ARM, we hypothesized that supero-lateral group nodes drain arm lymphatics exclusively. Preservation of the lymph nodes and lymphatics in this zone can reduce lymphedema. The axillary nodes are divided into groups in relation to three anatomical landmarks (thoracodorsal pedicle, 2nd intercostobrachial nerve and pectoralis-minor muscle). The nodal station lateral to thoracodorsal-pedicle and superior to second IBN was designated as superolateral.
Aims: To validate that Superolateral nodes are unaffected in breast malignancy.
Methodology: A cross-sectional study was conducted. 42 biopsy proven BC with clinical or radiologically positive axilla were included. During ALND, the supero-lateral lymph-nodes were dissected out and sent for HPE separately. The extent of positivity compared to the rest of the axilla were noted. Results were expressed using simple proportions (SPSSversion16.0).
Result: Of 42 patients, 11 patients (26.19%) had NST. The subtypes were evenly distributed (Luminal A 15 patients (35.71%), TNBC 13 (30.9%), HER/neu-enriched 14 (33.33%). In 35 cases (83.33%) metastatic deposit (mean 5.2) was found. In none of the cases the dissected supero-lateral-nodes had metastasis (39 non-metastatic, 2 fibro-fatty tissue).
Discussion: Supero-lateral group of nodes are unaffected in BC irrespective of biological subtypes, axillary volume of the disease. The study highlights the concept of selective axillary dissection in positive axillary disease. Based on this validation study, a RCT has been designed to look into the safety of the procedure.

27

VTE PROPHYLAXIS IN BREAST SURGERY: CLINICAL AUDIT OF OVER 5000 PATIENTS EVALUATING A LOCAL PROTOCOL

Ryo Yoshimura, Kimberley Edwards, Rana Nasr. *York and Scarborough Teaching Hospitals, York, United Kingdom*

VTE prophylaxis is an essential component of perioperative care, requiring a careful balance between VTE and haematoma risk. National guidelines exist for general surgery, but none for breast surgery. We designed a VTE prophylaxis protocol consisting of perioperative mechanical prophylaxis, and chemoprophylaxis on the day after the operation. This was evaluated via clinical audit. It was approved by the local audit department but was exempt from ethical approval. The protocol was studied over three consecutive audit cycles between 2014-2021. Data was collected retrospectively from the core patient database within the Trust and cross-referenced for 5192 breast surgery patients who had an operation. VTE and haematoma rates were recorded for major (e.g. reconstruction), moderate (e.g. mastectomy) and minor (e.g. lesion excision) procedures. Our average VTE rate (0.12% per procedure) was lower than other studies within the literature. Our average haematoma rate (0.82% per procedure) met national averages and targets defined by "Getting It Right First Time". During the 2020-2021 audit cycle, VTE and haematoma rates were 0% for minor and major procedures. Moderate procedures had 0% VTE rates. Their haematoma rates were 2.11% but still lower than national figures. There were no national VTE figures for comparison. Our findings suggest that delaying chemoprophylaxis to the day after the operation did not increase VTE risk while potentially reducing haematoma risk, if mechanical prophylaxis is provided. We hope our audit would provide a standard for other breast surgical units to refer to when designing their own local protocols.

28

PREDICTORS OF AXILLARY PATHOLOGIC COMPLETE RESPONSE FOLLOWING NEOADJUVANT CHEMOTHERAPY FOR NODE POSITIVE BREAST CANCER

Alexandra Zaborowski, Isha Kaur, Lauren O'Connell, Sorcha McNally, Cecily Quinn, Janice Walshe, Jane Rothwell, Denis Evoy, James Geraghty, Damian McCartan, Ruth Prichard. *St. Vincent's University Hospital, Dublin, Ireland*

Introduction: An axillary pathological complete response (pCR) to neoadjuvant chemotherapy (NACT) is achieved in a proportion of patients with node positive breast cancer, eliminating the need for axillary lymph node dissection (ALND). The aim of this study was to identify clinicopathological predictors of axillary pCR.
Methods: A consecutive series of patients with cytologically proven node-positive breast cancer who received NACT followed by surgical resection with curative intent between 2013-2021 were retrospectively analysed. Multivariable analysis of the association between clinicopathological features and pCR was performed.
Results: A total of 236 patients were included in the final analysis, of which 105 (44.5%) achieved an axillary pCR: 91 SLNB and 14 ALND. An axillary pCR was identified in 21 (20.4%) with hormone receptor (HR)-positive disease, 60 (66.7%) with HR+/-HER2+ disease, and 24 (58.5%) with triple negative breast cancer. Multivariable regression analysis showed high tumour grade (odds ratio (OR) 4.38, 95% C.I 1.76 to 10.87, p=0.001) and radiological complete response (rCR) on breast MRI (OR 2.93, 1.13 to 7.60, p = 0.027) were associated with achieving an axillary pCR, whilst the HR+HER2- subtype was associated with a reduced likelihood of ypN0 status (OR 0.11, 0.04 to 0.30, p < 0.001). Breast pCR was strongly correlated with axillary pCR (p<0.001).
Conclusion: Radiological response of the primary tumour, hormone receptor status, and tumour grade may predict axillary pCR after NACT in patients with node-positive breast cancer. Select patients may be suitable for de-escalation of axillary surgery following pre-operative chemotherapy.

Abstracts for poster presentation at the Association of Breast Surgery Conference, 16th – 17th May 2022

P001

IMMEDIATE-DELAYED IMPLANT-BASED BREAST RECONSTRUCTION: WHAT HAPPENS TO SUBCUTANEOUS IMPLANTS?

Louise Alder, Elaf Osman, Lucy Mansfield, Edward St John, Avi Agrawal. *Queen Alexandra Hospital, Portsmouth, United Kingdom*

Introduction Pre-pectoral reconstruction with ADM has become routine over the last decade, however the benefits of ADM are uncertain. Delayed immediate implant-based reconstruction can be used to bridge high-risk primary oncological surgery through adjuvant treatment and towards reconstruction. We hypothesise there will be a subgroup of patients that have successful outcomes with an initial subcutaneous implant alone without the use of ADM.
Methods: We conducted a retrospective cohort study in a high-volume single centre between 2008-10, and 2015-17 (audit registration approved). Inclusion criteria were women diagnosed with breast cancer who had delayed-immediate or "temporary" immediate subcutaneous implant reconstruction. Data was collected directly to a purpose-built database.
Results: Between 2008-2010 (n=6) and 2015-2018 (n=27) there were 33 delayed-immediate subcutaneous implant-based reconstruction and an additional 13 patients had two stage sub pectoral expander approaches (2008-2010). Implant loss rate 14% over this median follow-up of 61 months. Completion of DIEP 37% (n=10), Completion ADM implant reconstruction 3.7%. Complication rates were 33.3% (n=9) (including minor infection to implant loss). 14.8% (n=4) implant loss rate. 44.4% (N=12) kept the original subcutaneous implants to a median of 61 months follow-up. The median age was 48, 22% ex/smokers. Receiving adjuvant chemo (NACT) / adjuvant radiotherapy 85%(n=23). Radiotherapy 48.1% (n=13).
Conclusion: Implant loss rates were similar to the national average. 44% opted to continue with a subcutaneous implant to a median follow-up of 5 years. Future work will involve a larger cohort to evaluate the outcomes and patient reported outcomes for those with subcutaneous implants alone.

P002

TAILORED AXILLARY SURGERY FACILITATED BY AXILLARY MAGSEED PLACEMENT

Peter Barry, Jennifer Rusby, Rachel O'Connell, Katherine Krupa. *Royal Marsden NHS Foundation Trust, London, United Kingdom*

Introduction: De-escalation of axillary surgery in the treatment of node positive breast cancer is facilitated by marking biopsy-proven involved nodes. During the POSNOC study, women with 1 or 2 imaging-abnormal lymph nodes had Magseeds inserted to ensure retrieval of the node(s) at surgery. Such imaging-abnormal lymph nodes may not mandate axillary lymph node dissection (ALND) and several trials (e.g. TAXIS) are currently in progress. We report our experience using the paramagnetic Magseed marker in this context. The primary endpoint was accurate localisation of the involved, biopsy-proven node.
Methods: A prospective database of all axillary Magseed insertions was interrogated. Data on patient demographics, tumour and treatment characteristics as well as pathological findings were collated. ALND was indicated if there were >2 macrometastases or if the primary was >5cm.
Results: Of 44 consecutive patients in whom 48 Magseeds were removed between October 2018 and August 2021 (mean age 59 years) only 1 of 44 (2.3%) Magseeds lay adjacent rather than within the target node, in a patient with 2 nodes clipped. Magseeds were placed a mean of 21 days preoperatively. The cancer phenotypes were: 29 'luminal A', 9 'luminal B', 3 TNBC and 3 HER2 positive. In 31 of 44 patients (71%) the Magseed-marked node was also the sentinel node. Sixteen of 17 (94%) patients who underwent ALND had further nodes involved. The remaining 27 patients underwent axillary radiotherapy.
Conclusions: This evaluation demonstrates the ability to facilitate accurate node retrieval to support axillary conservation in selected node-positive breast cancer patients.

P003

TUMOUR CHARACTERISTICS THAT PREDICT AXILLARY DISEASE SUITABLE FOR LIMITED DISSECTION POST NEOADJUVANT CHEMOTHERAPY

Jeremy Batt [1], Sam Jenkins [2], Nadhirah Kahar [1], Sirwan Hadad [1]. [1] *Royal Hallamshire Hospital, Sheffield, United Kingdom;* [2] *Sheffield Medical School, Sheffield, United Kingdom*

Introduction: Neoadjuvant chemotherapy (NACT) can downgrade certain breast tumours, converting patients requiring mastectomy to breast conservation. In recent times, its use has been extended to downgrade axillary surgery in a subset of patients with nodal metastasis and avoids the morbidity of unnecessary axillary clearance. In these cases, current guidelines mandate that post NACT four sentinel nodes must be excised for analysis. The aim of this study was to assess the outcomes of patients undergoing axillary surgery following neoadjuvant chemotherapy and to identify tumour characteristics that may predict success of limited axillary dissection.
Methods: Patients undergoing axillary node clearance over a 10-year period were identified. Those post neoadjuvant chemotherapy were subselected and tumour characteristic were analysed.
Results: 1312 patients were analysed of which 221 had NACT. 161 patients were node positive at diagnosis of which 54 showed complete axillary response. 100% of patients with HER2 overexpression and 93.7% of patients with compete breast response had 4 or fewer positive nodes. Combined, 100% of HER2 positive patients with grade 3 tumours with complete breast response also showed complete axillary response. In node negative patients, 90% of patients with ER negative with HER2 Positive or negative disease had 4 or fewer nodes found at axillary node clearance.
Conclusion: Limited axillary dissection to four nodes can successfully treat patients with nodal metastasis with favourable tumour biology post NACT. HER2 positive, grade three tumours, or patients with breast complete pathological response show the most promising subtypes for limited dissection.

P004

UK PRACTICE PATTERNS OF AXILLARY MANAGEMENT IN PATIENTS WITH NEEDLE BIOPSY PROVEN NODAL METASTASES AT PRESENTATION AFTER NEOADJUVANT CHEMOTHERAPY - RESULTS OF ATNEC FEASIBILITY SURVEY

Sophie Cramp [1], Nada Elbeltagi [1], Natalie Hammonds [1], Andrea Marshall [1], Sophie Gasson [1], Amit Goyal [2]. [1] *Warwick Clinical Trials Unit, University of Warwick, Warwick, United Kingdom;* [2] *Royal Derby Hospital, Derby, United Kingdom*

Background: ACOSOG Z1071 demonstrated the reliability of sentinel node biopsy (SNB) at assessing residual nodal disease post-neoadjuvant chemotherapy (NACT), in patients with nodal metastasis at presentation. However, we do not know whether local axillary therapy can be modified based on NACT response.
Objectives: To determine axillary treatment patterns for patients with biopsy-proven axillary metastases pre-NACT, using the ATNEC feasibility survey data.
Methods: The ATNEC trial circulated a feasibility survey to NHS Trusts (Dec 2019 – Jun 2021). ATNEC randomises node-positive patients who convert to ypN0 to standard axillary treatment (axillary node dissection [ALND]/ axillary radiotherapy [ART]) or no axillary treatment. Percentages are out of the numbers responding to each question.
Results: 78 NHS Trusts returned the survey. 41% (30/73) of Trusts treated <20 T1-3N1M0 breast cancer patients with NACT annually, 19% (14/73) treated between 20-29 and 37% (27/73) treated ≥30. For ypN0 patients post-NACT, 51% (39/76) recommended ALND, 29% (22/76) ART, 15% (11/76) ALND or ART, 1% (1/76) no further axillary treatment and 4% (3/76) reported other treatment. For node positive patients post-NACT, 74% (56/76) recommended ALND and 20% (15/76) ALND or ART; 6% (5/76) reported other treatment. 37% (28/75) Trusts would mark the node using a clip or seed (28%; 21/75), combination of clip and seed (12%; 9/75) or combination of tattoo and clip (13%; 10/75).

Conclusion: This survey shows that ALND remains standard care for most patients who are node positive pre-NACT, irrespective of the nodal response to NACT. ATNEC and other trials will provide definitive answers to whether local axillary.

P005

INCIDENCE OF TREATMENT EFFECT IN PATIENTS WITH AN AXILLARY PATHOLOGIC COMPLETE RESPONSE AFTER NEOADJUVANT CHEMOTHERAPY FOR BREAST CANCER

Katie Doogan, Alex Zaborowski, Lauren O'Connell, Ruth Prichard, Denis Evoy, James Geraghty, Damian McCartan, Janice Walshe, Sorcha McNally, Cecily Quinn. *St. Vincent's University Hospital, Dublin, Ireland*

Background: De-escalation of axillary surgery following neoadjuvant chemotherapy (NACT) for patients with node positive disease at diagnosis have focused on ensuring a low false negative rate for those who undergo sentinel lymph node biopsy (SLNB) only. Histopathological evidence of treatment effect is one surrogate that supports an axillary pathological complete response (pCR). This study aimed to assess rates of histological treatment effect in patients who have an axillary pCR following axillary surgery post NACT.
Methods: A consecutive series of patients with cytologically proven node-positive breast cancer who received NACT and achieved nodal pCR on SLNB or axillary lymph node dissection (ALND) between 2016-2021 were retrospectively analysed. The primary outcome of interest was identification of histological treatment effect in axillary nodes.
Results: 257 patients (median age 48 years) received NACT of which 180 had cytologically-proven node-positive disease. The median nodal yield at SLN was 4 (range 1-9). 83 patients (46%) attained an axillary pCR. Histological evidence of treatment effect was identified in 62% of patients overall, but was more common in those undergoing ALND (87%) than in the SLN group (56%, p=0.04). Neither tumour subtype, grade nor breast pCR were associated with treatment effect on univariate analysis.
Conclusions: Histological evidence of treatment effect was only identified in 56% of patients deemed ypN0 on the basis of a post-neoadjuvant SLN and cannot be utilised as a stand-alone surrogate for confirmation of a true negative SLN. Strategies such as nodal marking/targeted axillary dissection may offer a more robust method of axillary staging post NACT.

P006

THE USE OF TC-ISOTOPE AND/OR SAVISCOUT TECHNOLOGY TO FACILITATE TARGETED AXILLARY DISSECTION (TAD) IN PATIENTS WITH EARLY AXILLARY DISEASE WITH OR WITHOUT NEOADJUVANT SYSTEMIC THERAPY

Hiba Fatayer, Julia Henderson, Geraldine Mitchell, Matthew Rowland. *Royal Liverpool Hospital, Liverpool, United Kingdom*

Introduction: The AMAROS and Z011 trials showed non-inferiority of axillary radiotherapy to standard axillary clearance (ANC) in patients with N1 disease with significant reduced morbidity. Targeted axillary dissection (TAD) to stage N1 axilla in selected cases can help guide axillary de-escalation. This prospective tertiary centre study aimed to assess the feasibility of utilising TAD in selected patients.
Methods: Women with N1 disease (1-2 nodes) with/without neoadjuvant systemic therapy undergoing TAD with 3 sentinel nodes from 09/2016 –10/2021 were included. A3-A5 nodes had core biopsy or FNAC. Pathological nodes were marked (Saviscout, ROLL or clips) and performed prior to initiating systemic therapy. Data on post-procedure complications, final histology, 1-year follow-up, and lymphoedema was collected.
Results: 24 TADs were performed (23 single and 1 two pathological nodes). A single node was targeted in all cases (18 Saviscout, 3 ROLL, 3 ROLL/clip); none failed. 1/18 (5.6%) developed haematoma following saviscout insertion. Neoadjuvant systemic therapy was given in 5 (20.8%) patients. 21/24 (87.5%) had Tc-isotope and blue dye. All targeted nodes were excised including 18/18 saviscouts. No scout failure or intraoperative complications. Mean nodes excised was 4.6 (range 3-7 nodes). Mean node macrometastasis was 2 (range 0-4). 3/24 (12.5%) were advised completion ANC (3+ residual macrometastasis), 21/24 (87.5%) were advised axillary/SCF radiotherapy including 1 (4.1%) declining ANC. 1-year follow-up available for 7 (29.2%) patients, all offered axillary radiotherapy and none developed recurrence/lymphoedema.
Conclusion: TAD is a safe and effective technique to help axillary staging and guide decision-making of further axillary treatment. Saviscout provides an effective marker-localisation with or without neoadjuvant systemic therapy.

P007

AXILLARY STAGING IN MICRO INVASIVE BREAST CANCER. IS IT NEEDED?

Shaista Zafar, Ali Mohamed, Ishita Laroiya, Ian Rea, Javeria Iqbal. *City Hospital Birmingham, Birmingham, United Kingdom*

Background: Micro-invasive ductal carcinoma (DCISM) is defined as DCIS with a focus of invasive carcinoma $\leq$ 1 mm, surgical staging of axilla in MIBC has always been debatable and there is lack of consistent guidelines. The aim of this review was to find evidence if axillary staging of the axilla in MIBC is needed?
Methods: A literature search was done and 24 studies (from 2000 to 2020) were identified including a total of 4771 patients with MIBC who underwent surgical staging of axilla. We analysed the available data on SPSS version 27.
Findings: 324/4771(6.8%) patients had positive SLN. Most of these patients had only micro metastasis or isolated tumour cells 63.3%. 44 patients underwent axillary clearance and only 7 (2%) of these had a further 1-2 nodes positive. Of the limited data available receptor status of the tumour did not have a clear association in predicting SLN metastases. Follow-up was mentioned only in eight studies (1296 patients). Of these 126 patients had positive SLN. Loco-regional or distant recurrence was seen in 8 patients with positive nodes while 51 events were identified in the lymph node negative group after a follow-up of 73.53 months.
Conclusion: The incidence of a positive SLN is relatively low in patients with MIBC and even lower when subjected to further ANC. Lymph node status did not affect the overall survival of these low-risk cancers. We therefore aim at doing a national audit/survey through the ABS /Mammary Fold platform to evaluate the treatment strategy for such patients across UK.

P008

DE-ESCALATION OF AXILLARY SURGERY POST NEOADJUVANT THERAPY IN HORMONE-POSITIVE BREAST CANCER: FEASIBLE OR FUTILE

Lauren O'Connell [1], Alexandra Zaborowski [1], Janice Walsh [1], Ruth Prichard [2], Damian McCartan [2], Denis Evoy [2], James Geraghty [2], Ishapreet Kaur [2], Cecily Quinn [1]. [1] *St. Vincent's University Hospital, Dublin, Ireland;* [2] *Breast Service, St. Vincent's University Hospital, Dublin, Ireland*

A proportion of patients with breast cancer presenting with nodal metastases will undergo an axillary pathological complete response (pCR) following neoadjuvant chemotherapy (NACT). The probability of an axillary pCR is highly dependent on tumour subtype with the lowest probability in patients with estrogen receptor (ER) positive disease. A retrospective review was conducted of patients with symptomatic breast cancer who received neoadjuvant chemotherapy from 2013 to 2021. Inclusion criteria comprised newly diagnosed ER positive breast cancer patients with histologically proven axillary metastasis, undergoing treatment with curative intent. Univariate and multivariate analysis was performed to identify predictors of axillary pCR. Statistical analyses were performed with SPSS v.26.0. During the study period, 154 patients with biopsy confirmed axillary nodal disease and ER positive breast cancer were treated with neoadjuvant chemotherapy. Of these 35% (n=54) were also HER2 positive. Axillary pCR was significantly more likely in the patients with ER positive and HER2 positive breast cancer (pCR in 59%). In patients with HER2 negative disease only 19% attained an axillary pCR ($p<0.001$). On multivariate analysis of the HER2 negative cohort the only factor significantly associated with axillary pCR was a complete radiological response of the primary tumour (p=0.004). In patients without a

radiological complete response, the axillary pCR rate was 16%. In patients with ER positive, HER2 negative breast cancer, the rate of axillary pCR remains low and in those without a radiological complete response in the breast primary, axillary lymph node dissection should still be considered the standard of care.

P009

A STUDY OF THE ROLE OF SENTINEL NODE BIOPSY IN PATIENTS UNDERGOING COMPLETION MASTECTOMY FOR SCREEN DETECTED DUCTAL CARCINOMA IN SITU

Talal Majeed [1], Rajaram Burrah [2]. [1] *Aintree University Hospital, Liverpool, United Kingdom;* [2] *Wirral University Teaching Hospital, Wirral, United Kingdom*

Background: NICE recommends SNBx during mastectomy for DCIS. Reason – missed opportunity to stage axilla if an invasive cancer is found in the Mx specimen. However, no guidelines about SNBX whilst performing completion Mx following WLE for DCIS due to margin involvement.
Objectives: To study: 1) In patients who undergo completion mastectomy following breast conserving surgery for DCIS. 2) The incidence of invasive carcinoma following completion mastectomy. 3) The percentage of patients undergoing SNB at the time of completion mastectomy (i.e. current practice). 4) The incidence of sentinel node metastases during completion mastectomy. 5) Factors associated with invasive carcinoma or sentinel node metastases following completion mastectomy.
Results: See table 1.

Table 1

	Wirral	Wythenshawe
Number	19	76
Screen	14	63
SLNB	14	49
Invasive cancer	1	1
SNLB +ve	0	0
Reconstruction	11/19	39/76

Conclusion: SLNB is not required for completion mastectomy for DCIS due to margin involvement and can increase morbidity.

P010

REDO-SENTINEL LYMPH NODE BIOPSY IN PATIENTS WITH PRIOR IPSILATERAL BREAST CANCER SURGERY

Margo-Rose Macnab [1], Gabrielle Slater [2], Mairi Fuller [1], Beatrix Elsberger [1], Lesley Lovell [1], Roger Staff [1], Yazan Masannat [1]. [1] *Aberdeen Royal Infirmary, Aberdeen, United Kingdom;* [2] *University of Aberdeen, Aberdeen, United Kingdom*

Background: Sentinel Lymph Node Biopsy (SLNB) is used to stage the axilla, but there is limited data in patients with prior ipsilateral breast cancer. This study compares redo-SLNB (reSLNB) and Axillary node sample (ANS) in this sub-cohort of patients.
Materials and Methods: This is a retrospective study looking at patients with a new ipsilateral primary or recurrence with history of breast-conserving surgery from the beginning of 2014 till the end of 2019. Planned and performed surgery, patient demographics and previous treatments were recorded. Node positivity and success rate of reSLNBx was analysed.
Results: 86 patients were identified that had mastectomy for ipsilateral recurrent disease that did not have full axillary node dissection previously and have a radiologically negative axilla on assessment. Out of the 48 that had reSLNB, 35 (72.9%) were successful. 19% of the reSLNB had positive axillae and 20% of the ANS patients which is very similar node positivity. reSLNB success rate was significantly lower amongst patients with previous axillary surgery (p=0.014) and previous positive nodes (p=0.001). Patients that had radiotherapy to the breast and axilla also has lower identification rates.
Conclusions: reSLNB should be considered to surgically restage the axilla in patients with previous history of ipsilateral cancer that had previous SLNB or ANS especially that there is growing evidence showing good identification rates.

P011

OFF THE SHELF VOLUME REPLACEMENT IN BREAST CONSERVING SURGERY - OXIDISED REGENERATED CELLULOSE FOR UPPER INNER QUADRANT DEFECTS

Celene Ng, Hazem Khout, Douglas Macmillan, Syeda Gilani, Kristjan Asgeirsson. *Nottingham Breast Institute, Nottingham, United Kingdom*

Background The upper inner quadrant (UIQ) of the breast has remained a challenge even with oncoplastic surgery. Scar placement and access often contradict each other in this cosmetically sensitive area where even small volume excision can leave obvious deformities. Various methods described require expertise and/or sophisticated products. We present a technique for UIQ cancer excision using a hidden breast crease access incision and oxidised regenerated cellulose (ORC), SURGICEL® (Johnson & Johnson, Somerville, NJ, US), a biodegradable product to fill the defect.
Method: Patients with upper inner quadrant cancers were discussed within an oncoplastic multidisciplinary surgical planning meeting. Those unsuitable for the conventional volume replacement and displacement techniques were offered ORC insertion. A lateral breast crease incision and a tunnelled posterior approach to the excision site were used for access. The cavity was filled with the ORC. All patients underwent their standard cancer treatment after.
Results: 8 cases were managed with ORC. All had UIQ cancers with a mean diameter of 14mm and a mean specimen weight of 18g. No complications specific to ORC were observed and all patients were satisfied with the cosmetic results.
Conclusion: Lateral skin crease incision with ORC volume replacement provides a simple, low cost, accessible technique to overcome the challenge of managing wide local excision defects in the upper inner quadrant of the breast with acceptable cosmetic outcomes.

P012

DE-ESCALATION OF AXILLARY SURGERY: TARGETED AXILLARY DISSECTION WITH MAGSEED LOCALISATION OR SENTINEL NODE BIOPSY AFTER NEOADJUVANT TREATMENT IN NODE POSITIVE PATIENTS - THE WEST OF SCOTLAND EXPERIENCE

Laszlo Romics [1], Abigail Ingham [2], Sophia Sakellariou [1], James Mansell [3], Laura Arthur [3], Jennifer Campbell [3], Judith Reid [4], Gillian Miller [4], Hannah Sarafilovic [4], Joseph Loane [5], Christopher Wilson [1], Julie Doughty [1]. [1] *Gartnavel General Hospital, NHS Greater Glasgow and Clyde, Glasgow, United Kingdom;* [2] *University of Glasgow, Glasgow, United Kingdom;* [3] *Alexandra Hospital, NHS Greater Glasgow and Clyde, Glasgow, United Kingdom;* [4] *Crosshouse University Hospital NHS Ayrshire and Arran, Crosshouse, United Kingdom;* [5] *Queen Elizabeth University Hospital, NHS Greater Glasgow and Clyde, Glasgow, United Kingdom*

Introduction: For patients with node positive disease who are exceptional responders targeted axillary dissection (TAD) or sentinel node biopsy (SNB) may be offered for staging. We 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.
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.
Results: 52 patients were treated with TADm (n=14), TAD (n=27; 3 had wire localisation) or SNB (n=11) between September 2017 and October 2021. Dual mapping was applied in 49 patients. Less than three nodes were removed in 8 patients (15.4%). 11 patients underwent completion axillary clearance (cANC), but no further metastatis was found in 5. Clip was placed in at the time of biopsy in 22 of 41 patients (TADm, TAD), with an interval

of 191 (90-260) days to surgery. The clipped node was retrieved in 39 of 41 patients and in 29 of 41 cases the localised node was the sentinel. Median number of lymph nodes removed were the same (n=4) in TADm, TAD or SNB. Magseed was found in the clipped node in 13 of 14 pts.
Conclusion: Magseed localisation of the clipped node did not decrease the removed lymph node number when compared to TAD with no localisation. A more precise stratification for cANC would be desirable as almost half of them had no further disease.

P013

TARGETED AXILLARY DISSECTION AND SENTINEL NODE BIOPSY IN COMPARISON TO AXILLARY NODE CLEARANCE AFTER NEO-ADJUVANT TREATMENT IN NODE POSITIVE PATIENTS - THE WEST OF SCOTLAND EXPERIENCE

Laszlo Romics [1], Abigail Ingham [2], Sophia Sakellariou [1], James Mansell [3], Laura Arthur [3], Jennifer Campbell [3], Judith Reid [4], Gillian Miller [4], Hannah Sarafilovic [4], Joseph Loane [5], Christopher Wilson [1], Julie Doughty [1]. [1] *Gartnavel General Hospital, NHS Greater Glasgow and Clyde, Glasgow, United Kingdom;* [2] *University of Glasgow, Glasgow, United Kingdom;* [3] *Alexandra Hospital, NHS Greater Glasgow and Clyde, Glasgow, United Kingdom;* [4] *Crosshouse University Hospital NHS Ayrshire and Arran, Crosshouse, United Kingdom;* [5] *Queen Elizabeth University Hospital, NHS Greater Glasgow and Clyde, Glasgow, United Kingdom*

Introduction: 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 in three units in the West of Scotland.
Methods: Node positive patients receiving NAT were identified from the prospectively collected West of Scotland Managed Clinical Network database 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; TAD/SNB: 51% (21/41) vs 46% (53/109) were comparable, but more triple-negative and HER-2 positive cancers were in the TAD/SNB group (61% (25/41) vs 45% (49/109); p=0.08). Significantly less radiologically abnormal node was detected after NAT in TAD/SNB ((≥3; 2.4% (1/41) vs 21.4% (23/109); p=0.005). Less nodes were removed during TAD/SNB (4 (1-10) vs ANC (12(5-23); p<0.001), and less nodes were involved macroscopically on pathology after TAD/SNB (0.5(0-4) vs cANC: 2(1-4); p<0.001) vs ANC: 3.5 (0-19); p<0.001). Postoperative complication rate was low following TAD/SNB: 4.9% (2/41), but high after ANC: 27.5% (27/98), and cANC: 45.4% (5/11) (p=0.001).
Conclusion: Radiological response provides reliable guidance for selection for TAD/SNB. TAD/SNB is less invasive in comparison to ANC and carries significantly less morbidity.

P014

UTILITY OF VIRTUAL NEW-PATIENT CLINICS IN WOMEN UNDER 30

Hudhaifah Shaker, Jacob Morton, Rebecca L. Wilson, Nicholas Hobbs, Abeera Abbas, Mohammed Shamim Absar, Ioannis Ntanos, Kathryn Williams, Chloe Wright, Nabila Nasir. *Department of Breast Surgery, North Manchester General Hospital, Manchester University NHS Foundation Trust, Manchester, United Kingdom*

Aim: Virtual consultations (VC) in breast surgery have been successfully utilised during the COVID pandemic and have potential to reduce the costs of outpatient clinics as well as increase patient satisfaction. We aimed to assess the utility and safety of VC in new patient clinics in women under 30, which is considered a low-risk subgroup.
Methods: Data was prospectively collected on 118 women aged under 30 who were referred from primary care to the breast clinic between December 2020 and April 2021. Clinicopathological data was collected on referrals, imaging and follow up.
Results: Median age was 24 years (range 17-30). The commonest presenting symptoms were a lump (69%), breast pain (16%) and nipple symptoms (14%). The VC was performed via video in 63 (53%) patients and via telephone alone in 55 (47%).
Nineteen patients (16%) were reassured and discharged directly from VC. Ninety-four patients (80%) underwent an outpatient ultrasound with a sonographer trained in clinical palpation. Twenty-six (27%) ultrasounds showed benign pathology with the remainder being normal. Six biopsies were performed, all of which were benign. Seventeen (14%) patients required a face-to-face appointment with a breast surgeon after ultrasound or biopsy. Ninety-four (79%) patients were discharged after VC + ultrasound alone. No patients required surgery.
Conclusion: Utilising VC, the majority of new referrals in women under 30 did not require face-to-face appointments. VC have potential to reduce burden on new patient clinics whilst improving patient convenience. Early data suggest a low risk of compromising safety in this subgroup.

P015

A REVIEW OF OVER 300 SENTINEL LYMPH NODE BIOPSIES, IS MAGTRACE RELIABLE?**SHAHRUKH A. KHAN, REBECCA L. WILSON, HUDHAIFAH SHAKER, NICHOLAS HOBBS, ABEERA ABBAS, SHAMIM M. ABSAR, NABILA NASIR, IOANNIS NTANOS, CHLOE WRIGHT, KATHRYN E. WILLIAMS.** *MANCHESTER FOUNDATION TRUST, MANCHESTER, UNITED KINGDOM*

Introduction: Sentinel lymph node detection techniques are evolving. Magtrace allows a radiation-free sentinel lymph node biopsy (SLNB). We aimed to review the outcomes of SLNB since the introduction of Magtrace to our unit.
Method: Consecutive SLNB were included from 1st April 2020 to 29th July 2021. Data was collected retrospectively using theatre logs and patient notes.
Results: A total of 316 were performed. Magtrace alone was used in 197 (62.5%), Magtrace and blue dye in 104 (33%), radioisotope and blue dye 10 (3%) and radioisotope alone in five (1.5%). See table 1.
Overall, there were five (1.5%) failures of SLNB (i.e. axillary node sample was required), three when Magtrace and blue dye was used, two with Magtrace alone. Radioisotope was used as a precautionary measure when there was either a retroareolar magseed or multiple magseeds to guide the wide local excision. There were no reported adverse events following the injection of Magtrace. There was one anaphylaxis following injection of blue dye. One patient required postoperative MRI after Magtrace was used making interpretation more difficult.
Conclusion: Magtrace outcomes are comparable to those reported for the traditional dual technique of blue dye and radioisotope and can be safely used as a single agent.

Table 1

Technique	Average no. of nodes retrieved	Hot	Hot and blue	Blue	Failure
Magtrace	2	99%	N/A	N/A	1%
Magtrace & blue dye	2	22%	73%	2%	3%
Radioisotope	2	100%	N/A	N/A	0
Radioisotope & blue dye	1	10%	80%	10%	0

P016

TARGETED AXILLARY DISSECTION USING CARBON-TATTOOING FOR CLINICALLY NODE-POSITIVE BREAST CANCER CONVERTING TO NODE NEGATIVITY AFTER NEOADJUVANT SYSTEMIC THERAPY: INITIAL EXPERIENCE

Mohamed Yousri. *Oncology Center, Mansoura University, Mansoura, Egypt*

Introduction: Staging strategy for node-positive axilla (cN+) that achieve complete clinical response (ycN0) after NACT is still a subject of controversy.
Methods: This is a prospective single-arm feasibility study where 22 breast cancer patients from a single center were recruited. Patients with clinically suspicious axillary nodes planned for NACT had fine needle biopsy from the suspicious node with simultaneous injection of carbon suspension. After NACT, axilla-negative patients on repeat ultrasound had TAD where Targeted Lymph Node (TLN) was excised with the Sentinel Lymph Node (SLN). Axillary Lymph Node Dissection (ALND) was performed if any TLN/SLN was proved pathologically involved.
Results: Total of 22 patients was carbon-labelled before systemic therapy. Eleven patients were included in the final analysis, while nine patients were excluded (six remained node-positive post-NACT, one with progressive disease, one with failed SLN and one patient withdraw). Median age was 39 years, median tumour size pre-NACT was 30 mm, whilst post-NACT was 11 mm. Carbon-tattooed lymph node was located in 20/22 patients (91%). In patients who had TAD, the TLN and SLN were the same node in 9/11 patients (82%), and in this group, 7/11 patients had positive TAD and proceeded to ALND with four patients showing further positive nodes. Targeted LN was not the sentinel node in two patients; in both cases, all nodes were negative. Median duration between carbon labelling and surgery was 5 months.
Conclusion: Carbon-tattooing of axillary lymph nodes seems to provide a safe, cheap and reliable alternative to marker clips without the need for image-guidance to locate the marked node

P017

PREDICTORS OF YPN0 STATUS IN PATIENTS WITH CLINICALLY NODE NEGATIVE BREAST CANCER TREATED WITH NEOADJUVANT CHEMOTHERAPY

Alexandra Zaborowski, Katie Doogan, Lauren O'Connell, Sorcha McNally, Cecily Quinn, Janice Walshe, Jane Rothwell, Denis Evoy, James Geraghty, Damian McCartan, Ruth Prichard. *St Vincent's University Hospital, Dublin, United Kingdom*

Introduction: The rate of nodal positivity (ypN+) after neoadjuvant chemotherapy in patients diagnosed with node-negative (cN0) breast cancer is low. Sentinel lymph node biopsy (SNLB) may be of limited value in select patients. The aim of this study was to determine the rate of axillary ypN0 in patients with cN0 disease treated with neoadjuvant chemotherapy (NACT) and to identify clinicopathological features associated with ypN0.
Methods: A consecutive series of patients with node-negative breast cancer who underwent breast-conserving surgery or mastectomy, and SLNB following neoadjuvant chemotherapy between 2016-2021 were retrospectively analysed. cN0 was defined as the absence of suspicious nodes on axillary ultrasonography, or the absence of tumour cells on FNA in patients with suspicious nodes. The primary endpoint was ypN0.
Results: Overall, 121 of 141 patients (85.8%) achieved ypN0. ypN0 was identified in 23 (71.9%) with hormone receptor (HR)-positive disease, 54 (88.5%) with human epidermal growth factor receptor 2 (HER2)-positive disease and 44 (91.7%) with triple negative breast cancer (TNBC). The majority (92.3%) of patients with a ypN0 status had a radiological complete response (rCR) on breast MRI. Among those with TNBC or HER2-positive disease, and a rCR, the rate of nodal positivity was 4.8%.
Conclusion: TNBC, HER2+ disease and breast rCR on MRI were associated with ypN0 status. Over 95% of patients with TNBC or HER2-positive disease who achieved a breast rCR on MRI were node negative.

P018

MASS SPECTRAL ANALYSIS OF NIPPLE ASPIRATE FLUID FOR THE EARLY DETECTION OF BREAST CANCER

Natasha Jiwa [1], Lauren Ford [1], Zoltan Takats [1], Daniel Leff [2]. [1] *Imperial College London, London, United Kingdom;* [2] *Imperial College London, London, United Kingdom and Imperial College Healthcare Trust, London, United Kingdom*

Introduction: Methods for early breast cancer detection enable lesions to be treated at the earliest possible time-point, increasing survival and improving patient outcomes. Nipple aspirate fluid (NAF) produced by the lining of the ductal epithelial cells in asymptomatic women has been shown to contain substances which are potential targets for biomarkers of early cancer detection.
Aim: To assess the metabolomic profile of NAF using DESI analysis from women with proven breast cancer in comparison with their normal breast.
Methods: Manual compression of the nipple under general anaesthetic was utilised to collect fluid. Experiments were conducted on a Bioaccord QToF mass spectrometer (Waters Corp., Milford, MA, USA).
Results: A total of 45 samples were processed [mean±StD age= 61±13.89 years]. Samples were collected from mammographically normal breasts (n=23) as well as patients with breast disease (n=22 DCIS/invasive carcinoma). DESI analysis conducted in the negative ion mode depicted lipid peaks present despite miniscule quantities of nipple fluid (2-10μL). Based on masses known for this method, the majority of the m/z values detected belong to families of phospholipid, ceramide and free fatty acid species, which are conceivably important in distinction between normal and diseased breasts. 149 features distinguished between cancer and normal breasts with a sensitivity of 99.3% CI[95.91-99.98] and specificity of 95.79% CI[89.57-98.84]. The overall diagnostic accuracy was 97.8% CI[94.98-99.29].
Conclusions: Here we demonstrate pilot work that suggests even small amounts of nipple fluid aspirates can be successfully analysed for its molecular composition.

P019

BASILICA - A TRANSLATIONAL STUDY OF CAPSULAR CONTRACTURE (CC) AND BREAST IMPLANT ASSOCIATED ANAPLASTIC LARGE CELL LYMPHOMA (BIA-ALCL) TISSUE

Joseph Ward [1], Marios Tasoulis [2], Aadil Khan [1]. [1] *Department of Plastic Surgery, The Royal Marsden NHS Foundation Trust, London, United Kingdom;* [2] *Department of Breast Surgery, The Royal Marsden NHS Foundation Trust, London, United Kingdom*

Background: The immune responses to silicone implant insertion are poorly understood and, in particular, little is known about how these responses contribute to the development of capsular pathologies such as BIA-ALCL and CC. The purpose of the BASILICA study is to scientifically investigate both BIA-ALCL and CC to better understand their aetiology.
Aims: 1) Profile BIA-ALCL tumours and non-cancerous capsules to identify molecular drivers of lymphomagenesis 2) Characterise cellular and transcriptomic differences between pathological irradiated and physiological unirradiated capsules 3) Profile differences in circulating immune cells in implant-naïve patients undergoing silicone prosthesis insertion.
Methods: BASILICA is a Biomedical Research Centre (BRC) funded biobanking study currently recruiting patients at The Royal Marsden NHS Foundation Trust. The study aims to obtain blood and tissue samples from 20 BIA-ALCL patients (BASILICA-A), 50 CC patients (BASILICA-C) and 30 implant-naïve patients (BASILICA-N) receiving care at the Royal Marsden over the next 3 years. Integrative, multi-OMIC (RNA, proteome, T-cell Receptor) and deep immune profiling methodologies will be used to investigate molecular and immune drivers of BIA-ALCL and CC and define the systemic immune response to silicone insertion.
Conclusion: We intend to develop BASILICA into a collaborative platform for translational research into capsule-related pathologies particularly for extremely rare pathologies such as BIA-ALCL.

P020

CAPSULE STUDY - A COMPARISON OF CAPSULE IN PATIENTS UNDERGOING SUBPECTORAL BREAST RECONSTRUCTION WITH IMPLANT AND PORCINE ACELLULAR DERMAL MATRIX

Rebecca L. Wilson [1], Susan Pritchard [1], Cliona C. Kirwan [2], Rebecca McKerrell [1], James R. Harvey [1], Weiping Li [3], Ardeshir Bayat [3]. [1] *Manchester Foundation Trust, Manchester, United Kingdom;* [2] *University of Manchester, Manchester, United Kingdom and Manchester Foundation Trust, Manchester, United Kingdom;* [3] *University of Manchester, Manchester, United Kingdom*

Background: Acellular dermal matrices (ADM), used in 60% of immediate implant-based breast reconstructions, are associated with reduced rates of capsular contracture, however the mechanism of this is unknown.
Methods: In patients undergoing revision surgery after immediate implant based sub-pectoral Strattice™ reconstruction, histopathology of capsule biopsies taken from the ADM-tissue interface (lower pole) and pectoral-tissue interface (upper pole) were analysed to compare key markers of foreign body reaction. Semi-quantitative scoring of degree and location of fibrosis, inflammation, vascularity, synovial metaplasia, elastin, collagen (mature; collagen I vs immature collagen III), myofibroblasts and fibronectin was performed by two histopathologists, blinded to capsule type.
Results: Capsules from 12 reconstructions (7 patients, 5 bilateral) were biopsied at a mean time of 28 months (range 5 – 82 months) from last implant insertion. Compared to native capsules, ADM capsules demonstrated a thicker, more extensive fibrotic layer (mean [SEM] 1.79 [0.14] vs 2.79 [0.11], $p<0.001$), reduced presence of inner layer inflammation (87.5% vs. 20%, $p=0.02$), reduced presence of inner synovial like metaplasia layer (92% vs. 50%, $p=0.02$), a higher ratio of collagen I (mature) to collagen III (immature) (mean [SEM] 1.06 [0.33] vs. 4.34 [1.55], $p=0.09$), greater percentage of myofibroblasts (23% vs. 47%, $p=0.04$) and less elastin in capsules greater than two years old (mean [SEM] 3 [0.32] vs. 1.2 [0.38], $p=0.01$).
Conclusion: These findings suggest a less intense foreign body reaction at the ADM-tissue interface which remains dormant over time, supporting the theory ADMs reduce capsular contracture by creating a barrier between native tissues and implant.

P021

AN AUDIT OF GYNAECOMASTIA REFERRAL PRACTICES & MANAGEMENT IN PRIMARY AND SECONDARY CARE IN SOUTH WALES, AGAINST THE ABS GUIDELINES

Saif Abbas Chatoo [1], Lesley A. Price [2], Gary Osborn [3], Asmaa Al Allak [3]. [1] *School of Medicine, Cardiff University, Cardiff, United Kingdom;* [2] *Health Education and Improvement Wales (HEIW), Cardiff, United Kingdom;* [3] *Cwm Taff Morgannwg University Health Board, Pontypridd, United Kingdom*

Introduction: Over the last decade, the number of men referred to breast clinics with possible gynaecomastia has significantly increased, but literature analysing referrals is sparse. In 2019, the ABS published guidelines on the management of gynaecomastia in primary and secondary care, including criteria for referral. The aim of this study was to assess primary care referrals against these standards.
Method: Following a literature review on diagnostic pathways, audit approval was sought at Cwm Taff Morgannwg Health board. 200 consecutive male breast clinic attendances between 2018 and March 2020, were retrospectively analysed via electronic and paper medical records. 172 patients were eligible for inclusion. Demographics, symptomatology, investigations, grading and management were tabulated.
Results: Of the 172 patients included, 97 were diagnosed with gynaecomastia (56%) and 4.7% had malignancy. For those 97 patients, 55% had investigations in primary care and only 46% of the referrals were deemed appropriate based on ABS guidelines. 33% had pain/swelling less than six-months, and 59% were referred as 'urgent' or 'USC'. In secondary care, drug use was the most common aetiology (43%), of which prescription medication accounted for 75%. Ultrasound scan was the most common investigation (61%). 'Simon Classification' grading was documented in 43%. 19% were prescribed medication, 8% qualified for surgery and 54% were reassured and discharged.
Conclusion: The results highlight that inappropriate referral is common. So it is essential that primary care physicians are made aware of the recent ABS guidelines to support management and appropriate referral, thereby relieving pressure on breast services. Standardising grading in secondary care must also be improved.

P022

MAMMA (MASTITIS AND MAMMARY ABSCESS MANAGEMENT AUDIT): PHASE 2 OUTCOMES

Alona Courtney [1], Ruth Parks [2], Alexander Wilkins [3], Ruth Brown [1], Rachel O'Connell [4], Rajiv Dave [5], Marianne Dillon [6], Hiba Fatayer [7], Rachel Gallimore [1], Ashu Gandhi [5], Matthew Gardiner [8], Victoria Harmer [1], Lyndsey Hookway [9], Gareth Irwin [10], Charlotte Ives [11], Helen Mathers [12], Juliette Murray [13], Peter O'Leary [14], Neill Patani [15], Sophie Paterson [16], Shelley Potter [17], Ruth Prichard [18], Giovanni Satta [1], T.G. Teoh [1], Paul Ziprin [1], Daniel R. Leff [1]. on behalf of the MAMMA Research Collaborative. [1] *Imperial College Healthcare NHS Trust, London, United Kingdom;* [2] *King's Mill Hospitals, Sutton-in-Ashfield, United Kingdom;* [3] *Yorkshire Deanery, Hull, United Kingdom;* [4] *The Royal Marsden NHS Foundation Trust, London, United Kingdom;* [5] *Manchester University NHS Foundation Trust, Manchester, United Kingdom;* [6] *Singleton Hospital, Swansea, United Kingdom;* [7] *Health Education North West, Liverpool, United Kingdom;* [8] *The Kennedy Institute of Rheumatology Oxford University, Oxford, United Kingdom;* [9] *Private;* [10] *Belfast Health and Social Care Trust, Belfast, United Kingdom;* [11] *The Royal Devon and Exeter NHS Foundation Trust, Exeter, United Kingdom;* [12] *Southern Health & Social Care Trust, Portadown, United Kingdom;* [13] *NHS Lanarkshire, Bothwell, United Kingdom;* [14] *Bon Secours Hospital, Cork, Ireland;* [15] *University College London Hospitals, University College London Cancer Institute, London, United Kingdom;* [16] *Patient Representative;* [17] *University of Bristol, Bristol, United Kingdom;* [18] *St. Vincent's University Hospital, Dublin, Ireland*

Introduction: Due to subspecialisation, the management of mastitis and breast abscesses is thought to vary in the United Kingdom (UK) and Ireland. The aim of the Mastitis and Mammary abscess Management Audit (MAMMA) was to describe the current management these conditions in UK and Ireland.
Methods: All trusts involved in the management of mastitis and breast abscesses were invited to participate. Data was collected between 1st September and 31st August 2021 and stored in REDCap database. All units were required to register this audit locally. Statistical analysis was performed using open-source software JASP Team (2020).
Results: 1,348 records were collected from 69 hospitals across the UK and Ireland, of which 37 records were excluded (7 incomplete records, 10 patients <16 years of age, 12 patients with sebaceous cysts, 8 patients missing a diagnosis field). Patients with abscesses waited longer to seek help and were more likely to see their GP prior to presenting to the hospital ($p<0.001$). Although most patients presented on weekdays during working hours, less than half of them were seen by the breast team directly. Most hospitals did not have access to the breast team at weekends. 88.3% of patients were followed-up in breast clinic. There was significant regional variation in the rate of incision and drainage and needle aspiration of breast abscesses (Kruskal-Wallis test, $p<0.001$).
Conclusions: MAMMA identified areas of good practice in the management of mastitis and breast abscesses. However, further improvement is required in reducing regional variation in management and improving access to the specialist breast teams.

P023

MANAGEMENT OF ACUTE BREAST INFECTIONS BY THE EMERGENCY GENERAL SURGEON: ARE WE FOLLOWING NATIONAL GUIDELINES?

Mohamed Gulamhussein, Velin Voynov. *Dudley Group NHS Foundation Trust, Dudley, United Kingdom*

Introduction: Mastitis and associated breast abscess is not an uncommon presentation to the emergency general surgery take. There is wide variation in practice regarding management of these patients with regards to antibiotic prescriptions, rates of unnecessary surgical drainages and admissions acutely. We carried out a closed loop audit looking at the efficiency of managing this cohort, particularly antimicrobial prescriptions within a district general hospital.
Methods: Our study involved analysis of data over two cycles; December 2020 to April 2021 retrospectively, followed by prospective evaluation over June - September 2021 preceded by a targeted intervention. Data was analysed and presented based on the NICE guidelines 'Mastitis and breast abscess' 2021 following departmental audit lead approval.
Results: During the first cycle (n=19), none of the patients were on the recommended antimicrobial regime as per NICE. Only 7 cases (36.8%) were managed as an inpatient and 17 cases (94 %) had an average waiting time of 9.8 days for an ultrasound scan. Following re-audit, 22.7% of the cases (n=22) were on the recommended antimicrobial regime. The average waiting time for a sonographic diagnosis was 12 days.
Conclusion: Indeed, improvement was observed with regards to compliance with the NICE guidelines following our intervention. On-going education, dedicated breast trainees and slots for acute breast presentations in rapid access clinics may optimise care further in this group of patients.

P024

GRANULOMATOUS MASTITIS: THINK TUBERCULOSIS MASTITIS

Javeria Iqbal, Shahbaz Piracha, Shaista Zafar, Mirza Sharjil Baig, Guy Hagan, Mehboob Mirza. *City Hospital Birmingham, Birmingham, United Kingdom*

Tuberculous mastitis (TBM) is a rare clinical entity and can be challenging to diagnose. The diagnosis of TBM has three essential pillars: clinical examination, radiological evaluations and histopathological sampling.
Methods: Retrospective review of 45 patients presenting with granulomatous mastitis to Sandwell and West Birmingham hospitals from May 2016-May 2021.
Results: 32/45 patients were managed as Idiopathic Granulomatous Mastitis and all of these had non-caseating granulomas on biopsy. Of the 13 patients who were diagnosed with TBM 8 patients had caseasting granulomas on biopsy while 5 had non-caseating granulomas. One patient with foreign body also showed evidence of caseating granulomas. 13/45(28%) patients were diagnosed with TBM. 84.9% of these patients were of Asian ethnicity with an age range of 21 to 40 years. Over two-thirds (69.2%) presented with a breast lump and none of the patients had respiratory symptoms. Only four patients (30.8%) had a history of TB contact. Microscopic evidence of acid-fast bacilli (AFB) was present in 1 patient (7.7%) while 28.6% of individuals who had samples sent for TB culture returned positive. There were incidental pathologic findings in 40% of patients who had chest x-ray and 62.5% of patients who had a chest CT scan.
Conclusion: Tuberculous Mastitis can occur with or without caseating granulomas, without any respiratory symptoms and without prior contact. Therefore, a high index of suspicion is required, to diagnose and treat this potentially curable disease. Multiple investigations including AFB, TB culture and chest x-ray should be carried out to enhance prompt and accurate diagnosis.

P025

THE USE OF IFABOND© TISSUE ADHESIVE TO REDUCE SEROMA RATES AND IMPROVE BREAST RECONSTRUCTION OUTCOMES

Rebecca Lefroy, Senthurun Mylvaganam. *Royal Wolverhampton Trust, Wolverhampton, United Kingdom*

Introduction: Tissue adhesives have had uses in surgery for over 45 years. Evidence for use in haemostasis and cavity closure is growing. Seromas are a common (up to 85% incidence) but potentially serious complication in implant-based breast reconstruction (IBBR). If infected can cause implant loss and reconstruction failure. Tissue adhesives may reduce seroma rates.
Aims and Methods: Our study considered whether IFAbond© significantly reduces seroma formation following IBBR and as a pilot to evaluate the optimum use and application of IFAbond©. 7 consecutive patients undergoing pre-pectoral IBBR were recruited to the control arm (standard closure) and a further 7 patients undergoing pre-pectoral IBBR were recruited to the intervention arm (standard closure including IFAbond©). Qualitative assessment of seroma formation and IBBR objective early outcomes were assessed at 1 week, 2 weeks and 30 days.
Results: Cohorts were comparable for demographics, mastectomy weight and implant size. No wound infection, healing concerns or implant loss at thirty days in either cohort. No patients developed clinically significant seroma (requiring drainage) in either arm. 4 of 7 control arm patients developed clinically noticeable seroma at 30 days compared to none in the intervention arm.
Conclusions: IFAbond© is safe and easily applied during IBBR adding little time to closure. This study suggests that IFAbond© can reduce clinically evident seroma formation in IBBR compared to standard closure. This pilot will inform a larger study to explore the statistical significance of this intervention and with longer term follow-up whether this correlates to lower rates of implant loss/failure.

P026

BENIGN REDUCTION MAMMOPLASTY SPECIMENS FOR HISTOPATHOLOGY: A WASTE OF MONEY AND RESOURCES?

Ross McLean, Helen Wakefield, Mona Jain, Sunil Amonkar. *Queen Elizabeth Gateshead, Gateshead, United Kingdom*

Introduction: Contralateral symmetrising reduction mammoplasty can be performed at index breast cancer surgery, or as a delayed procedure. Patients have recent diagnostic imaging or ongoing imaging surveillance. Many are also on systemic treatment. At present these mammoplasty specimens are sent for histopathology. Current literature states the incidence of cancer in cosmetic reduction mammoplasty is 0.23% (0-2.8%), presence of atypical lesions is 0.8% (0.3-5%). This study reports on outcomes and cost implications of histopathological analysis for symmetrising reduction mammoplasty.
Methods: Retrospective single institution study of 76 consecutive patients from 2018-19 who underwent symmetrising reduction mammoplasty. Surgical, pathological and cost outcomes were evaluated.
Results: 69 patients (91%) had preoperative imaging within 12 months of surgery, all being reported as normal. Nineteen patients (25%) underwent symmetrising mammoplasty at time of index cancer surgery. Delayed symmetrisation (n=57) occurred at a median of 23 (range: 1-281) months. No underlying malignancy was found on histopathology. Three patients (4%) were found to have B3 lesions, none requiring any further management or changes to follow up. Large specimens underwent four slide analysis, and additional samples 1-2 slides. Each slide preparation cost £25. The material cost-per-case ranged from £100-225, excluding pathologist time.
Conclusion: Incidence of significant pathology within this population is low. Extrapolating the literature figure (0.23%), estimates costs of at least £43,500-98,000 to identify a single cancer. Routine pathology for other surgical procedures is not always necessary. At a time when cancer histology requires prioritising, workload and cost of analysing these specimens could be considered unnecessary provided imaging.

P027

AN AUDIT OF NON-DIAGNOSTIC ULTRASOUND-GUIDED BREAST BIOPSIES: CAN REPEATS SAFELY BE AVOIDED IN CASES OF LOW RADIOLOGICAL CONCERN?

Victoria Sinnett. *Royal Marsden NHS Foundation Trust, London, United Kingdom*

Introduction: With improved sonographic technology, and the thorough application of the well-documented and robust Stavros criteria, it is proposed that lesions graded as not more than indeterminate ($\leq$ U3) and yielding a B1/B2 histopathology report can safely avoid a repeat biopsy.
Aim: The results of this audit are hoped to add to the growing body of

work, which highlights the negative physical and psychological impact of benign breast biopsy procedures on patients, with the rationale that benign appearing lesions which yield a B1/B2 histopathology report are unlikely to be a misdiagnosed malignancy.
Methods: A retrospective audit of 72 non-diagnostic (B1/B2) first-line ultrasound-guided breast biopsies performed between January-June 2021 inclusively was performed, following local CAC approval. Data collected included the radiological 'U' score, and the subsequent follow-up which was undertaken.
Results: The 72 cases equated to 10.2% of the total breast biopsies performed. Discordance of radiological and histopathological reports was recorded in 29 (40%), with 19 patients undergoing a repeat biopsy. 16 (84%) of the repeat biopsies resulted in a benign (B2) or further B1/B2 histopathological outcome, which were accepted. 3 cases (16%) were classified as B3 which equated to 4% of those initially deemed non-diagnostic. None of the B3 lesions satisfied all of the Stavros criteria.
Conclusions: Lesions classified as $\leq$ U3 by ultrasound criteria, which have a B1/B2 core biopsy result are unlikely to be a carcinoma. It is proposed that it is possible to reduce the volume of 'unnecessary' repeat interventional procedures when used in accordance with strict sonographic assessment criteria.

P028

AN AUDIT OF PRIMARY AND SECONDARY CARE FOR GYNAECOMASTIA - WE ALL NEED TO DO BETTER

Cara Vincenti, Gwen Bromley, Mujahid Pervaz, Amy Robinson. *Gateshead Health NHS Foundation Trust, Gateshead, United Kingdom*

Introduction: Gynecomastia accounts for 80% of male breast referrals. There is clear guidance from the Association of Breast Surgery (ABS) on the care of these patients.
Methods: All GP referrals to breast clinic for Gynecomastia over 6 weeks were retrospectively reviewed. Referral letters, clinic documentation, and investigations were collated. Care provided was audited against the ABS "Guidance on Gynecomastia".
Results: A total of 41 referrals were made for Gynecomastia over 6 weeks. Just 54% met referral criteria. No patients had complete blood panels when referred. Despite alcohol or medications being mentioned in 11 letters, all these patients were still referred. In breast clinic, just 4 cases adhered to imaging guidelines. Bloods tests were done in 2 patients, only 1 had all appropriate tests. One patient was clinically and radiologically uncertain (P3, U3) and had a benign biopsy.
Conclusion: Despite clear guidelines on the care of Gynecomastia patients, we found that neither primary nor secondary care were meeting guidelines. While male patients make up a small proportion of referrals, they still potentially experience unnecessary anxiety and are a source of poor resource allocation. We aim to improve the local care of these patients by engaging with GP practices, providing education as part of a broader programme and developing an acceptable pathway. In tandem, we are making the gynecomastia bloods a formal panel and displaying the imaging guidelines in clinic. We will re-audit this to assess the success of this approach.

P029

BREAST PAIN: RELEASING CAPACITY ON THE 2WW SYMPTOMATIC SERVICE

Cara Vincenti, Robert Milligan, Gwen Bromley. *Gateshead Health NHS Foundation Trust, Gateshead, United Kingdom*

Introduction: In the UK there are 560,000 symptomatic breast referrals annually, and this is continuing to rise. Approximately 20% of all referrals to one-stop breast clinic in the UK are related to breast pain. We investigated whether a 'Non-urgent Mastalgia Clinic' would be a safe and feasible option to relieve the pressure on the symptomatic service.
Methods: A review of GP referrals to the one-stop breast clinic over 2 weeks (10th - 21st May 2021) was carried out to assess the viability and safety of a stand-alone mastalgia pathway. There were 183 new patient referrals. 77/183 referrals were related to breast pain (42%) and these were subdivided into the following groups: 'Pure Breast Pain' (13/77), 'Breast Pain with Lump' (50/77) and 'Breast Pain with Other Symptom' for example, discharge (14/77).
Results: In the 'Pure Breast Pain' group, no patients were found to have cancer and no patients required intervention or further imaging. Of the patients in the 'Pain with Lump Group' 18% (9/50) required biopsy/intervention/further imaging and 3 were confirmed to have cancer. In the 'Breast Pain with Other Symptom' group, 1 patient required a punch biopsy and no patients were found to have cancer.
Conclusion: Alongside experienced Breast Care Nurses and Radiologists, we can safely develop a breast pain service for a clearly defined, low-risk group of patients. A non-urgent mastalgia clinic would be a safe and feasible option for those patients presenting with no risk factors and breast pain alone, thus releasing capacity on the symptomatic 2WW service.

P030

SYMMETRISATION REDUCTION MAMMOPLASTY IN BREAST CANCER PATIENTS HAS A LOW INCIDENCE OF SIGNIFICANT PATHOLOGICAL FINDINGS

Helen Wakefield, Ross McLean, Sunil Amonkar. *Queen Elizabeth Gateshead, Gateshead, United Kingdom*

Introduction: Incidental pathological findings on cosmetic reduction mammoplasty are rare, quoted as <1%. Following breast cancer surgery, contralateral symmetrising breast surgery may be required. These patients have regular imaging surveillance thus the likelihood of incidental findings is suspected to be low. However, given the background of malignancy, pathology of such cases are currently discussed in our breast MDT. We assessed timing and pathology of symmetrising surgery to assess the incidence of pathology in this group.
Methods: Retrospective review of patients undergoing a contralateral breast reduction between 01/01/18 to 31/12/19. Timing of surgery, most recent imaging and pathological findings were assessed.
Results: 76 reductions were performed. In 19 cases contralateral breast reduction was performed at the same time as the index cancer operation. Delayed symmetrisation surgery occurred after 1-281 (median 23) months. 69 cases (91%) had surveillance imaging within 12 months of their symmetrisation surgery. Of the 76 cases, 73 (96%) showed normal tissue or benign breast changes only. 1 case had atypical lobular hyperplasia and 2 showed lobular neoplasia in situ. All 3 cases had imaging within 5 months of their surgery. There was no change in subsequent management or follow up for any of these histological findings.
Conclusions: Breast cancer patients having contralateral breast reduction for symmetry have a low incidence of significant pathology. There is a cost and resource implication for this routine practice and our results from this small study suggest that non urgent pathological reporting is sufficient provided imaging is up to date.

P031

ELMINIA UNIVERSITY FIRST BREAST CANCER SCREENING EXPERIENCE, EGYPT

Manal F. Abu Samra [1], Lamiaa Adel [2], Mohammed Farouk Gabr [3], Shahd Fuad [1], Asmaa K. Fath EL-Bab [1], Alaa Talaat [4]. [1] *Radiology Department, School of Medicine, Minia University, Minia, Egypt;* [2] *Radiology Department, Cairo University, Cairo, Egypt;* [3] *Radiology Department, South Valley University, Qena, Egypt;* [4] *East and North Hertfordshire NHS Trust, Stevenage, UK*

Introduction: Breast screening is the most beneficial way to detect breast cancer early and to have best therapeutic response. This is the first screening study for breast cancer in Minia University Hospital as a retrospective study held in Minia University between March 2018 and January 2019 in collaboration with national project for women health. The breast sonomammography combination is more beneficial as regarding the diagnostic indices, reducing the recall rate and patients' stress, the availability of any further assessments at the same visit and saving

transportation, so sonomammography is the suitable screening protocol in our society.
Materials & Methods: Two thousand asymptomatic women were involved in this study. Screening was done by mammography and ultrasound with histopathological correlation for the malignant lesions.
Results: At this study, the recall rate was (190/2000) x 100 = 9.5 %, and the cancer detection rate was (21/2000) x100 = 1.05 %.
Conclusion: Breast cancer screening is the most beneficial way to detect breast cancer early and to have best therapeutic response. Complementary ultrasound to screening mammography increase the diagnostic accuracy, most of the recalled cases proved to have benign lesions, so combined breast sonomammography in the same session could be more effective to reduce the unnecessary recall rate and patients' stress due to recall, elevate the diagnostic indices as well as the cost of unnecessary patients' transportations. This study is the first screening study at Minia University, the recall rate was (190/2000) x 100= 9.5 %, and the cancer detection rate was (21/2000) x100 = 1.05 % which are the same of the international rate.

P032

BREAST HEALTH SCREENING QUESTIONNAIRE, A UK PERSPECTIVE: THE ACCEPTABILITY OF USE OF NIPPLE ASPIRATE FLUID AS A SCREENING TOOL FOR BREAST CANCER

Natasha Jiwa[1], Zoltan Takats[1], Daniel Leff[2], Chris Sutton[3]. [1] *Imperial College London, London, United Kingdom;* [2] *Imperial College London, London, United Kingdom and Imperial College Healthcare Trust, London, United Kingdom;* [3] *University of Bradford, Bradford, United Kingdom*

Background: There is an unmet clinical need in identifying and screening women at high risk of breast cancer. Nipple aspirate fluid (NAF) is thought to provide a unique window into the biological processes occurring within the breast, particularly in the context of a developing neoplasm. A breast health questionnaire was disseminated, with the aim of collecting opinions on the acceptability of using NAF as a potential screening tool.
Method: A voluntary, anonymous questionnaire was conducted between October 2019 and December 2020, consisting of 4 parts: (a) introduction on breast health screening, (b) core demographic data, (c) screening and the acceptability of using NAF and (d) opinions about the process of collecting and using NAF for screening.
Results: A total of 3,178 responses were received. Of these, 2,650 (83.4%) women had never encountered NAF and 89.4% were unaware that NAF can be expressed in up to 90% of women. 90.0% of women were keen to know their future breast cancer risk and 1,961 women (29.8%) were unaware of the lack of routine NHS Breast Screening for those under 47 years old. Ninety two percent were keen to undergo a home NAF test. Both 79.7% and 70.9% stated they would consider hand massage and a breast pump to acquire NAF samples, respectively. Finally, 91.6% of women believed that breast health should be incorporated as part of school education curriculum.
Conclusion: Efforts should be made to increase awareness of the development of alternative and supplementary tests, especially in the context of high-risk individuals and younger patients.

P033

THE NEED FOR A ROBUST SYSTEM TO STOP BREAST CANCER SURVEILLANCE MAMMOGRAMS FOR PATIENTS WHO ARE DIAGNOSED WITH METASTATIC DISEASE

Hannah Murray, Nicola Laurence. *Royal United Hospital, Bath, United Kingdom*

Introduction: Most breast cancer patients on a curative pathway for breast cancer are offered mammography on an annual basis for at least 5 years, or until 50. In many units, once ordered, there is an ongoing automatic process that continues for the appropriate timeframe, which is determined at the end of presumed curative treatment. For the majority of patients who are unfortunately diagnosed with metastatic disease, continuation with mammograms is not appropriate. They cause harm to patients and put pressure on radiology resources. We surveyed local hospitals and discuss a robust system to ensure these tests are cancelled.
Method: We contacted all breast units in the South West Region to determine if they had a robust system to cancel inappropriate mammograms.
Results: Most units are aware of the need to stop mammograms and try to cancel these on an individual basis, however, approximately 60% acknowledged that the method is not robust with many unnecessary mammograms continuing.
Conclusion: At the Royal United Hospital Bath, the booking system involves a breast radiographer booking mammograms for patients annually. At each booking, any recent CT scan is viewed by the booking radiographer. If there is evidence of metastatic cancer (breast or other tumour site), this is brought to the attention of a clinician, who decides if mammograms should be cancelled. If so, a standard letter is sent to the patient informing them of the cancellation of mammograms in place of oncology follow-up. We suggest all units set up a bespoke system to avoid unnecessary mammograms.

P034

AGE VARIATION OF INCIDENCE OF BREAST CANCER IN BANGLADESH: SINGLE BREAST CENTER EXPERIENCE

Ali Nafisa, SK.Farid Ahmed, Farzana Jahan Kumkum, Sabrina Islam Niha, Khadiza Ahmed, Sanjana Nuzhat Esha, Monira Rahman Mitul. *BRB Hospitals, Dhaka, Bangladesh*

Introduction: Incidence of breast cancer is increasing worldwide, and Bangladesh is no exception. As we are yet to have a national cancer registry database, we looked at our breast unit's patients database to look at details of age variations in breast cancer diagnosis and its implication on screening.
Methods: Prospective cross-sectional study was carried out between the period of September 2019 to March 2021 at BRB hospitals, Dhaka. Pulled patient data represents wide geographical variation within Bangladesh.
Results: We have identified 276 breast cancer patients with an average age of 47 years. 180 (65%) patients were below 50 years of age with over half of them are below 40 years of age as 94 patients were below 40 years of age. 96 (35%) patients, between age 51-90 years. One patient was below 20 years of age and one was between 81-90. More than one third (35%) is below forty years and 86 (31%) were between age 41-50. 65% patients are below fifty years of age, which reflects the likelihood of potential benefit of mammographic screening to pick up as early breast cancer. Over 65% patients were below 50 years of age and further research is needed to identify risk factors, preventative measures, early detection of breast cancer.
Summary: There is evidence of increased number of young age breast cancer in Bangladesh. Greater awareness, robust screening mechanism, perhaps with mammogram may help detect them as early breast cancer. A multicentre, prospective data analysis with a larger cohort may help evaluate this further.

P035

BLOOD ON DIPSTICK AND CYTOLOGY IN NIPPLE DISCHARGE - A USEFUL TEST FOR MALIGNANCY?

Sven Wilhelm Odelberg, Karina Devi Ramdenee, Steven Goh. *North West Anglia Foundation Trust, Peterborough, United Kingdom*

Introduction: Nipple discharge is a common presenting complaint in breast clinics around the world. Many clinics routinely employ dipstick and cytology testing of nipple discharge. However, studies vary wildly in their results on how useful these screening tools are.
Methods: Records were retrospectively retrieved for all patients who had nipple discharge cytology between 2013 and 2021. Data was gathered on triple assessment findings, dipstick and cytology results, whether a histological sample was obtained, and histological diagnosis.
Results: A total of 510 cases were retrieved, of which 320 were dipstick and 158 were cytology positive. Out of all cases, 217 received histological diagnosis, with 172 benign and 45 showing atypia or malignancy. Sensitivity, specificity, PPV and NPV is shown in table 1.

Table 1

	Dipstick	Cytology	Cytology + Atypia
Sensitivity	86.67%	34.88%	62.79%
Specificity	17.44%	45.93%	43.60%
PPV	21.55%	14.02%	21.95%
NPV	83.33%	73.83%	80.65%

Out of the 45 non-benign cases, 3 had no clinical documentation of abnormalities, and 12 had documented normal or benign findings on triple assessment. Out of these 12, all were positive on dipstick, 4 were positive for blood only on cytology, increasing to 8 when including atypia on cytology.
Conclusion: Statistical analysis favour dipstick over cytology for sensitivity, PPV, and NPV, whereas cytology exhibits greater specificity. However, the greater total positive dipsticks, with proportionally less receiving histological diagnosis, likely introduce bias in favour for dipstick. Overall, data indicates several malignancies could have been missed or delayed without dipstick and cytology testing.

P036

ROLE OF TRANEXAMIC ACID IN REDUCING POST MASTECTOMY BLEEDING

Mark Tatterton, Sarah Clark, Ahmed Dahroug, Mohamed Abdalla. *University Hospitals Dorset, Poole, United Kingdom*

Background: Tranexamic acid (TXA) reduces blood loss associated with various surgical procedures with a lower risk of systemic adverse events. The aim of this study was to investigate whether intravenous administration of TXA at induction of anaesthesia would reduce postoperative bleeding rates in all mastectomy patients.
Methods: A retrospective audit of all mastectomy cases performed at University Hospitals Dorset between October 2018 and October 2020 was carried out, a prospective trial of intravenous administration of 1 gm of TXA at induction of anaesthesia with outcome review for all cases of mastectomy between October 2020 and October 2021 was then undertaken. The endpoint was postoperative bleeding as measured by drain output in the first 24 h or early haematoma.
Results: Between the 1st October 2018 and the 30th September 2020, 142 patients underwent mastectomy, 15 patients showed post-operative bleeding (10.5%), 6 out of the 15 needed to be taken back to theatre and the rest were treated conservatively, 4 out of the 15 were on a regular anticoagulant. Between the 1st October 2020 and the 30th September 2021, 79 patients underwent mastectomy, 4 patients showed post-operative bleeding (5%), 2 out of the 4 needed to be taken back to theatre and the rest were treated conservatively, none of the 4 patients were on anticoagulants.
Conclusion: The intravenous administration of TXA showed improvement in post-operative bleeding rates (5%) in patients compared to (10.5%) in patients who did not receive TXA. No thromboembolic events occurred in the perioperative period.

P037

BREAST CONSERVING SURGERY WITH WIRE LOCALISATION: BANGLADESH EXPERIENCE

S.K. Farid Ahmed [1], Ali Nafisa [1], Farzana Jahan Kumkum [1], Samanta Meharin Priam [2], Sabrina Islam Niha [1]. [1] *BRB Hospitals, Dhaka, Bangladesh;* [2] *Anwer Khan Modern Medical College Hospital, Dhaka, Bangladesh*

Background: With the introduction of breast screening, high quality digital mammography and increased public awareness there has been seen an increase diagnosis of non-palpable, smaller breast lesions including cancers. Accurate localisation of small, non palpable breast lesion is mandatory for good surgical management. The first author has pioneered the introduction of wire localisation, hydrogel marker insertion technology in Bangladesh and first three case were done by him at BSMMU live surgery workshop in March 2018.
Methods: Prospective cross-sectional study was carried out. Mammography and USG were done for 16 patients. 5 cases are BIRADS 1, 1 case each with BIRADS 2 and BIRADS 3, 7 cases are BIRADS 4, 2 cases are BIRADS 5. USG guided wire localization done, post excision x-ray of specimen performed. All localisations were successful and analysis of histology.
Results: We have performed wire guided wide local excision (WG WLE) on 23 cases with 16 malignant (IDC) and 7 benign cases. 8 cases received neoadjuvant chemotherapy (NACT), 7 received adjuvant chemotherapy, all had adjuvant radiotherapy (RT) and 9 cases with adjuvant hormone therapy (HT). 8 cases are triple negative. 9 Estrogen receptor (ER)+ve, 7 ER-ve cases. 5 cases are HER2+++ve. 3 out of 8 cases who received NACT shows pCR on histology. Out of 16 cases, 8 cases have SNB and 8 cases has axillary clearance (ANC).
Conclusion: Through technology transfer and provision of training, introduction of localisation technology, Hydrogel markers and multidisciplinary team approach concepts, have revolutionized breast cancer management and Bangladesh has entered the era of modern management of breast cancer.

P038

NO BENEFIT IN LOSS RATE WITH PREPECTORAL VERSUS SUBPECTORAL IMPLANT-BASED, MESH-ASSISTED BREAST RECONSTRUCTION

Matthew Barber. *Edinburgh Breast Unit, Western General Hospital, Edinburgh, United Kingdom*

Introduction: Prepectoral implant-based breast reconstruction may be easier and reduce impact on pectoral muscle function compared with subpectoral implant placement. Conversely, reduced implant coverage may affect wound healing and cosmetic outcome. The present study aimed to assess loss rates with each form of reconstruction. Pandemic restrictions on revisional surgery prevented meaningful assessment of further surgery.
Methods: 193 patients underwent subpectoral breast reconstruction with TiLoop Bra between 11/2014 and 10/2019. 114 patients underwent prepectoral reconstruction with TiLoop Pocket between 9/2018 and 12/2020. All patients were under the care of 4 surgeons with significant experience of implant-based reconstruction.
Results: Rates of patients receiving radiotherapy and indications for surgery were similar between the two groups and loss rates with different risk factors were similar. The proportion of current smokers was significantly less for the group undergoing prepectoral reconstruction (12.4% vs 3.5%, $p=0.0087$). The overall loss rate at 3 months was significantly less with prepectoral reconstruction (7.0% vs 15%, $p=0.037$), however, this difference was lost at 12 months (16.7% vs 17.6%, $p=0.21$). In patients without major risk factors (radiotherapy or current or ex-smokers), rates of loss at 3 months were 6.1% in prepectoral reconstruction and 3.1% with subpectoral reconstruction ($p=0.37$). At 1 year, loss rates without risk factors were 13.6% with prepectoral and 4.2% with subpectoral reconstruction ($p=0.027$).
Conclusions: Any apparent improvement in loss rates of implant-based reconstruction with a prepectoral approach in our unit appears to be explained by patient selection. In those without risk factors for implant reconstruction, medium term loss rate appears higher with prepectoral reconstruction.

P039

SENTINEL LYMPH NODE BIOPSY IN PATIENTS WITH BREAST DUCTAL CARCINOMA IN SITU IN QUEEN ALEXANDRA HOSPITAL, PORTSMOUTH

Theodora Chatzimichail, Sophie Helme. *Portsmouth Hospitals University NHS Trust, Portsmouth, United Kingdom*

Background: The aim of this audit is to assess the proportion of patients who underwent sentinel lymph node biopsy after being diagnosed with ductal carcinoma in situ (DCIS). According to the NICE and Surgical guidelines for the management of breast cancer, sentinel lymph node biopsy (SLNB) in patients diagnosed with DCIS should be considered in patients with extensive calcifications, palpable mass or high grade of disease. In addition, SLNB should be performed when mastectomy is the initially planned operation in these patients.

Methods: This audit reviewed 310 patients who were diagnosed with cancer through the breast cancer screening program between May 2016 and June 2021 in Queen Alexandra Hospital, Portsmouth. The study included 64 patients with biopsy-proven DCIS who underwent SLNB as part of their initial surgical management. The data was obtained through online clinical documents.
Results: The data showed that 46/64 patients had mastectomy and 12/64 patients had wide local excision (WLE) as their initial operation, while 6/64 patients had no recorded breast operations.
As per the guidelines:
• Mass forming lesion on examination: 6/64 patients.
• Area >30mm or multifocal: 46/64 patients (3 mass forming, 1 high grade).
• High grade disease: 27/64 patients.
All the patients who underwent SLNB for DCIS, had negative lymph nodes. One of them had a histological upgrade.
Outcomes: According to our data, all patients who had one or more criteria underwent SLNB. This indicates that our department has been adhering to the guidelines regarding SLNB in patients with DCIS. However, none of those patients had positive SNLB.

P040

ARE DRAINS NECESSARY FOLLOWING MASTECTOMY AND AXILLARY SURGERY? FEASIBILITY WORK FOR THE DIAMOND STUDY

Katherine Fairhurst [1], Pat Fairbrother [2], Shelley Potter [3]. [1] *University of Bristol, Bristol, United Kingdom and North Bristol NHS Trust on Behalf of the Diamond Study Group, Bristol, United Kingdom;* [2] *Independent Cancer Patient Voice, London, United Kingdom;* [3] *University of Bristol, Bristol, United Kingdom and North Bristol NHS Trust, Bristol, United Kingdom*

Introduction: Drains are commonly used following mastectomy and axillary surgery to prevent seroma formation and subsequent wound complications. However, drains cause some women significant distress and discomfort that could potentially be avoided. In addition, drains may prevent same day discharge and cause numerous health care professional interactions with resulting resource implications for the NHS.
Methods: Feasibility work was done to determine whether it is possible to undertake a large-scale multi-centre pragmatic RCT in the UK, comparing the use of drains versus no drains in patients having mastectomy and/or axillary clearance. Work performed included a national practice evaluation survey with breast consultants and senior trainees (ST7+) to explore existing variation in drain use, and Patient and Public Involvement (PPI) work, to explore patient experiences and to help determine the most relevant primary outcome for a future definitive trial.
Results: Preliminary survey results from all areas of the UK, indicated that most surgeons used drains either routinely (n=18,46.2%) or only under certain circumstances (n=16,41%), with few never using drains (n=5,12.8%). More than 50% of surgeons felt there was significant uncertainty around the use of drains in breast surgery, with 66.7% thinking a trial was needed, and almost 80% indicating they thought a trial was possible. The survey is ongoing and the final results of this and the PPI work will be presented.
Conclusion: The Diamond Study (Drainage vs no drainage following mastectomy and axillary surgery) is needed to provide high quality evidence on the best and most cost-effective practice for the use of drains in breast surgery.

P041

THE EFFICACY AND SAFETY OF THE ROUTINE USE OF TRANEXAMIC ACID PERIOPERATIVELY IN BREAST SURGERY

Mina Girgis, Marina Gonzales. *West Suffolk Hospital, Bury St Edmunds, United Kingdom*

Introduction: Bleeding is an important consideration in breast surgery as the operation site is confined and any uncontrolled bleeding might result in skin necrosis, which in turn delays the healing. Tranexamic acid (TXA) is a synthetic amino acid that blocks plasminogen from being converted to the enzyme plasmin. Plasmin works by breaking down fibrin already formed in blood clots resulting in fibrinolysis and therefore clot lysis. It is used safely in several medical and surgical settings and has been demonstrated to effectively reduce perioperative blood loss without any significant safety concerns.
Methods: Single centre retrospective analysis of a prospectively maintained database. Two different time cohorts are identified over 8 months. Patients were stratified in to two cohorts; those who had tranexamic acid peri-operatively and those who had not. Two outcomes have been measured. 1. Postoperative bleeding necessitating re-operation. This was measured by return to theatre for bleeding. 2. Increased rate of thromboembolic events (DVT and/or PE) within 30 days of the operation.
Results: 110 patients' data was collected. These patients had 126 procedures. In 61 operations, TXA was administered perioperatively. Out of these, no patients had to return to theatre for bleeding and none of them had thromboembolic events. In 65 Operations, TXA was not administered perioperatively. Out of these, 2 patients had to return to theatre for bleeding and none of them had thromboembolic events.
Conclusion: These results suggest that TXA could be safely used to decrease the rate of postoperative bleeding without increasing the risk of thromboembolic events. This might need to be studied on a wider scale.

P042

INTRA OPERATIVE ULTRASOUND (IOUS) VERSUS GUIDEWIRE (GW) WIDE LOCAL EXCISION (WLE) OF BREAST CANCER - ONE-YEAR STUDY IN A DISTRICT GENERAL HOSPITAL

Ting Hin Richard Ip, Josephine Mollier, Aimee Serisier, Mary Jenskinson, Prapti Gurung, Sudhakar Eleti, Harun Thomas, Emma Gray, Abdul Syed. *Southend University Hospital, Southend-on-Sea, United Kingdom*

Introduction: Guidewire Wide Local Excision (GWWLE) of screen detected breast cancer is still the standard of treatment in UK. This study was to evaluate the non-inferiority/equivalence of Intra Operative Ultrasound IOUS over GW WLE with added benefits.
Methods: One hundred and eighty-nine patients who underwent WLE during December 2018 to December 2019 were included in the study. They were grouped into either IOUS or GW WLE depending on Surgeon's expertise. Patient and tumour characteristics were analysed using Chi-squared test and Mann-Whitney test. Re-excision rates were assessed with rate difference and resection volume with Calculated Resection Ratio (CRR). Non-inferiority margins were set at 0.05 for rate difference and 0.5 for CRR difference, after considering current evidence.
Results: A total of 134 patients had GW WLE and 55 patients had IOUS WLE. Re-excision was needed in 12, 3 patients respectively. Median CRR is 1.94 (IQR: 1.047 – 2.795) in the GW group and 1.75 (IQR: 1.020 – 2.926) in the IOUS group. IOUS was found to be non-inferior to GW in re-excision rates, and CRR, with a one sided 97.5% CI (0.035 for re excision and 0.388 for CRR) and non-inferiority margins of 0.05 and 0.5 respectively.
Conclusions: This study demonstrates that IOUS WLE is non-inferior in both metric, and also has the benefit of reducing additional procedures with financial implications. This is especially helpful given the backlog of patients due to COVID-19 pandemic.

P043

CHEST WALL PERFORATOR FLAPS (LTAP AND LICAP) FOR TOTAL BREAST RECONSTRUCTION

Jen Isherwood, Celene Ng, Giulio Cuffolo, Georgette Oni, Lisa Whisker, Hazem Khout, Tuabin Rasheed, Kristjan Asgeirsson, Douglas Macmillan. *Nottingham Breast Institute, Nottingham City Hospital Nottingham, United Kingdom*

Background: The use of chest wall perforator flaps for partial breast reconstruction is well described. In select patients, particularly those unsuitable for standard techniques, these flaps can also provide an autologous total breast reconstruction (TBR) option. We describe the experience of a tertiary referral centre.

Methods: A retrospective case notes review of patients undergoing TBR using chest wall perforator flaps, between 2012 and 2021 was undertaken. Demographic data, intraoperative details and surgical outcomes were analysed.
Results: Twenty-one patients undergoing bilateral (n=4) or unilateral (n=17) reconstruction were identified. Mean age was 51 years (range 30-69) and mean BMI was 35 (19-45). 56% of the reconstructions (N=14) were therapeutic, and the rest risk reduction. Average mastectomy weight was 622g (range 81-1320g). Two required axillary node clearance. Flaps based on the Lateral Thoracic Artery were used most (36%). 36% were raised in combination with, and the rest isolated, on the Lateral Intercostal Artery Perforators (36%). Three patients had radiotherapy following reconstruction, and one before. All patients were discharged within 24hrs. Minor complications included 7 superficial infections, treated with oral antibiotics, and one patient returned to theatre at day 19 for debridement of skin necrosis. Four patients had fat necrosis, two had this excised and two treated conservatively. Five patients had a further lipofilling episode.
Conclusions: In selected patients, unsuitable for standard techniques, total breast reconstruction with local chest wall flaps can be performed safely with short recovery and low rates of revision.

P044

MAGNETIC RESONANCE IMAGING IN THE ASSESSMENT OF PATIENTS WITH BREAST CANCER UNDERGOING NEOADJUVANT CHEMOTHERAPY: EVALUATION OF THE PROGNOSTIC VALUE OF MID-CHEMOTHERAPY AND POST-CHEMOTHERAPY SCANS

Gooj Johri [1], Lyndsey Highton [1], Sumohan Chatterjee [1], Sacha Howell [2]. [1] *Nightingale Breast Centre, Wythenshawe Hospital, Manchester, United Kingdom;* [2] *The Christie NHS Foundation Trust, Manchester, United Kingdom*

Introduction: Patients receiving Neoadjuvant Chemotherapy (NAC) should have their treatment response monitored before, during, and after treatment using MRI scans.
Methods: We conducted a retrospective review of cases diagnosed between Oct 2016 & Dec 2018 having NAC.
Results: There was a significant association between breast pCR and both complete response on mid-NAC scan (fishers exact test, p=0.007) and on post-NAC scan (X2, p<0.001). There was also a significant association between regional pCR (breast and axillary lymph nodes) and both compete radiological response on mid-NAC scan (X2, p=0.011) and on post-NAC scan (X2, p<0.001). Those who achieved complete radiological response were divided into those who achieved it early (i.e. by mid-NAC scan) and late (i.e. not until post-NAC scan). The positive predictive value for achieving local pCR was higher in those who achieved complete radiological response early (PPV = 91.7%) as compared to those who achieved it late (PPV = 64.3%). There was a trend towards an association between early complete response and local PCR though it was not significant (p=0.124, X2).
Conclusion: 100% of patients achieving complete radiological response by mid-NAC scan maintained this response on post-NAC scan. In this subgroup, the post-NAC MRI can be safely omitted, saving resources. In addition, many patients responding on mid-NAC scan with a definite decision for mastectomy may also avoid the post-NAC MRI. Mid-NAC and post-NAC MRI scans demonstrate significant association with local and regional complete pathological response. Early responders may have a better prognosis, though further studies are needed.

P045

REFERRAL PATTERNS OF MALE PATIENTS TO A SYMPTOMATIC BREAST CLINIC

Jack Thomas Kennedy, Boon Xuan Julie Lua, Helen Mathers, Norah Scally, Christopher Curry. *Southern Health and Social Care Trust, Newry, United Kingdom*

Introduction: In 2021, the Association of Breast Surgery (ABS) published guidelines for the assessment, referral, and investigation of men with breast symptoms consistent with gynaecomastia. This retrospective study assesses the appropriateness of referrals made to a DGH during a one-year period.
Methods: All symptomatic referrals between 1st November 2019 and 31st October 2020 were identified. Patients with no documented referral letter or incorrect identifiers were excluded. Patient demographics, clinical findings, referral data including history, examination and recommended blood tests in primary care were collated from patients' electronic records. Compliance with ABS referral guidance was assessed.
Results: A total of 3921 patients were referred, of which 179 (4.6%) were male. Following exclusions, 159 referrals were analysed. The mean age at referral was 51 years (11-95 years). 72% of referrals were graded as red flag or urgent. Referral information including chest wall examination (94%), drug history (63%), family history (31%), alcohol history (9%), collection of testosterone (8%), αFP (3%) and βHCG (2%) were documented. 75% of referrals had a final diagnosis of benign gynaecomastia. 1 patient had a diagnosis of breast cancer. 76 (48%) of referrals were deemed appropriate according to ABS guidelines.
Conclusion: In total, 83 referrals (52%) were judged as inappropriate, representing a potential cost-saving of circa. £53,950.00 per annum (£650 per patient). This study highlights the need for education of our primary care partners to highlight updated ABS guidelines.

P046

UTILITY OF SURGICAL INSTRUMENTS IN TERTIARY BREAST ONCOLOGY CENTRE

Lucinda Knight [1], Constance Haigh [1], James Chean Khun Ng [2], Melissa Begue [1], Jennifer Isherwood [2], Georgette Oni [2]. [1] *University of Nottingham, Nottingham, United Kingdom;* [2] *Nottingham University Hospitals Trust, Nottingham, United Kingdom*

Introduction: Optimising surgical trays and reducing the number of instruments requiring sterilisation, has both financial and environmental benefits. For every 10 instruments there is an estimated £5.32 increase in cost, with the associated energy and transport usage having implications on the environment. The time/ergonomics of having fewer surgical instruments also has additional benefits to the surgical team and patient. In 2019, we performed around 1600 breast surgeries at our tertiary referral centre. This study looks at the utility of our surgical trays at the Nottingham Breast Institute (NBI).
Methods: Breast surgery cases were identified from October to November 2021. A standardised pro forma was used to record operation type, tray-type, instrument usage and additional reusable instruments requested during the procedure. This data was tabulated and a quantitative analysis performed.
Results: 55 breast reconstruction trays were used across 73 surgeries. On average, there were 55 instruments per tray, with the mean proportion of instruments used being 42% (N=23, range 18-60%). 16% (N=9) of instruments were never used and 42% (N=23) of instruments were used in <20% of operations. However, 11 operations (20%) required additional instruments to be opened.
Conclusions: This study has shown that a 40% reduction in instruments, with a reconfiguration of standard instruments, on our surgical sets is feasible. Based on this data, there is a potential cost saving upward of £25000 per annum, in sterilisation costs alone. This substantial financial saving is further enhanced by positive implications for the surgical staff, energy consumption and thus the environment.

P047

THE ROLE OF ROUTINE SENTINEL LYMPH NODE BIOPSY IN ELDERLY PATIENTS WITH BREAST CANCER

Angus Lloyd, Lauren O'Connell, Alexandra Zaborowski, Conor Kearns, Michael Boland, Denis Evoy, James Geraghty, Jane Rothwell, Damian McCartan, Ruth Prichard. *St. Vincent's University Hospital, Dublin, Ireland*

Recent guidelines from the Society of Surgical Oncology recommended against the routine use of sentinel lymph biopsy (SLN) in women over the

age of 70 years with pT1 ER-positive breast cancer. The aim of this study was to evaluate the use of axillary staging with SLN in patients aged older than 70 with early-stage breast cancer. A retrospective review identified all women over 70 years of age with a new diagnosis of invasive breast cancer who proceeded to therapeutic surgery between 2011 and 2020 at St. Vincent's Hospital, Dublin. All patients proceeded to therapeutic surgery. All patients had an axillary ultrasound at diagnosis. Clinicopathological data was assessed. Final pathological stage for patients who received axillary staging with SLN were assessed. Of 1360 women aged over 70 at time of diagnosis during the study period, 474 patients (mean age of 80 years) underwent a wide local excision and SLN. Of these, 217 (46%) had a final pathological stage of pT1 and a tumour that was ER positive. Within this group 79% had a negative SLNB (pN0). The rate of SLN positivity was higher in those with pT2 disease at 34% (p=0.005). Axillary staging with SLN is still routinely employed for patients older than age 70 who proceed to surgery for treatment of their breast cancer with a >20% positivity rate, even in those with pT1 disease. Efforts to reduce SLNB use in this cohort should incorporate both assessments of patient frailty and tumour parameters that allow estimates of sentinel node positivity.

P048

MAGSEED VS. WIRE LOCALISATION IN BREAST CONSERVING SURGERY: IS IT LIVING UP TO THE HYPE?

Hannah Bethell [1], Natalie Hirst [2], Emma MacInnes [2]. [1] *University of Leeds, Leeds, United Kingdom;* [2] *Leeds Teaching Hospitals, Leeds, United Kingdom*

Introduction: Magseed is an increasingly utilised localisation method providing an alternative to wire-guided localisation of impalpable breast cancers in breast conserving surgery. A commonly cited advantage of Magseed is the ability to insert the seed ahead of the day of surgery, positively impacting on theatre efficiency and patient experience. We retrospectively assessed need for re-excision and logistics of these localisation techniques.
Methods: A retrospective evaluation of consecutive cases of wire and Magseed localised wide local excisions was carried out in our unit in 2019 (wire) and 2021 (magseed). Data included timing of insertion, radiological and pathological tumour size and need for re-excision of close (<1mm) or involved radial margins. This service evaluation was locally approved and findings presented and discussed.
Results: 50 Magseeds and 50 wires were inserted. Pathological tumour sizes were similar (1-52mm Magseed vs. 1.5-35mm wires). There was no significant difference in need for re-excision for close or involved margins (Magseed 3/50, 6% vs wire 7/50, 14% p = 0.09). Of the re-excision cases, 1 of 3 was due to the tumour being larger than expected with Magseed, compared to 3 of 7 localised with wires. Magseeds were inserted before the day of surgery in 86% of cases. All wires were inserted on the day of surgery.
Conclusions: There was non-inferiority of Magseed localisation compared to wire guided, demonstrating equivalence in oncological safety. The ability to insert Magseed prior to surgery allows for improved theatre utilisation, with improved patient comfort and convenience.

P049

SENTINEL LYMPH NODE AND OCCULT LESION LOCALISATION 'SNOLL' FOR TREATMENT OF EARLY BREAST CANCER: 10-YEAR EXPERIENCE OF A SINGLE CENTRE

Bahar Mirshekar-Syahkal [1], Christopher Hadjittofi [1], Hend Almalki [1], Hussein Tuffaha [2], Matthew Gray [1], Simon Pain [1], Katalin Zechmeister [1], David Newman [1], Maged Hussien [1]. [1] *Norfolk and Norwich University Hospitals, Norwich, United Kingdom;* [2] *Ipswich Hospital, Ipswich, United Kingdom*

Introduction: Various techniques are used to localise non-palpable breast cancer and identify sentinel lymph nodes (SLN). Seed-based localisations can be expensive, may dislodge and require special intraoperative equipment.
Methods: A retrospective review of all patients undergoing radioguided occult lesion localisation (ROLL) and SNOLL procedures between January 2008 and 2018. On the morning of surgery patients have 10MBq 99T injected into the centre of the breast lesion under ultrasound guidance with a further 10MBq injected into the periareolar skin if SLN is planned. No check mammography is required. Specimen X-ray performed in all cases and cavity shaves considered if appropriate. A Gamma probe is required intraoperatively.
Results: 677 patients were reviewed, three had bilateral lesions (680 localisations). SNOLL was performed in 544 (80%) lesions, while 136 (20%) lesions were ROLL only. 539 (84%) lesions were screen-detected. 677 (99.5%) lesions were excised successfully. In three lesions excision failed due to diffuse signal in a large breast (2 patients) and wrong lesion localised (1 patient). 129 patients (19%) had intraoperative cavity shavings. 90 patients (13%) had second surgery for re-excision of margins. 49 patients (7%) had third surgery, 15 (2%) further re-excision of margins and 34 (5%) had completion mastectomy. Median tumour size was 15mm (interquartile range 10-20mm) and specimen weight 47g (interquartile range 30-65g). All SLN were successfully identified.
Conclusions: SNOLL/ROLL is a reliable, cheap and easy localisation technique and the marker cannot be dislodged during the procedure. Both localisations are performed on the day of surgery with no extra visits required.

P050

EVALUATION OF ONCOLOGICAL OUTCOMES OF ROUTINE CAVITY SHAVE WITH BREAST-CONSERVING SURGERY

Ali Yasen Y. Mohamedahmed, Mohamed Albendary, Shaista Zafar. *Sandwell and West Birmingham NHS Trust, Birmingham, United Kingdom*

Introduction: The aim of this systematic review and meta-analysis is to compare routine circumferential cavity shaving (BCS+S) versus no shaving (BCS) with breast-conserving surgery for breast cancer.
Methods: A systematic literature search for comparative studies comparing BCS+S and BCS was conducted using electronic databases and Google scholar services. Studies were evaluated for recurrence and postoperative complications. We pooled the data using a random-effects model and calculated odd ratio (OR) and mean difference (MD) for dichotomous and continuous outcomes, respectively. Evaluated outcomes were positive margin rate, re-excision rate and operative time.
Results: A total number of 14 studies were included in this meta-analysis with total number of 3951 patients divided between BCS+S (2375 patients) and BCS alone (1576 patients). BCS+S group showed significant lower rate of positive margins and re-excision compared to BCS group [8.2% vs 23.1, OR 0.33, 95% CI (0.19,0.56), P=0.0001) and (7.3% vs 19.8%, 95% CI (0.25, 0.55), OR 0.37, P=0.00001), respectively. Operative time was shorter in BCS group than BCS+S group [MD 5.75, 95% CI (5.57, 9.50), P=0.003].
Conclusion: Compared to BCS alone, BCS and routine cavity shave provide lower positive margins rate and subsequent need for re-excision rate; however, this additional step prolongs the operative time. Well-designed trials are needed to explore the cosmetic impact and cost-effectiveness of routine cavity shaving.

P051

MANAGEMENT OF PHYLLODES TUMOR OF THE BREAST - A 10 YEARS EXPERIENCE

Sangara Narayanasamy, Brenda Muntean, Amit Goyal. *University Hospitals of Derby and Burton, Derby, United Kingdom*

Introduction: Phyllodes tumors are rare fibroepithelial neoplasm of the breast (phyllodes -leaf like pattern). The three main types of phyllodes tumour are benign, intermediate and malignant. The reporting of C3 (possibly benign) or C4 (possibly malignant) cytology from what appears to be a fibroadenoma should raise clinical suspicion of a phyllodes.
Current Guidelines and Follow up: Clinical breast examination within 4 to 6 months, mammogram and ultrasound 6 months after treatment. Breast MRI if more clarification is needed. CT (computerized tomography) scans of the chest and abdomen for 2 to 5 years. For breast-

conserving surgery, mammogram on both breasts. For mastectomy, with or without reconstruction, mammogram on the other breast.
Results of the Audit: See table 1.

Table 1

Primary Surgery		Number of Patients (48)
WLE		13
Excision Biopsy		32
VAE/Mammotome		3
Types		Number of Patients (48)
Benign		35
Intermediate		8
Malignant		4
Fibroadenoma		1
Malignant Tumour (4)		Reoperation
WLE (2)		No
Excision Biopsy (2)		Yes
Margins Positive (19)	Number of Patients	Reoperation
Benign	12	1
Borderline	5	4
Malignant	2	2
Recurrence	Number of Patients	
Benign	2(B3) after 1 year and 3 years	
Borderline	1 (B3) after 9 years	

Conclusions: from the audit: 87% of tumours occur in patients less than 50 years. Post-menopausal phyllodes carry higher risk of borderline or malignant potential. 60% are left sided tumours and 40% are right sided tumours. Initial core biopsy among the phyllodes tumour were B3 and above. 66% had excision biopsy, 27% had WLE. 72% were benign and 25% were borderline and malignant. Recurrence occurred more than 1-year.
Recommendations: Excision biopsy is preferred surgery for suspected Phyllodes tumour (as reoperation is required in borderline and malignant phyllodes with margin positivity). No follow up required at 6 months (as recurrence in margin clear cases do not occur within 6 months).

P052

DOES ULTRASOUND ACCURATELY PREDICT PATHOLOGICAL COMPLETE RESPONSE IN BREAST CANCER PATIENTS?

Haidar Abid, Barka Sajjad, Anam Mumtaz, Namra Urooj, M Zulqarnain Chaudhary, M. Asad Parvaiz, Nifasat Farooq. *Shaukat Khanum Memorial Cancer Hospital and Research Centre, Peshawar, Pakistan and Research Centre, Lahore, Pakistan*

Objective: The benefit of accurate prediction of residual disease, before surgery, is smaller lumpectomy size in breast conserving surgeries, hence better cosmetic results. While some new trials are suggesting that surgery can be omitted in selected cases. The purpose of study is to see accuracy of ultrasound in determining the complete pathological response, hence better planning of surgery.
Material and Methods: Data was retrospectively reviewed from Jan 2019 to Dec 2019 at SKMCH & RC. PCR is defined as no tumour in both axilla and breast on final histopathology of resected specimen.
Results: Of total 188 patients studied, 102 had residual disease on histopathology and 86 had no residual. While, on ultrasound 70 patients had no residual and 118 had residual disease. Differences between residual and complete responder group were in few parameters e.g. grade III; 40 patients (39.2%) vs 62 patients (72%), ER negative; 22 patients (23.5%) vs 40 patients (46.5%), PR negative; 45 patients (44%) vs 68 patients (79.1%), H2N positive 26 patients (25.5%) vs 31 patients (36%). Accuracy of ultrasound was found to be 72%, while sensitivity and specificity were 81.3% and 60% respectively (PPV 70.3% & NPP 73%). The reason of low specificity was more false positive case (Ultrasound said residual disease but it was no residual on final H/P) Although the specificity was low, however, more important is false negative i.e. missing the disease while it was there; which was quite low in this study (10%).
Conclusion: A surgeon should bear in mind while balancing cosmesis vs negative margins in breast conservation surgery that ultrasound does not always accurately predict/assess residual disease.

P053

IS THE GRASS ALWAYS GREENER ON THE OTHER SIDE? - HOW DO BREAST CANCER PATIENTS FEEL ABOUT MOVING TO A 'GREEN HUB'?

Alex Ribbits[1], Connie Bowyer[2], Ronal Kori[2], Shihab Uddin[2], Ash Subramanian[2], Liz Shah[2]. [1] *Guy's and St Thomas' NHS Trust, London, United Kingdom and East Sussex NHS Trust, Hastings, United Kingdom;* [2] *East Sussex NHS Trust, Hastings, United Kingdom*

Introduction: Between January and September 2020 our base hospital recorded zero COVID-19 incidence in breast surgery patients, in 30 days post-op, with stringent admission protocols including 14 days self-isolation, PCR testing, 'green' wards and designated 'green' theatres. However, as the UK entered its third lockdown on January 6th 2021, the decision was made to move breast cancer surgery off-site to a 'green hub' 43 miles away. The aim of this study was to assess the impact this had on patients.
Methods: Patients who had surgery moved off-site were requested to anonymously complete a questionnaire, which was either posted or handed to them at follow-up. The questionnaire contained 11 Multiple Choice questions and a comments section.
Results: 16 of 19 patients (84.21%) responded to the questionnaire. 16 of 16 (100%) understood the reason for the move. 2 (12.5%) stated that it increased anxiety/stress levels while 3 (18.75%) reported the opposite, and the remainder were neutral. 14 (87.5%) said the move made them feel safer, 1 (6.25%) did not feel safer, with the remaining 1 (6.25%) unsure. 15 (93.75%) felt they received enough information at base and 16 (100%) received sufficient discharge information at the 'green hub'. All 16 (100%) were satisfied with the move off-site but only 15 (93.75%) supported the decision.
Conclusions: The responses indicate that the decision to move breast surgery off-site was supported and well understood. While for a minority of patients this increased pre-operative anxiety/stress levels, it did make the majority feel safer.

P054

COMPARISON OF LOCAL RECURRENCE AFTER SIMPLE AND SKIN-SPARING MASTECTOMY PERFORMED IN PATIENTS WITH DUCTAL CARCINOMA IN SITU

Carlo Ross, Simon Timbrell, Danielle Hayllor, James Harvey, Rajiv Dave. *The Nightingale Breast Cancer Centre, Manchester University NHS Foundation Trust, Manchester, United Kingdom*

Background: Over a third of women with ductal carcinoma in situ (DCIS) will require mastectomy with an increasing demand for immediate reconstruction, requiring skin-sparing or nipple-sparing mastectomy (SSM or NSM). We have previously demonstrated that loco-regional recurrence (LRR) following skin sparing mastectomy for DCIS was higher than for simple mastectomy. There is a need to provide adequate information on LRR to patients to facilitate informed consent.
Methods: We undertook a retrospective analysis, collecting clinic-pathological data for all patients at single high-volume unit, who underwent a mastectomy for DCIS between 2000 and 2016. The primary aim was to compare LRR in simple mastectomy (SM) vs SSM.
Results: 336 patients underwent a mastectomy for pure DCIS (147 SM vs 189 SSM/NSM). Other than median age (51 years vs 58 years, p=.0.004), there was no difference in other clinico-pathological variables between the SM and SSM/NMS groups, including grade of DCIS (HG DCIS 76.6% vs 72.3%, p=0.457) and resection margins of >1mm (16.4% vs 18.5%, p=0.726). At a median follow-up of 72 months, there were 13 LRRs, all of which occurred within the SSM/NSM cohort (6.9%). This difference was more apparent for patients with high grade DCIS (0 vs 8.8%, p<0.001).
Conclusions: LRR was higher after SSM/NSM than SM despite no differences in clinic-pathological factors that would influence recurrence. Patients should be counselled with regards the potential greater risk of LRR

after SSM than simple mastectomy and there may be a role in for post-reconstruction mammography.

P055

REASONS FOR CHOOSING DELAYED RATHER THAN IMMEDIATE CONTRALATERAL PROPHYLACTIC MASTECTOMY (CPM) IN PATIENTS WITH UNILATERAL BREAST CANCER

Chien Lin Soh [1], Samantha Muktar [2], Charles Malata [3], John Benson [4]. [1] *University of Cambridge, Cambridge, United Kingdom;* [2] *Royal Marsden Hospital, London, United Kingdom;* [3] *Cambridge University Hospital, Cambridge, United Kingdom;* [4] *Cambridge University Hospitals, Cambridge, United Kingdom*

Introduction: Reasons for requesting CPM include prevention of recurrence, peace of mind and moving on after breast cancer. Some women seek CPM as a delayed procedure but factors influencing this are poorly understood.
Methods: A retrospective analysis examined patients undergoing CPM as either an immediate or delayed procedure with or without breast reconstruction (BR) between January 2009 and December 2019. A cross-sectional survey based on validated questionnaires (5-point Likert scale) explored patients' decision-making process in terms of timing of CPM and any BR.
Results: A total of 123 patients with unilateral breast cancer underwent CPM with 39 (32.5%) delayed procedures with or without BR. The response rate amongst patients receiving questionnaires (n=33) was 22/33 (66%). Within this delayed CPM cohort were three reconstructive scenarios 1) unilateral immediate BR with CPM (n=12); 2) delayed CPM with concomitant bilateral BR (n=22); 3) delayed bilateral BR after delayed CPM (n=3). Two patients had delayed CPM without BR. The most common reason for delayed CPM was to complete all cancer treatments (including radiotherapy) before surgery on the unaffected breast (score 2.91). The second reason was unavailability of genetic test results at the time of therapeutic mastectomy (score 2.64) whilst the third most cited reason was a subsequent change in family cancer history.
Conclusion: Factors for delayed CPM are patient-driven with few women spontaneously changing their mind having initially decided against immediate CPM for reasons also including surgical duration. CPM should be offered as a potentially delayed option with informed discussion of risks and benefits.

P056

SURGICAL OUTCOMES FOR RECONSTRUCTION AFTER DELAYED CONTRALATERAL PROPHYLACTIC MASTECTOMY (CPM)

Chien Lin Soh, Samantha Muktar, Charles Malata, John Benson. *Cambridge University Hospitals, Cambridge, United Kingdom*

Introduction: There are challenges for breast reconstruction (BR) after delayed CPM relating to any ipsilateral reconstructive procedure, adjuvant therapies such as radiotherapy and co-morbidities. Types of reconstruction and complications were evaluated in the context of BR and delayed CPM.
Methods: A retrospective analysis examined breast cancer patients undergoing CPM with or without BR at a single tertiary referral centre between January 2009 and December 2019. Clinical information was extracted from a prospectively maintained database. Data was collected on demographics, timing and type of surgery, non-surgical treatments and complications (major = venous congestion flap, haematoma, wound dehiscence, fat necrosis; minor = seroma, cellulitis).
Results: A total of 39 delayed CPM patients were included amongst whom 12 (31%) had immediate BR at the time of each mastectomy, 22(56%) had bilateral immediate BR simultaneously with delayed CPM, 3 (8%) had bilateral delayed BR following CPM whilst 2 (5%) had no reconstruction. Mean patient age was 52 years (range 24 – 73) and the average interval between initial and delayed mastectomy was 2.67 years (range 0 - 22). The majority of patients underwent implant-based (n= 28) rather than exclusively autologous reconstruction (n=9). Complications (major) occurred in 3 (25%) patients with unilateral BR compared with 5 (23%) of patients with bilateral immediate BR and 2 (67%) of patients undergoing bilateral delayed BR.
Conclusion: Potential complications and limitations of breast reconstruction in the context of delayed CPM should be discussed with patients and used to inform decision-making processes for timing of CPM and any cognate reconstruction.

P057

AWARENESS OF BREAST CANCER GENETIC RISK AND ROLE OF GENETIC TESTING AMONG WOMEN IN EGYPT: AN ONLINE SURVEY

Mahmoud Soliman [1], Basel Refky [1], Osama Bahy [1], Mohamed Yousri [1], Rana Saudi [1], Magda Dohiem [2], Amit Agrawal [3]. [1] *Faculty of Medicine, Mansoura University, Mansoura, Egypt;* [2] *Damietta Oncology Institute, Damietta, Egypt;* [3] *Cambridge University Hospitals NHS Foundation Trust, Cambridge, United Kingdom*

Introduction: Emerging evidence suggests that cancer genetic services are less likely to be delivered in Low-to-Middle Income Countries (LMIC). Anecdotal evidence from clinical practice suggests that women decline genetic testing mainly due to high self-funded cost and low uptake of risk-reduction measures. Here, we aim to assess awareness of breast cancer inherited risk and willingness to accept genetic testing in low-resource settings.
Methods: A survey was distributed amongst women with no personal cancer history through social media platforms (March-November 2020). Demographic data were collected followed by 10 questions with complex questions such as those on testing or risk-reduction preceded by information on different approaches.
Results: A total of 641 responses were analysed after exclusion of 29 responses (such as duplicate responses). Median age was 30 years, 39% had family history of breast/ovarian cancer and 98% had university-level education. Risk-reduction was the main motive to accept testing (77%), while high cost was the commonest reason behind inability to accept (56%). Surveillance was the preferred preventive approach (48.6%) followed by chemoprophylaxis (35.3%) and mastectomy (15.6%). Overall, 98% believed the physician should discuss these aspects and 84% said they would inform relatives about results. See table 1.

Table 1

	Yes	No
Did you know that breast cancer can occur due to inherited genetic mutation?	85.6%	14.4%
Did you know that a test can be done to identify this genetic mutation?	51.6%	48.4%
Did you know about any preventive measures to reduce this inherited risk?	39.2%	60.8%
If the test is recommended by the physician, would you do the test at your own expense?	63.2%	36.8%

Conclusion: Raising awareness about breast cancer genetic risk is needed in LMIC. Despite the relatively highly-educated sample, the belief that women in low-resource settings are less likely to benefit from counselling or accept testing needs to be re-visited.

P058

ALTERED BREAST CANCER MANAGEMENT DUE TO COVID-19 DURING FIRST LOCKDOWN AND THE FOLLOW UP RESULTS

Manoj Srinivas Gowda, Sadaf Jafferbhoy, Sekhar Marla, Soni Soumian, Sankaran Narayanan. *University Hospitals of North Midlands, Stoke-on-Trent, United Kingdom*

Introduction: The COVID-19 pandemic has significantly impacted healthcare delivery and has led to alterations in cancer care. From 16th March to 8th May 2020 lockdown was imposed with alert level-4. The

objective of our study was to determine the alteration in breast cancer management and the final outcome of those alterations in our hospital.
Methods: All patients who were discussed in MDT for surgical treatment during the 1st lockdown were included in the study and were followed prospectively till November 2021. Patient demographics, standard and altered surgical management of these patients and final treatment outcomes were recorded.
Results: A total of 91 patients were treated during this period of which 20 were diagnosed by screening and 71 were symptomatic. The median age was 62 years (range 28-98). Forty-six patients (50.55%) had altered management due to COVID. Among them, neoadjuvant chemotherapy was omitted in 4 patients where it was standard, 32 had bridging neoadjuvant endocrine treatment (NET), 1 had mastectomy when she was eligible for breast conserving surgery and 9 patients couldn't have immediate reconstruction after mastectomy. Twenty-eight patients (87.5%) had surgery after NET and remaining 4 patients were converted to primary endocrine treatment. Of the 9 patients who couldn't have immediate reconstruction two patients are waiting for delayed DIEP, 2 patients decided not to have any reconstruction, 1 patient is still undergoing adjuvant treatment, one patient was not suitable for any reconstruction due to smoking and increased BMI and 3 patients are yet to be seen in the clinic.
Conclusion: COVID-19 has significantly impacted the breast cancer services and is having repercussions on follow-up treatment as well.

P059

IMPACT OF CHEST WALL PERFORATOR FLAP RECONSTRUCTION ON MASTECTOMY IN BREAST CANCER

Manoj Srinivas Gowda, Kirti Kabeer, Sadaf Jafferbhoy, Sekhar Marla, Sankaran Narayanan, Soni Soumian. *University Hospitals of North Midlands, Stoke-on-Trent, United Kingdom*

Introduction: Breast conserving surgery (BCS) has comparable or superior oncological safety when compared to mastectomy and is associated with improved cosmetic and psychological outcome. Previously patients with larger tumour to breast ratios were not suitable for BCS due to poor aesthetic outcomes and hence underwent total mastectomy with or without reconstruction. With the introduction of chest wall perforator flaps (CWPF), a significant proportion of these women who would have otherwise undergone mastectomy, can now qualify for BCS along with volume replacement. The objective of our study was to find out the impact of CWPFs on mastectomy and reconstruction.
Methods: All patients who underwent surgery for breast cancer from January 2016 to December 2019 were included in the study to know the impact of CWPF on rates of mastectomy and other procedures. We excluded 2020-21 due to alterations in breast cancer treatment due to COVID-19 pandemic. The study was registered and approved by the local Clinical Governance department at the University Hospitals of North Midlands NHS Trust (CA12119).
Results: Following the introduction of CWPF reconstruction, the mastectomy rate (including reconstruction) dropped by 10.69% (from 215 mastectomies in 2016 to 192 in 2019) and the mastectomy with reconstruction rate dropped by 23.29% (from 73 in 2016 to 56 in 2019). This change can be attributed to the use of CWPFs (from 1 in 2016 to 51 in 2019).
Conclusion: CWPF reconstruction has reduced the rates of mastectomy +/- reconstruction and can potentially improve overall patient outcome.

P060

SURGICAL OUTCOMES OF CHEST WALL PERFORATOR FLAP RECONSTRUCTION IN BREAST CANCERMANOJ SRINIVAS GOWDA, KIRTI KABEER, SADAF JAFFERBHOY, SEKHAR MARLA, SANKARAN NARAYANAN, SONI SOUMIAN. *UNIVERSITY HOSPITALS OF NORTH MIDLANDS, STOKE-ON-TRENT, UNITED KINGDOM*
Introduction: Chest wall perforator flaps (CWPF) have become popular over the years for reconstruction of breast conserving surgery (BCS) defects in breast cancer patients. We audited the surgical outcomes of CWPF done at our hospital.
Methods: Patients who underwent BCS and partial breast reconstruction with a CWPF from July 2016 to June 2021 were included in the study. Specific outcomes recorded were rates of margin re-excision and post-operative complications. Complications occurring up to 90 days after the procedure were labelled as early and those after 90 days as delayed complications. The median follow-up for this cohort was 23 months (4–61 months). The study was registered and approved by the local Clinical Governance department (CA12119).
Results: A total of 153 CWPF-reconstructions were done between July 2016 to June 2021. The median age of patients in the cohort was 56 years (range 31-81 years). One hundred and twelve patients underwent LICAP flap reconstruction of which one had a bilateral procedure and 40 patients underwent AICAP or MICAP flap reconstruction. The median tumour size in the whole cohort was 20mm (range=0-80). Majority of patients stayed overnight after surgery (61.18% vs 36.84% day-surgery). Seventeen patients (11.11%) had a re-operation for margin positivity. Sixteen patients (10.46%) developed early complications and 19 patients (12.42%) developed delayed complications. Most common early complications were hematoma and wound dehiscence. Lymphedema of breast was the most common delayed complication. There were no recorded flap losses.
Conclusion: CWPF is a safe procedure with acceptable morbidity compared to BCS morbidity reported in literature.

P061

MALE BREAST CANCER EXPERIENCE AT MILTON KEYNES UNIVERSITY HOSPITAL OVER 9 YEARS

Taukir Tanvir, Rabia Urooj, Amanda Taylor, Rachel Soulsby, Gaural Patel. *Milton Keynes University Hospital, Milton Keynes, United Kingdom*

Introduction: Male breast cancer (MBC) is rare accounting for around 1% of all BC. Familial cases are usually associated with BRCA2 mutation. Ductal carcinoma most common whilst lobular cancer rare. Most hormone receptor positive with 15% showing HER2 overexpression; 4% triple negative.
Methods: Retrospective analysis of data from electronic patient records and pathology databases between January 2012 to November 2021. Variables include demographics, presentation, histopathology including receptor status, genetic testing, management, and follow up.
Results: 1168 male patients presented to the Breast Clinic over this period; 17 (1.5%) were diagnosed with MBC. Mean age of MBC patients 62.7 years (34 to 86 years). Most common symptom was a breast lump. 16 were histologically invasive ductal carcinomas. All were ER positive. 3 cases HER2 positive. 9 patients offered genetic testing; 1 patient with BRCA2 mutation and 1 with Tp53 mutation. 15 patients treated with surgery; 13 undergoing mastectomy plus either SLNB or ANC, and 2 undergoing WLE. 2 patients received adjuvant endocrine therapy alone, 8 received adjuvant endocrine and radiotherapy, and 4 received adjuvant endocrine, radiotherapy, and chemotherapy (all 3 HER2 positive cases received Herceptin). 7 cases were offered yearly follow-up mammograms. 1 patient developed histologically confirmed distal recurrence. 6 patients died within 3 years of diagnosis (4 unrelated to breast malignancy).
Conclusions: MBC care and follow-up have remained inconsistent and are generally regulated by guidelines for female breast malignancies. In order to ensure effective patient care, local protocols/recommendations are needed which should be based on multicentre prospective research.

P062

MAMMOGRAPHIC SURVEILLANCE FOR CONTRALATERAL BREAST CANCER: A SINGLE CENTRE RETROSPECTIVE STUDY

Alice Turnock [1], Alexandra Coxon [2], Carmen Francis [3], Asmaa Al-Allak [4], Gary Osborn [4]. [1] *Royal Surrey County Hospital NHS Foundation Trust, Guildford, United Kingdom;* [2] *Cardiff & Vale University Health Board, Cardiff, United Kingdom;* [3] *Royal Free London NHS Foundation Trust, London, United Kingdom;* [4] *Cwm Taf Morganwg University Health Board, Pontypridd, United Kingdom*

Introduction: After mastectomy, breast cancer patients undergo mammographic surveillance to detect contralateral breast cancer (CBC). There are no national guidelines for this. At our centre, women under 50 at the time of mastectomy have annual mammograms until age 50 and then enter the

national screening programme. Women over 50 have annual mammograms for 5 years after which they re-enter the national screening programme.
Aims: The aim of this study was to identify the rate of CBCs in patients who underwent a unilateral mastectomy, this data in turn can be used to develop the most appropriate surveillance programme in terms of diagnosing CBC and cost-effectiveness.
Methods: A retrospective data capture of female patients who underwent a mastectomy for invasive breast cancer or ductal carcinoma in situ (DCIS) from 1st January 2009 to 31st December 2015 were identified and reviewed for the diagnosis of a CBC.
Results: 474 patients were included in the study with 5 patients being diagnosed with CBC through the surveillance programme giving a CBC rate of 1.06%. The commonest age group with CBC was 60-69. No patients over the age of 70 were diagnosed with a CBC. There was no association with diagnosis of CBC and time from surgery.
Conclusion: Our study found a low CBC rate compared to other studies.

P063

BREAST CANCER LOCAL RECURRENCE RATE AFTER BREAST CONSERVATION SURGERY

Liyang Wang [1], Ahsan Rao [1], Parto Forouhi [1], Elena Provenzano [2], Eleftheria Kleidi [1]. [1] *Cambridge Breast Unit, Cambridge University Hospital, Cambridge, United Kingdom;* [2] *Addenbrookes Hospital, Cambridge, United Kingdom*

Introduction: There is variation in the guidelines for margin re-excision following breast conserving surgery (BCS) for breast cancer. The aim of this project was to assess our outcomes at 5 years post implementation of a new margins policy, aiming to decrease re-excision rates without an increase in ipsilateral breast tumour recurrence (IBTR).
Methods: After review of our data in 2014, our margins policy for invasive breast cancer was defined as: a radial margin <1mm from invasive or in situ disease is accepted provided that, this is a single margin, with no cancer at ink and concordant with preoperative breast imaging. Acceptable margins for pure in situ disease remained at >1mm. This was a retrospective review, including all women undergoing primary BCS for invasive breast cancer at our unit in 2015. Data included patient demographics, histology, neoadjuvant and adjuvant therapies and 5-year outcomes. Project registered and approved by local trust.
Results: A total of 212 women underwent primary BCS for invasive breast cancer in 2015. The re-excision rate was 16%, which was reduced by 27.6% due to the application of the new policy. Of the 208 patients with available 5-year follow up data, 4.8% had local or distant recurrence. Only three patients developed local recurrence at 5 years, giving an IBTR of 1.4%.
Conclusions: Our local policy resulted in a reduced re-excision rate. While reducing the need of additional surgery, our patient group had a very low local recurrence rate at 5 years. Further data analysis and longer follow up is required to ensure reproducibility of our results.

P064

PRE-PECTORAL IMMEDIATE BREAST RECONSTRUCTION FOLLOWING CONSERVATIVE MASTECTOMY USING ACELLULAR DERMAL MATRIX AND SEMI-SMOOTH IMPLANTS: A PROSPECTIVE OBSERVATIONAL STUDY OF 72 PROCEDURES

Umar Wazir, Neill Patani, Jennifer Heeney, Kefah Mokbel. *London Breast Institute, London, United Kingdom*

Introduction: Improvements in acellular dermal matrix (ADM) and surgical techniques have facilitated pre-pectoral immediate breast reconstruction (IBR) after therapeutic and risk-reducing nipple-sparing mastectomy (NSM). Outer shell texturing is a key risk factor for anaplastic large cell lymphoma, prompting this evaluation of clinical outcomes with minimally textured anatomical implants.
Methods: Over 20 months, 51 consecutive patients underwent 72 pre-pectoral ADM-assisted (fenestrated SurgiMend™) IBRs, following therapeutic (n=45, 88%) or risk-reducing (n=6, 12%) NSM. Ten (20%) patients received radiotherapy and 24 (47%) had adjuvant or neoadjuvant chemotherapy. Single-stage reconstruction utilised a fixed-volume semi-smooth (nano-textured) implant (Sebbin TM). Sub-areolar biopsy, antibiotics and a Redivac TM drain were routinely employed. Patients had regular follow-up and were invited to complete a satisfaction questionnaire, including aesthetic outcome (linear scale 0-10).
Results: Mean age and BMI were 48 years [range: 30-82] and 24 kg/m 2 (range: 18-32), respectively. Average mastectomy weight was 300g (range: 83-1018). Median hospital stay was 2 days (range: 1-3). After mean follow-up of 18.3 months (range: 3-33), 2 patients (2.8%) had minor wound complications. No implants were lost and one patient suffered nipple necrosis. Capsular contracture requiring surgical intervention occurred in 5 cases (6.9%) and significant rippling in one case. None of the patients developed infection, hematoma, animation deformity, cancer recurrence or skin-flap necrosis. The questionnaire was completed by 94% of patients, with a mean score of 9.3 (median 10, range: 3-10).
Conclusions: Pre-pectoral ADM-assisted IBR using semi-smooth implants following NSM is reliable and safe, with a low incidence of complications and high patient satisfaction.

P065

A NURSE LED TELEPHONE CLINIC IS A SAFE AND EFFECTIVE SERVICE FOR ASSESSMENT OF PATIENTS WITH BREAST PAIN

Nicola Day, Rachel Meney, Laura Arthur, Jennifer Campbell, Caroluce Musyoka, Mike McKirdy. *Royal Alexandra Hospital, Paisley, United Kingdom*

Introduction: Breast pain as an isolated symptom, with a normal clinical examination, is rarely associated with sinister pathology. In our service we manage these patients out with the one stop clinic (OSC), as most do not require breast imaging and / or biopsy. COVID19 has forced reduction in face-to-face outpatient appointments. We developed an advanced nurse practitioner-led telephone clinic (TC) to manage patients referred with breast pain. Here we describe the outcomes of this service.
Methods: Retrospective single centre review of breast pain TC January - October 2021. Electronic patient records for all appointments were reviewed. Attendance, referral information, previous breast history, re-referrals to service and clinic outcomes were recorded. Data was compared with the same clinic performed in person, prior to COVID19.
Results: 208 patients were assessed. A proportion were previous breast cancer patients (28/208, 13.5%). 18/208 (8.7%) required assessment in OSC after TC, because of patient concern about a lump. None were diagnosed with cancer. This is a higher proportion of patients needing OSC assessment after an in person pain clinic assessment (2/210, 1%), but remains low. 11/208 (5.3%) patients were re-referred from primary care following discharge from TC, comparable to in person pain clinic (11/210, 5%).
Conclusion: TC is a valid way to manage patients referred with breast pain as an isolated symptom. There is a low incidence of cancer in this cohort and no need for OSC assessment. Most patients are reassured and discharged following a normal clinical examination in primary care and TC assessment.

P066

PATIENTS WITH BREAST PAIN CAN BE SAFELY MANAGED OUT WITH THE ONE STOP CLINIC

Rachel Meney, Nicola Day, Laura Arthur, Jennifer Campbell, Caroluce Musyoka, Mike McKirdy. *Royal Alexandra Hospital, Paisley, United Kingdom*

Introduction: Breast pain is a common and troublesome symptom, and a frequent cause of patient concern. Breast pain with no other symptoms, and a normal breast examination however, is very rarely associated with sinister pathology. Such patients rarely require triple assessment within a one-stop clinic (OSC). In our service we have triaged such referrals to an advanced nurse practitioner led clinic. Here we assess the outcomes of these referrals.
Methods: Retrospective review of breast pain clinic attendances from establishment of the clinic in October 2019 - October 2021. Electronic patient record for each appointed patient was reviewed. Attendance, previous breast history, re-referral to the service and clinic outcome were recorded.
Results: 418 patients were assessed. Patient attendance was high at 407 of 418 (97%). Most patients were able to be reassured and discharged

following pain clinic appointment and normal breast examination (398 of 418, 95%). 20 of 418 (5%) patients required further assessment through OSC with imaging +/- biopsy, due to patient or clinician concern about a palpable abnormality on examination. None had a cancer. 22 of 418 (5%) patients were re-referred from primary care after discharge from the pain clinic. None had a cancer. 32 of 418 (8%) patients had previously had treatment for breast cancer.
Conclusion: It is safe to see patients with breast pain as a sole symptom out with OSC. Most do not require imaging +/- biopsy. Pain following breast cancer treatment is a common cause for concern and re-referral. These patients have annual mammographic surveillance separately so rarely require OSC assessment.

P067

ROLE OF ONCOTYPE DX TEST IN INVASIVE LOBULAR CARCINOMA FOR ADJUVANT CHEMOTHERAPY

Raouef Ahmed Bichoo, Mohammad Bilal Elahi, Naila Bint Ihsan, Dorin Dumitru, Peter Kneeshaw, Kartikae Grover. *Hull University Teaching Hospital NHS Trust, Hull, United Kingdom*

Introduction: Invasive lobular carcinoma (ILC) is less chemosensitive than invasive ductal carcinoma. OncotypeDx, 21 gene assay, is used to determine chemotherapy benefit in breast cancer patients. We aim to determine the utility of oncotype test in ILC.
Methods: We included all the patients with final diagnosis of ILC and multidisciplinary team request of OncotypeDX test, treated in breast care unit of Hull University Teaching Hospital NHS Trust, Hull, from April 2018 till July 2021.
Results: Of the total 386 patients who had OncotypeDx test, 51 patients (13.2%) had ILC with a mean age of 57.5 + 10.9 years. Sixty-nine percent (n=36) of patients were above the age of 50 years and 67% (n=35) were post-menopausal. All were estrogen receptor positive and HER2 negative but 14% (n=7) were progesterone receptor negative. The mean tumour size was 36.71 + 10.5 mm. Multifocal tumours were seen in 58% (n=30). Node positivity was seen in 23% (n=12) while 8% had grade 3 tumours. The OncotypeDx score was low, intermediate and high in 78% (n=40), 14% (n=7) and 8% (n=4) patients respectively. The OncotypeDX score did not vary significantly with age, tumour size, nodal status, PR negativity, multifocality or lymphovascular invasion (LVI). OncotypeDX helped to avoid chemotherapy in 92% (n=47) of ILC patients.
Conclusions: OncotypeDX testing helps to avoid chemotherapy in 9 out of 10 patients with ILC irrespective of the size, nodal status, PR status or LVI.

P068

CAN BREAST CARE NURSES IMPROVE DISCUSSIONS HAD ABOUT FERTILITY PRESERVATION?

Lisa Boyle. *Thirlestaine Breast Centre, Cheltenham, United Kingdom*

Of the women who are diagnosed with breast cancer annually, around 7% are under the age of 40 (Paluch-Shimon, et at. 2017). Excluding trials, the National Breast Screening Programme in the United Kingdom starts at the age of 50, which means that younger women who present with a breast cancer are usually symptomatic and diagnosed at a later stage (Ribnikar et al, 2015) and due to this can be recommended a course of neo-adjuvant chemotherapy which commences promptly after diagnosis (Chollet-Hinton et al. 2016). Chemotherapy, among other treatments for breast cancer, are known to impact fertility which means it is of paramount importance that they are given the opportunity to discuss this in a timely manner with a fertility specialist (Paluch-Shimon et al, 2017). In the last ten years, only 55% of young women who commenced on treatments known to affect fertility were found to have been offered a referral to a fertility specialist at all (Banerjee and Tsiapali, 2016) and as few as 20.6% of young women were actually referred to discuss preservation (Goodman et al, 2012). Pennery (2015) conducted a study of 50 clinicians, of which 26% felt they did not have an appropriate referral pathway. Abe et al. (2016) found that clinicians felt that fertility preservation would delay breast cancer treatment and therefore did not prioritise preservation. Can breast care nurses assist in facilitating conversations around this topic, to enable informed decision making around the preservation of fertility?

P069

MANAGEMENT OF BREAST INCIDENTALOMAS: A CLOSED LOOP AUDIT EXPERIENCE AT ROYAL SURREY FOUNDATION TRUST

Abigail Burrows [1], Shramana Banerjee [1], Kirakoula Georgas [1], Meera Joshi [1], Jemma Hopper [1], Jonathan Horsnell [2], Tracey Irvine [2], Polly Partlett [2], Farrokh Pakzad [2], Lubna Khalid [2], Pooja Padmanabhan [2], Gemma Price [2], Caroline Taylor [2], Victoria Scott [2], Aneet Sian [2], Silvana Di Palma [2], Elizabeth Clayton [2]. [1] *Breast Unit, Royal Surrey County Hospital, Guildford, United Kingdom;* [2] *Breast MDT, Royal Surrey County Hospital, Guildford, United Kingdom*

Introduction: Breast Incidentalomas occur as an unexpected abnormality demonstrated on imaging performed for unrelated symptoms. Pre-COVID19 pandemic management involved urgent referrals for initial breast team evaluation. Clinical encounters occurred prior to the Multi-Disciplinary Team meeting (MDT). COVID-19 restrictions necessitated streamlining and optimising service provision with clinically appropriate encounters. Our aim was to re-audit (SU-CA-21-22-068) findings and management of breast incidentalomas during the pandemic.
Methods: Pre-pandemic analysis of practice (November 2019 - January 2020) led us to the intervention of all referrals straight to MDT without an unnecessary prior clinical encounter, with secondary planned investigations and clinical assessment thereafter. Completion of audit loop and analysis included referral information, MDT outcome, imaging, and clinical correspondence with descriptive analysis.
Results: Post-intervention 61 patients were referred to the MDT over an 18-month period (February 2020 - October 2021). 90% of patients were referred following CT scans. Median age 71 (range 32-93), 38% of patients had no additional breast imaging and 74% of patients did not require a tissue biopsy. 15% (n=9) were diagnosed with new breast cancer, 36% were new benign, with 34% already known lesions. 16% of patients required no further intervention.
Conclusion: 15% of incidentalomas were diagnosed as malignancies, compared to local 3-4% from one stop clinics. Prompt referral to MDT accelerates triple assessment and tissue diagnosis. Streamlining of patient care optimised appropriate clinical encounters for vulnerable patients. Early senior radiological assessment at the MDT of incidentalomas during COVID-19 provided confirmation of benign features and therefore no further intervention and reassurance for 16% of patients.

P070

REVIEW OF RAPID ACCESS CLINIC REFERRALS IN BREAST CARE CENTRE DURING THE COVID-19 PANDEMIC

Nicola Cook, William Howe, Samantha Williams, Karen Sandhu, Anushka Chaudhry. *Great Western Hospital, Swindon, United Kingdom*

Background: The continuation of cancer services throughout the Covid pandemic has required careful consideration of referral numbers, footfall to the hospital and provision of a secure environment. Concerns regarding delayed diagnosis and resumption of near to normal activity has seen an increase in referrals. There is scope now to modify the referral into the two-week wait system and put units in better stance if future pandemic waves occur.
Aim: To introduce and measure a guidance tool for primary care in determining actual need for one-stop clinic as per the Association of Breast Surgery Guidelines (October 2020) through an electronically distributed letter.
Design and setting: Retrospective data analysis using information from electronic patient notes.
Method: A snapshot audit was then undertaken over a two week long period before and after the tool was distributed. Referral criteria and triple assessment outcomes were measured to see if this guidance was being followed.
Results: Following guidance to Primary Care, breast pain as the only presenting symptom fell by 58%, the number of patients being discharged

with 'no pathology detected' halved, and there was no drop in the number of cancer diagnoses.
Conclusion: Use of explicit guidance for Primary Care with regards to low risk symptoms as per NICE guidelines can have a significant effect on the pressures of the two-week wait system and reduce footfall to the hospital. A larger study period and close tracking of patients will help to ensure safety and allow units to manage referrals in a timely manner.

P071

ARTIFICIAL INTELLIGENCE IMPROVES EFFICIENCY IN THE ONE STOP SYMPTOMATIC BREAST CLINIC

Jeyanthi Sunthareswaran, Brian Hogan, Nisha Sharma. *Leeds Teaching Hospitals NHS Trust, Leeds, United Kingdom*

Introduction: Research to date has focused on the role of Artificial Intelligence (AI) in breast cancer diagnosis as an alternative to conventional mammographic reporting by radiologists. This project assessed the role of AI in supporting conventional radiological assessment of symptomatic breast patients with a view to improving the efficiency of the triple assessment process and reducing waiting times.
Methods: We conducted a prospective audit of clinic waiting times to complete triple assessment in the breast outpatient department. AI software was used to interpret mammograms creating a percentage probability of an intervention/biopsy being required. Radiology staff prioritised patients for further investigation based on the AI score. The reporting radiologists were blinded to the AI results.
Results: 525 patient episodes were prospectively audited, 251 before AI and 274 after the introduction of AI. Patient groups were comparable in terms of demographics and clinical assessment risk scores (P value). The time for completion of triple assessment for all patients was reduced following the introduction of AI (110minutes vs. 100minutes). Patients with normal/benign (P1/2) assessments and incidental radiological findings requiring interventions had a 6.2% (194 v 182 minutes) reduction in waiting time with AI. Same day imaging rates improved from 91% of patients pre-AI to 99% post AI.
Conclusion: There are many factors that contribute to patient flow in one stop triple assessment clinics. AI shows promise in supporting conventional radiological processes to more promptly identify patients requiring interventions. This resulted in reduced waiting times for patients and improved same day imaging rates.

P072

OUTCOMES AND POSITIVE PREDICTIVE VALUES OF SYMPTOMS FOLLOWING REPEAT ATTENDANCE TO SYMPTOMATIC BREAST CLINIC

Thomas Hubbard, Eleanor Walker, Farah Khan, Naomi Spencer, Herbie Bennett, Charlotte Ives. *Royal Devon and Exeter Hospital, Exeter, United Kingdom*

Introduction: Patients recently assessed in symptomatic breast clinic may be a low cancer risk patient group - identification of such groups can aid configuration of diagnostic pathways. This study investigates the outcomes of patients re-referred to symptomatic breast clinic within three years.
Methods: A retrospective review of patients referred to a single UK breast unit symptomatic clinic between 01/01/2017 - 31/12/2020 (audit number 20-4338). Patients attending a subsequent appointment were included. Positive predictive values (PPV) of secondary presenting symptoms predicting cancer diagnosis were calculated.
Results: 13,679 patients were referred during the study period. 12,541 patients had a single referral, 865 were diagnosed with cancer (6.3% detection rate); 1138 patients had >1 clinic referral (8.3% of referrals) with a non-cancer diagnosis at the first attendance; 1072 patients had subsequent attendance at median 15 months (IQR 9-24) and are included. 19 patients were diagnosed with cancer at subsequent attendances (0.17% detection rate). Symptoms at second presentation were -lump (13/19), PPV - 2%; pain (2/19), PPV - 0.8%; nonspecific breast changes (1/19) PPV - 1%; other (3/19), PPV-2%. 352/1072 (32%) had been re-referred for same symptom on ipsilateral side; 9 (0.8%) of which were subsequently diagnosed with cancer.
Conclusions: Repeat attendance at symptomatic breast clinic within a three-year period accounts for 8% of referrals, with a cancer detection rate less than screening cancer detection rates. All secondary presenting symptoms had a PPV less than the NICE threshold for referral on a cancer pathway (3%). This should inform primary and secondary care breast cancer referral and diagnostic pathways.

P073

IN THE MANAGEMENT OF NIPPLE DISCHARGE SHOULD WE ADVISE MICRODOCHECTOMY OR TOTAL DUCT EXCISION?

Robert Bailey[1], Hamed Khan[2]. [1] *Northampton General Hospital, Northampton, United Kingdom;* [2] *University Hospitals Coventry and Warwickshire, Coventry, United Kingdom*

Introduction: Nipple discharge is a common symptom presenting to the breast clinic. Current investigations involve combination of ultrasound and mammogram dependent on age. In persistent cases surgical excision of the discharging ducts is recommended. Our study aimed to evaluate the effectiveness of either microdochectomy or total duct excision (TDE) in the investigation of persistent nipple discharge.
Method: This is a retrospective review of all cases of TDE or microdochectomy undertaken at mid-sized district hospital over a 5-year period. Cases notes were reviewed for patient demographics, final histology, possible recurrence of symptoms and repeat surgery.
Results: During study period 61 patients underwent microdochectomy or TDE. 4 malignancies were noted (6.6%; 2 invasive and 2 DCIS). 25 cases underwent microdochectomy (10 for bloody discharge) and 36 underwent TDE (14 bloody discharge). Case notes not available in 7 microdochectomy and 4 TDE cases. Mean age similar in both groups (54.3 Vs 53.3). In the microdochectomy group DCIS confirmed in single patient (4%). 7 patients recurred discharge (28%) resulting in 3 undergoing repeat surgery. A further case of DCIS confirmed. Mean time to recurrence was 371 days. In the TDE group, 2 malignancies were noted (5.6%). 3 cases recurred (8.3%) with 2 undergoing repeat surgery. No malignancies noted. Mean time to recurrence was 109 days. Recurrence difference between the 2 groups reached statistical significance (chi squared P =0.0121) but not redo rate (chi sq. P=0.141).
Conclusions: Total duct excision is more effective compared to microdochectomy in the diagnostic management of nipple discharge.

P074

INTRODUCTION OF UNDER 40S CLINIC TO REDUCE PRESSURES OF THE 2 WEEK WAIT TARGETS IN A DISTRICT GENERAL HOSPITAL

Samreen Khushabkht, Dayalan Clarke, Mohamed Zohdy, Nataranjan Vaithilingham. *George Eliot Hospital, Nuneaton, United Kingdom*

Introduction: Breast units across the country have been struggling with pressures with the 2ww targets. Whilst the pandemic is a major cause for this, we looked at measures to help this problem.
Methods: One of the options was to introduce an Under 40s clinic. An Under 40s clinic uses fewer resources than a 2ww clinic. To assess the need for an Under 40s clinic, we analysed data of all 2ww referrals to our Breast Unit from January to March 2021. Based on this data, we set up an under 40s clinic. We analysed the impact on our 2ww targets over a 3 month period between April and June 2021.
Results: We found that 25% of our 2ww referrals were under the age of 40 (Table 1). Following the introduction of the Under 40s clinic, in our study period, 80 patients were seen in the Under 40s clinic. 10 of the 80 (12.5%) had a core biopsy, 9 had a fibroadenoma and one cancer was diagnosed (Table 2). The 2ww target was improved from 16% in February to 98% in June. In the month of July 2021, our breast unit was the only unit in England to achieve a 100% target for 2ww.
Conclusion: Whilst there were other measures that helped us improve the 2ww target, the introduction of Under 40s clinic was a major contributing factor and from our experience, we would encourage other breast units to look at this option to help with the pressures on 2ww

P075

Table 1

Total referrals during study period	498
Total referrals per week	40
Referrals under 40 years of age	10(25%)

Table 2

No of patients seen in Under 40s clinic	84
No of core biopsies done	10(12%) 1.6 per clinic
No of benign biopsies	9(11%) All Fibroadenomas
No of cancers	1(1.2%)

TWO WEEK WAIT BREAST CLINICS - SHOULD MEN AND WOMEN BE TREATED IN THE SAME WAY?

Alison Luther, Robert Leatherby, Claire Wilkinson, Ramsey Cutress. *University Hospital Southampton, Southampton, United Kingdom*

Introduction: The continued increase in referrals to breast two-week wait (2WW) clinics has resulted in significant pressure on breast units, and limited resources should be focused where most required. NICE guidance (NG12) states a 3-5% positive predictive value should be seen for referrals to cancer services. It was unclear if this threshold was met by men attending our clinics. To assess this we audited all male attendances to 2WW breast clinics over an 8-month period.
Method: A retrospective audit of all men who attended a 2WW clinic in a single large teaching hospital between 1/10/2020 and the 30/5/2021 was performed. Trust audit approval was obtained (ref: 7075). Data was collected regarding presenting complaint and final diagnosis.
Results: During the audit period 165 men (average age: 55 years) presented through the 2WW breast clinics. Patients were most frequently referred with a breast lump (64%; n=106) and most frequently diagnosed with gynaecomastia in clinic (72%; n=77). Screening blood tests, available from 82 patients, failed to identify an underlying cause. Only one patient (0.6%; 95% CI <0.01-3.7%) was diagnosed with cancer.
Conclusion: Most men attending the 2WW breast clinics are diagnosed with gynaecomastia and an underlying cause is rarely found. Whilst an underlying diagnosis of cancer is rare it is not possible to conclusively demonstrate from this audit that it falls below the pre-defined NICE threshold. We plan to trial direct to ultrasound scan access for GP referrals of men with breast symptoms as a potential method for streamlining the diagnostic pathway.

P076

A MULTIVARIABLE TRIAGE MODEL TO SUPPORT DIRECT ACCESS OF SYMPTOMATIC BREAST PATIENTS TO SPECIALIST BREAST UNITS?

Saed Ramzi, Peter May-Miller, Peter J. Cant. *University Hospitals Plymouth, Plymouth, United Kingdom*

Background: Patients with breast symptoms access specialist care when referred by their General Practitioner (GP). The One-Stop Clinics (OSCs) remain the standard of specialist breast care but are resource-dependent, and OSCs are inundated with low specificity referrals, more so, since the Covid-19 crisis. Direct Patient Access (DPA) is theoretically more efficient and avoids delayed diagnoses. However, DPA can potentially further overwhelm breast units with self-referrals unless a reliable triage model that enables risk-based resource allocation is adopted. We aim to examine the accuracy of such model.
Methods: In our OSC, patient-reported symptoms and demographics were prospectively collected and stratified: 1) TOP-Tumour; lump, thickening, firmness, etc. 2) TOP-Observation; nipple change, discharge, dimpling, rash, etc. 3) TOP-Perception; pain, itch, discomfort, etc. A multivariable model (mpMODEL) was constructed using logistic regression and was tested at semi-arbitrary BC risk cut-offs: A) <0.5% (advice & discharge), B) ≥0.5 to <2.0% (remote consultation via phone or video), C) ≥2.0% to <3.0% (non-OSC) and D) ≥3.0% (OSC). Research Ethics Committee reference: 19/LO/1737.
Results: Of 7474 eligible patients 6.8% (n=510) had breast cancer. Multivariable Odds Ratios were significant for: age (1.08, p=<0.001), gravidity (0.66, p=0.004), TOP-T (7.89, p=<0.001), TOP-O (1.74, p=<0.001) and TOP-P (0.45, p=<0.001). Self-referral triage outcomes according to the mpMODEL: advice & discharge; 8.2% (n=632), remote consultation; 28.6% (n=2135), non-OSC; 13.1% (n=980), and OSC; only 49.9% (n=3727). Breast cancer would be diagnosed in 0.2%(n=1), 0.9%(n=19), 3.3% (n=32), and 12.3% (n=458), respectively.
Conclusion: This proposed model halves the OSC demand and can safely facilitate DPA to specialist breast clinics.

P077

TIMING ALONG OUR DIAGNOSTIC PATHWAY DURING THE COVID-19 PANDEMIC

Lily Morris [1], Jennett Kelsall [2], Lisa Guy-Clark [3], Lisa Whisker [4]. [1] *University of Nottingham, Nottingham, United Kingdom;* [2] *Buckinghamshire Healthcare Trust, High Wycombe, United Kingdom;* [3] *Nottingham University Hospitals, Nottingham, United Kingdom;* [4] *Nottingham Breast Institute, Nottingham, United Kingdom*

Introduction: Disruption related to the COVID-19 pandemic has been widely documented within cancer services particularly delayed presentation and restricted access to surgery. We have re-audited our diagnostic pathway with the aim to identify any impact the COVID-19 pandemic has caused in less visible parts of the pathway e.g. pathology processing.
Methods: A retrospective audit was undertaken of 80 patients who had a diagnostic biopsy taken in July 2021 at the Nottingham Breast Institute. Time from biopsy to pathology results, multidisciplinary meetings (MDT) and treatments were recorded and compared to a previous audit in 2019.
Results: Mean time from biopsy to diagnostic MDT was 9 days and for Estrogen Receptor (ER) status, 11 days; both more than double the time taken in 2019. Contrary to our other results, HER-2 receptor status was available an average of 13 days after initial biopsy, 4 days faster than our previous audit group. The average wait for initiation of first treatment after biopsy results was 32 days. For those who had surgery as first treatment, only 8% had HER-2 status available at diagnostic MDT, with an average wait of 15 days for this group, with 3 patients receiving results after surgery, one of which was positive.
Conclusions: Timings along the cancer pathway have increased including 'hidden' but essential components. Although we cannot assuredly attribute these extended waiting times to staff shortages or increased referrals it would be difficult to not conclude that UK cancer services and their patients have become collateral damage in the fight against COVID-19.

P078

UTILITY OF TOMOSYNTHESIS IN TRIPLE ASSESSMENT OF BREAST PATIENTS

Pooja Padmanabhan, Rehab Ewida, Shramana Banerjee, Meera Joshi, Polly Partlett, Elizabeth Clayton, Farrokh Pakzad, Jonathan Horsnell, Aneet Sian, Tracey Irvine. *Royal Surrey County Hospital NHS Foundation Trust, Guildford, United Kingdom*

Introduction: Tomosynthesis was introduced in our unit in December 2015 and is used as a part of triple assessment. We wanted to assess its utility in this setting.
Methods: We looked at 15386 one stop breast clinic patients seen from January 2013 to December 2017. 2738 of these underwent biopsy. We randomly analysed biopsy results of 1000 cases before and after introduction of tomosynthesis.
Results: 8028 patients were seen before and 7358 patients were seen after the introduction of tomosynthesis. 500 biopsies were analysed from each group. We excluded patients only having axillary lymph node biopsies. The age range was between 22 and 96 years (11.2% were <40

years). Before tomosynthesis, of the 500 cases, 132 (26.4%) had ultrasound only at the time of biopsy. 198/500 were diagnosed with in situ or invasive breast cancer, 1 was B4 and 22 were B3. Of the 199 B4+ cases, 143 (72%) had an abnormal mammogram whereas 53 biopsies were ultrasound based and 3 were clinical. After tomosynthesis, 162 were based on ultrasound (32.4%). 185/500 were diagnosed with in situ / invasive malignancy, 1 was B4 and 22 B3. Of the 186 B4+ cases 1 (0.53%) had an abnormal Tomosynthesis x with normal mammogram whereas 24 biopsies were US based. Tomosynthesis helped diagnose 1 cancer case not seen on mammogram and was more confirmatory than mammogram in 6 other cancer cases.
Conclusion: Tomosynthesis helps improve cancer pick up rate in symptomatic cases. Ultrasound is very useful adjunct in cases with normal mammogram and tomosynthesis.

P079

DIRECT ACCESS MAMMOGRAPHY PATHWAY FOR BREAST PAIN

Aneet Sian, Tracey Irvine, Polly Partlett, Elizabeth Clayton, Jonathan Horsnell, Farrokh Pakzad. *Royal Surrey County Hospital NHS Foundation Trust, Guildford, United Kingdom*

Introduction: Breast pain management remains not only a capacity challenge for both primary and secondary care, is also a recurring source of anxiety for patients. We implemented a Direct Access Mammography (DAM) pathway for patients with breast pain, with the aim of providing GPs access to a mammogram screen, reassurance for patients and reduced use of the one-stop clinic. Pathway Description Requests from primary care for DAM placed electronically (ICE^{TM}) were accepted provided the following clinical criteria were met; Patient age > 40 Confirmation of pain and no clinical signs, last mammogram > 12 months, no history of breast cancer. Reports were issued electronically directly to the GP. Abnormal findings were flagged up as urgent (Cat 5) with advice to refer to the breast clinic via the TWR pathway.
Results: From February to July 2021, 105 patients (median age 56 (40-92)) were seen. 97 /105 (92%) of mammograms were reported as M1 / M2. 8 patients were recalled (M3 = 7, M4 = 0, M5 = 1). 3 underwent a biopsy which yielded 1 fibroadenoma (B2), 1 papilloma (B3) and 1 DCIS (B5a). Malignancy yield from this pathway was 1/105 (1%). Median time from referral to mammograms performed was 6 days (1-42). All delays were due to patients not being able to attend their given appointment. To date, no patient with a normal mammogram has been referred back for further management.
Conclusion: This pathway is a safe, effective and efficient means of assessing breast pain patients. Our data supports the low probability of detecting malignancy.

P080

PATIENT-REPORTED OUTCOMES FOR IMMEDIATE BREAST RECONSTRUCTION WITH MASTECTOMY AMONG BREAST CANCER PATIENTS IN PAKISTAN

Sidra Afzal [1], Asad Parvaiz [1], Nida Javed [1], Ahsan Rao [2], Bushra Rehman [1], Zulkarnain Chaudhry [1], Amina Khan [1]. [1] *Shaukat Khanum Memorial Cancer Hospital and Research Centre, Peshawar, Pakistan;* [2] *Broomfield Hospital, Chelmsford, Hospital*

Introduction: The rate of immediate breast reconstruction (IBR) with mastectomy is less than 1% in Pakistan. It is important to assess the change in the quality of life in women undergoing mastectomy with IBR in a developing country where resources are limited, and patients are not accustomed to reconstructive procedures. This study aimed to evaluate the effect of IBR with mastectomy in the Pakistani patient population.
Methods: A prospective comparative study was conducted at Shaukat Khanum Memorial Cancer Hospital and research centre between April 2017 and December 2020. Breast cancer patients who underwent mastectomy with or without immediate breast reconstruction were included in the study.
Results: There were 66 patients included in the study, 33 patients in each group (mastectomy alone vs. mastectomy with IBR). Among the 2 groups, the mastectomy patients with IBR were younger (age < 40, 69.7% vs. 23%, P 0.01), more educated (81.8% vs. 57.6%, P 0.04), and unmarried/divorced (21.2% vs. 3.0%, P 0.05). The mastectomy patients with IBR had higher mean satisfaction score for satisfaction with breasts (78.45 [SD 16.16] vs. 35.67 [SD 13.34], P 0.001) and psychosocial well-being (87.3 [SD 15.41] vs. 44.79 [SD 10.25], P 0.001). The mean score for adverse effects of radiotherapy was significantly higher in mastectomy patients with IBR (17.00 [SD 1.36] vs. 15.36 [SD 2.73], P 0.04).
Conclusion: Better health-related outcomes were reported by patients undergoing IBR. It should be offered routinely to patients undergoing mastectomy in Pakistan, irrespective of their socio-economic and educational status.

P081

THE EFFECT OF VIRTUAL CONSULTANT-LED CONSULTATION OF BREAST PATIENT WITH NEW SYMPTOMS ON SERVICE DELIVERY DURING COVID PANDEMIC

Ahsan Rao [1], Paul Cathcart [2], Gill Clayton [1], Simon Smith [1], Sascha Dua [1], Tasha Gandamihardja [1]. [1] *Broomfield Hospital, Chelmsford, United Kingdom;* [2] *Lister Hospital, Stevenage, United Kingdom*

Introduction: During the COVID pandemic, all referrals to the breast unit were telephone triaged by the consultant surgeons prior to offering a clinical appointment at the one stop clinic to minimise footfall into the hospital and reduce social contact. The study aimed to assess the impact of telephone led consultations on the service delivery of one-stop clinic.
Methods: A retrospective observational analysis of all referrals to the breast unit from 1st June 2020 to end of July 2020 at the Breast Unit, Broomfield Hospital, Chelmsford. All referrals to the breast unit from the community and other specialties were analysed.
Results: A total of 399 patients were called by the consultants. 35.8% of the patients (M:F 25:118) were discharged following telephone consultation. The commonest presentation of the telephoned discharged patients was breast lump. The re-attendance rate following telephone discharge was 20.3% and the mean re-attender age was 34.9 years (17-65). The commonest presentation was lump and pain. None of the re-attenders were diagnosed with cancer and were discharged after clinic review. Following an initial telephone consult, patients were stratified by risk and 37 patients were deferred for a longer period of approximately 3 months to either a further telephone consult or a delayed one-stop. There was no re-attendance of these patients during the study period. There were 2 female cancers identified in the deferred patients.
Conclusion: Consultant led telephone triage of one-stop clinic is safe and reduces number of patients seen in the clinic, however, the re-attendance rate is high.

P082

THE IMPACT OF BREAST CARE NURSE TRIAGE OF REFERRALS TO ONE-STOP CLINIC ON DETECTION OF BREAST CANCER

Ahsan Rao [1], Paul Cathcart [2], Gill Clayton [1], Simon Smith [1], Sascha Dua [1], Tasha Gandamihardja [1]. [1] *Broomfield Hospital, Chelmsford, United Kingdom;* [2] *Lister Hospital, Stevenage, United Kingdom*

Introduction: To minimise footfall during COVID pandemic, breast care nurse (BCN) led triage of the referral letters was used in our department. Based on the referral history, the nurse would triage patients to be seen in the one-stop clinic, consultant telephone consultation or telephone BCN-led pain clinic. The study aimed to assess the effect of BCN-led triage on detection of cancer and number of patients seen in the clinic.
Methods: A retrospective observational analysis was conducted for all referrals to one-stop clinic at breast unit in Broomfield Hospital from 1st-30th July 2020.
Results: Of the total number of patients (n=225) triaged by the BCN, majority were females (M:F 2:223) having a mean age of 55.1 years (14-90). Most patients presented with a breast lump (152/225). 12% (n=27/225) of the patients were diagnosed with cancer. The average number of cancers identified per week were 4.4 (3-6) with the BCN identifying 67.5%

(n=27/40) of them. The mean time to referral to initial decision was 2.6 days (0-14) with BCN-led triage compared to routine referral route (10.7 days [1-23]). 27 patients (12%) were triaged to telephone breast pain clinic. 1 patient re-attended the clinic after being discharged from pain clinic with persistent pain but not diagnosed with cancer.
Conclusion: BCN-led triage had a higher rate of breast cancer detection and less time taken from referral to decision for breast patients. The BCN-led pain clinic reduced the number of patients seen in the one-stop clinic without missing any cancer diagnosis.

P083

THE ROLE OF VIRTUAL CLINICS IN THE ASSESSMENT OF NON-URGENT BREAST REFERRALS: A USEFUL TOOL IN A POST PANDEMIC ERA?

Azel Regan, Michael Rees. *Aneurin Bevan University Health Board, Caerleon, United Kingdom*

Introduction: During the COVID-19 pandemic virtual clinics (VC) were widely rolled out amongst all specialties, in order to maintain key services, while avoiding unnecessary face-to-face (FTF) contact. We assessed the validity/safety of using a VC to assess non-urgent referrals to the breast service.
Methods: All non-urgent referrals, between May-September 2020, were assessed in a VC by a single consultant. Patients were either discharged, followed-up or upgraded to an urgent face to face (FTF) appointment depending on assessment. Outcomes assessed included patient demographics, presenting symptoms, waiting times, VC/FTF outcomes and re-attendance. The primary outcome was discharge rate from VC alone. Secondary outcomes included re-attendance within 1 year and missed cancer diagnoses.
Results: 396 patients attended a VC (median age 44 years (11-91), 318 female (80%). Mean waiting time was 84.6 days (6-365 days). 178 patients (45%) were discharged after VC review and discharge was more common for patients with mastalgia (107/167 patients; 64%) than other symptoms ($p<0.01$; $\chi 2$ test). Re-attendance within 1 year for those discharged by VC was 6.7% and was similar to those who had FTF review (6.9%). 2 patients returned within 1 year with breast cancer. Both patients had cancer in the contralateral breast and both were seen in a FTF during the first episode.
Conclusion: VC was a safe method for assessing non-urgent breast referrals during the COVID-19 pandemic and may continue to be of use in a post pandemic era as part of a hybrid approach. They may be of greatest value for assessing patients with mastalgia compared to other symptoms.

P084

MRI FEATURES OF SYNCHRONOUS MASSES IN KNOWN BREAST CANCER PATIENTS IN PREDICTING BENIGN VERSUS MALIGNANT LESIONS - A CASE BASED REVIEW AT A TERTIARY CARE CANCER HOSPITAL

Sara Rehman, Bushra Rehman, Anis Ur Rehman, Islah Ud Din, Ainy Javaid, Muhammad Asad Parvaiz. *Shaukat Khanum Memorial Cancer Hospital and Research Centre, Lahore, Pakistan*

Introduction: Breast MRI is most sensitive diagnostic modality for detection of additional tumour foci that are non-detectable with other imaging techniques and may change therapeutic approach for breast cancer patients.
Methods: A retrospective study was performed at SKMCH & RC including breast cancer patients presenting from August 2016 to July 2019, with satellite masses seen on base line MRI. Satellite masses were classified as benign and malignant based on MRI features of shape, margin, signals and enhancement characteristics and compared with histopathology results.
Results: 115 breast cancer patients showed multiple masses on MRI breast. Histopathology was available for 93 masses. Of 72 masses classified as malignant on MR, 58 showed malignant pathological outcome; while out of 21 masses characterized as benign on MRI, 18 turned out benign on histopathology. A statistically significant association was found between MRI features and pathological outcome ($p=0.001$). The sensitivity, specificity, PPV, NPV and accuracy were 95%, 56%, 80.56%, 85.7% and 81.7% respectively. Based on these findings, 5 patients underwent lumpectomy limited to a single tumour, extended resection done for 14 patients, 42 underwent mastectomy, 5 underwent bilateral BCS (Breast conservation surgery), BCS for contralateral breast done for 4 patients undergoing ipsilateral mastectomy, and bilateral mastectomy were performed for 2 patients. 1 patient was lost to follow up.
Conclusion: Breast MRI plays an essential role in the detection of synchronous masses in breast cancer patients and can modify the surgical approach in these patients. Radiologists should be aware of low specificity and perform biopsy to determine most appropriate surgical plan.

P085

OUTCOMES OF INCIDENTAL BREAST LESIONS DETECTED IN CTS AND PET-CTS REFERRED TO WARWICK BREAST UNIT

Tin Sein, Yueyang Chao, Mashuk Khan, Lucie Jones, Simon Harries, Ruvinder Athwal. *Warwick Hospital, Warwick, United Kingdom*

Introduction: Increasing use of cross-sectional imaging results in the detection of incidental breast lesions. The purpose of this study is to determine the prevalence of breast malignancies in those lesions referred to a breast unit.
Patients and Methods: A retrospective study was conducted to assess the incidence and outcome of incidental breast lesions referred to our breast clinic, which were found on chest CT and PET-CT during the period from April 2020 to April 2021.
Results: 17 chest CTs and 4 PET-CTs were included in the study. Five breast malignancies were diagnosed. Four were confirmed after the triple assessment. One did not undergo further assessment as she had multiple metastases with a likely breast primary. The remaining 12 incidental CT findings were benign conditions including fibroadenomas and breast cysts. One breast malignancy was suspected in a patient who underwent PET-CT for a known oesophageal cancer but decided not to pursue it further as she had advanced oesophageal cancer. Three other patients with isotope avid lesions in the PET-CT were benign conditions like periductal mastitis.
Discussion: 25% to 35% of incidental lesions in the CTs and PET-CTs turned out to be breast malignancies in our study. The prevalence is similar to those published, 24% for CTs and 38.7% for PET-CTs. The incidental findings of breast lesions detected in non-breast specific imaging should be referred to the breast clinic for further assessment.
Conclusions: Awareness of incidental breast lesions is important so that timely referrals can be made.

P086

AXILLARY RECURRENCE FOLLOWING NEGATIVE SENTINEL LYMPH NODE BIOPSY FOR SYMPTOMATIC INVASIVE BREAST CANCER: A TEN-YEAR REVIEW

Sarah Evans [1], Hudhaifah Shaker [2], Shahrukh Khan [2], Rebecca L. Wilson [2], Nicholas Hobbs [2], Nabila Nasir [2], Abeera Abbas [2], Ioannis Ntanos [2], Kathryn Williams [2], Chloe Wright [2], Mohammed Shamim Absar [2]. [1] *School of Medicine, University of Manchester, Manchester, United Kingdom;* [2] *Department of Breast Surgery, North Manchester General Hospital, Manchester, United Kingdom and, Manchester University NHS Foundation Trust, Manchester, United Kingdom*

Aims: Sentinel node biopsy (SNB) became established as the standard approach (versus axillary clearance) for axillary staging in the 2000s. This was based on studies showing reductions in short-term morbidity. Symptomatic cancers are biologically more aggressive than screen-detected cancers and are more susceptible to late loco-regional recurrence. Few studies have examined long-term axillary recurrence following SNBs in this subgroup.
Methods: A retrospective case-note review was performed on 82 symptomatic breast cancer patients who had a negative SNB between 2009 and 2010. Clinicopathological data was collected on cancers, axillary nodal pathology, recurrence, and survival.
Results: Median age was 57 years (range 23-87). Mean tumour size was 20mm (range: 5-50). Fourteen cancers (17%) were ER negative, 11 (19.3%) HER2 positive and 30 (36.3%) were grade 3. Sixty-one (74%) patients had breast-conserving surgery and 21 patients (26%) underwent a mastectomy.

After a median follow up of 11.8 years, 3 (3.7%) local, 1 (1.2%) axillary and 10 (12.2%) distant recurrences were seen. Twenty patients (25%) died. The median OS was 11.64 years (range: 1.20-12.47) and median DFS was 11.50 years (range: 1.14-12.47). Axillary recurrence rates were comparable to other studies that contained predominantly screening cancers (0.7-1.6%).
Conclusion: The risk of axillary recurrence remains low at 10-year follow up after a negative SNB in symptomatic patients. This is comparable to that of follow up studies in mixed (screening and symptomatic) cohorts demonstrating equivalent long-term oncological safety in this biologically more aggressive cohort.

P087

ADVANCES IN DIEP FLAP BREAST RECONSTRUCTION: REDEFINING THE GOLD STANDARD

Kirsty Smith, John Kiely, Andrew Stirrup, Nikos Lymperopoulos, William Holmes. *The Mid Yorkshire Trust, Wakefield, United Kingdom*

Introduction: DIEP reconstruction has evolved considerably since its inception. With the introduction of enhanced recovery protocols, streamlined operative steps, and post-surgery advances, the DIEP is no longer the significant operation once perceived. We present our data on 60 consecutive flaps and show how outcomes improve with continuous innovation and a feedback system of rapid data-driven evaluation.
Material-Method: A prospective study of consecutive DIEP flap reconstructions from a single unit. Primary outcome data was 2021 GIRFT benchmarks and secondary outcome was Breast-Q PROMS data.
Results: We report a low mean length of stay 2.8 days with a range of 2 to 5 days. Time to adjuvant therapy is 7.6 weeks. An initial readmission rate of 23.7% mostly due to mastectomy flap necrosis now has been reduced to 11.5%. Breast-Q PROMs data shows significant improvement across all domains except for physical wellbeing of the abdomen at 1 year.
Discussion: Advances in surgical techniques, efficient use of operating time and enhanced recovery protocol have reduced length of stay. Synchronous symmetrization has improved the out-patient journey. Combined with surgical innovations such as flap neurotization, bipedicled flaps, drainless surgery, and quadratus lumborum blocks, we have pushed the boundaries for DIEP flap surgery to be a choice to more patients with minimised morbidity and recovery time.
Conclusion: We have demonstrated how the continuous innovation in DIEP surgery can offer a short length of stay whilst surpassing 2021 GIRFT benchmarks, in addition to excellent patient reported outcomes.

P088

INTRAOPERATIVE ULTRASOUND LOCALISATION BY BREAST SURGEON EXPERIENCED IN ULTRASOUND REDUCES WORKLOAD OF BREAST RADIOLOGIST

Olivia Smith, Ajay Sahu. *North Bristol Trust, Bristol, United Kingdom*

Background: The current covid pandemic has foregrounded the acute shortage of breast radiologists. The workload includes preoperative localisation to facilitate breast conserving surgery of small or impalpable lesions that are visible on ultrasound scan. In our breast centre 2 out of 8 surgeons routinely do intraoperative localisation without recourse to wire localisation, mag seed or radiofrequency tags. We conducted a study to see the potential reduction of radiologist workload should a surgeon utilise ultrasound.
Methods: Wire guided cases requiring wire localisation pre-operatively were reviewed retrospectively over a 6-week period. The number of cases requiring radiologist input vs surgical ultrasound alone were recorded.
Results: Over a 6-week period 51 cases were identified. Of these 12 were performed by a surgeon not experienced in ultrasound potentially reducing the radiologist workload by 23.5%. At the same time 4 further cases were done by breast surgeons experienced in ultrasound meaning that the overall reduction in radiologist workload was 29%.
Conclusion: The above suggests that surgeons trained in ultrasound could potentially reduce the workload of radiologists. These findings should play a part in planning future service provision in the light of the Covid-19 pandemic where there has been an impact upon the delivery of breast services. With the likely continuation of the pandemic and need for further redistribution of resources, there is a need for future breast trainees to learn USS as part of their clinical armamentarium.

P089

UNDER 40S ONE STOP CLINIC RUN BY BREAST SURGEONS WHO CAN DO ULTRASOUND HELPS MANAGE CAPACITY AND REDUCES WAITING TIME. A POSSIBLE MODEL FOR TRAINING OF FUTURE BREAST SURGEONS

Olivia Smith, Josh Pitt, Sasirekha Govindarajulu, Ajay Sahu. *North Bristol Trust, Bristol, United Kingdom*

Background: Breast services are heavily dependent on radiology support for diagnostic tests. Breast ultrasound is the preferred imaging tool in the under 40s. The covid pandemic has resulted in a huge increase in waiting times for breast patients throughout the country. Additionally, there is a shortage of radiologists to support screening and breast services. Surgeons who are experienced in breast ultrasound are able to reduce the workload of radiologists and reduce waiting times. We present our results of one stop under 40s clinic by breast surgeons who do ultrasound and the impact it has had on waiting times within our unit.
Method: Retrospective study of patients seen as part of the weekend waiting list initiative during May-July 2021. Clinics were built every weekend (Sat and Sun) in the absence of radiology support.
Results: 899 patients of all ages were waiting to be seen in one stop clinics. A total of 11 under 40s one stop clinics were coordinated during this period when there was no radiology support. 197 patients were seen in these clinics by two surgeons proficient in performing ultrasound thereby reducing the waiting list by 22%. There are 8 consultant surgeons within our unit.
Conclusion: The above study highlights the immense usefulness of ultrasound as a clinical adjunct to breast surgeons. Given the pressures that continue to occur in the light of the pandemic, it is imperative that our present generation of breast surgical trainees learn to perform ultrasound.

P090

AN AUDIT OF GENETIC REFERRAL OUTCOMES AT THE TIME OF DIAGNOSIS OF BREAST CANCER

Madeleine Pitcathley [1], Rebecca Swan [2], Jacqueline Dunlop [3], Faria Ahmed [1], E. Jane Macaskill [2]. [1] *University of Dundee, Dundee, United Kingdom;* [2] *Department of Breast Surgery, NHS Tayside, Dundee, United Kingdom;* [3] *Department of Clinical Genetics, Ninewells Hospital and Medical School, Dundee, United Kingdom*

Introduction: Mutations in BRCA1 and BRCA2 account for 5-10% of all female breast cancers, and 15-20% of familial breast cancers. Identifying these mutations at diagnosis can aid shared decision-making in the surgical and oncological setting. NICE guidance recommends referral of high-risk patients to a specialist genetic clinic. This study aims to assess results of genetic testing at diagnosis and time taken for receiving results.
Methods: A prospective database of all patients with newly diagnosed breast cancer who met criteria and were referred for urgent genetic testing in NHS Tayside between December 2017 and December 2020 was analysed for results of genetic testing and the time from referral to result of genetic test. Local Caldicott guardian approval was obtained.
Results: One hundred and sixteen patients proceeded to genetic testing of whom 12 had a mutation detected (10.3%). Six had BRCA2 mutation (5.2 %), 4 had BRCA1 mutation (3.4%), and 2 had PALB2 mutation (1.7%). Of patients with a mutation, 6 (50%) had triple negative breast cancer aged <50 years, 4 (33.3%) had triple negative breast cancer aged >50 years and 2 (16.7%) had breast cancer aged <50 years, one of whom had a paternal family history. The median time from referral to test result was 28 days (IQR 22-36.5 days).
Conclusions: Triple negative receptor status was common in patients who had gene mutations, including those aged over 50, and this group of patients should be considered for genetics referral. The median time from referral to the genetics service to the test result being available may add delay to subsequent surgical management.

P091

REDUCING IMAGING OF THE SYMPTOMATIC MALE BREAST - AUDIT OF COMPLIANCE WITH NATIONAL GUIDELINES

Bhavesh Tailor, Shilpa Liyanage, Nazia Malik, Rosamond Jacklin, Sunita Saha. *Colchester Hospital, Colchester, United Kingdom*

Introduction: Male breast imaging is often over-utilised, especially in the absence of suspicious presentation. Local practice was audited against the Royal College of Radiologists (RCR) 2019 guidelines.
Methods: A locally approved audit of clinical and imaging assessments of symptomatic adult male referrals from April-July 2018 was performed. This was re-evaluated in April-July 2021 following publication of the RCR guidelines and to assess the 2018 audit recommendation; in the absence of clinically suspicious features, imaging in male patients under 40yrs is not required.
Results: Imaging was performed in 6% fewer assessments from 2018 to 2021 with a particular reduction in ultrasound investigations from 40/78 (45.5%) to 9/42 (17.6%) (Table 1). Compliance with indications for imaging (RCR) was 92.1% in the 2021 study.

Table 1

	Number assessed	Mean age (range)	Cancer	No imaging	Imaging performed
Apr-July18	88	54(18-89)	3(3.4%)	10(11.36%)	78(88.6%); [USS Only: 27(34.6%); Mammo Only: 38(16.7%); Both: 13(48.7%)]
Apr-July21	51	58(18-89)	1(1.9%)	9(17.6%)	42(82.3%); [USS Only: 7(16.6%); Mammo Only: 33(78.5%); Both: 2(4.76%)]

Local incidence of male breast malignancy was similar over the audit periods, 6 cancers of 248 referrals (2.4%) for August 2017-July 2018 and 5 of 216 referrals (2.3%) for August 2020-July 2021. All breast/axilla malignancies diagnosed had clinically atypical/suspicious assessment (P3-P5) and were >50yrs at diagnosis. In <40yrs, imaging was performed in 22/88(25%) and 10/51(19.5%) in 2018 and 2021 respectively.
Conclusion: Male breast imaging constitutes a considerable radiology workload. Compliance with RCR guidelines reduces the volume of male imaging. This could be reduced further by omitting imaging in <40yrs with benign clinical findings.

P092

DELIVERING PRIVATE BREAST CANCER DIAGNOSTICS IN THE POST-PATERSON ERA

Gordon Wishart [1], Louise Mills [2], Josh Holliday [2]. [1] *Anglia Ruskin School of Medicine, Cambridge, United Kingdom;* [2] *Check4Cancer, Cambridge, United Kingdom*

Introduction: As we wait for the government response to the Paterson inquiry, both patients and hospital providers are now looking for increased reassurance about an agreed standard of care, patient experience and outcomes which could result in insurers working with smaller groups of consultants that can deliver that level of service.
Method: Check4Cancer manages a UK-wide network of private diagnostic one-stop breast clinics delivered by 66 consultant breast surgeons who are all ABS members. All clinics provide core biopsy-based same-day triple assessment, with a breast radiologist present in clinic. Prospective audits collect data on patient experience (appointment waiting times, travel distance and feedback), investigations performed and cancer diagnosis rates with patient consent.
Results: From January 2016 - September 2021, 14,378 patients have attended a one stop appointment, with 94% offered that appointment within 5 days and an average waiting time of 2.9 days. The average travel distance to clinic was 14.9 miles and 97% of patients rated the clinical staff as very good or excellent, with 97% who would recommend the service to friends or family. The biopsy rate was 13.8% and the cancer detection rate was 3.5% overall. See table 1.

Table 1

Age	Patients	Mammogram	Breast ultrasound	cyst aspiration	Biopsy	Cancer detected
<30	1226	2.4%	96.3%	2.2%	12.3%	0.16%
30-39	4504	16.2%	91.2%	5.9%	11.5%	1.3%
40-49	5423	80.6%	89.7%	11.6%	15.0%	3.7%
50-59	2464	84.7%	87.3%	12.8%	15.2%	6.6%
60+	761	82.8%	75.6%	3.2%	16.4%	11.0%
All patients	14,378	54.6%	89.6%	8.8%	13.8%	3.5%

Conclusions: This audited pathway provides increased clinical governance for private patients, with high levels of patient satisfaction due to rapid access, streamlined delivery and optimal care. This model fits with the drive by insurers to deliver value-based healthcare by working with smaller groups of consultants.

P093

TELEPHONE ASSESSMENT OF NEW BREAST CLINIC REFERRALS: REVIEWING ITS CLINICAL EFFECTIVENESS

Andrea Cavendish, Jennifer Lomas, Christina Yip. *East Lancashire Hospitals NHS Trust, Lancashire, United Kingdom*

Introduction: The COVID-19 pandemic has accelerated the use of telemedicine. Since March 2020, our breast unit has offered telephone consultation to new breast clinic referrals, following careful breast clinic triage. This study aimed to review the clinical effectiveness and safety of our telephone consultation service.
Method: We retrospectively reviewed all telephone consultations conducted between 1st September 2020 and 1st March 2021. Our clinic outcomes, such as follow-up radiological investigations, successful discharge from clinic, conversion to face-to-face consultation and any abnormal pathology found were recorded and analysed. This cohort of patients had a minimal follow-up for 6 months; any subsequent re-referral to our breast clinic was also reviewed.
Result: 517 (413 female, 104 male, age range 14-100, with a median age of 51) patients received telephone consultation during our study period. Breast and axilla pain was the commonest complaint (85%). Over 79% of patients required follow-up imaging (mammogram 66%, ultrasound 32%, both 2%). We successfully discharged 99% of patients; the majority of patients received a copy of their clinic letter and advice leaflet. A small proportion of patients (9.3%) ultimately warranted face-to-face consultation for various reasons. Follow-up imaging picked up invasive diseases in two patients (0.4%). 13 patients (2.5%) were re-referred to our service within a year, following discharge.
Conclusion: This study concluded that there had been a robust breast triage, resulting in an effective and safe telephone consultation service. Our unit has developed further recommendations for standardizing the telephone consultation service.

P094

CONCORDANCE OF MARGIN STATUS BETWEEN SURGEONS' INTERPRETATION OF FAXITRON IMAGING WITH FORMAL DEPARTMENTAL X-RAY AND PATHOLOGICAL REPORTING

Vivienne Blackhall, Georgios Kourounis, Michael McKirdy, Kyalo Musyoka, Laura Arthur, Jennifer Campbell. *NHS Greater Glasgow and Clyde, Glasgow, United Kingdom*

Background: Intraoperative FAXITRON imaging provides surgeons with immediate visual feedback on margin adequacy following wide-local excision (WLE). We aimed to determine concordance between surgeons'

margin assessment using FAXITRON and formal radiological and pathological reporting.
Methods: Prospective single centre study of all consecutive cases of localised WLE between May and December 2021. Data included lesion size and type, assessment of margin status, and which cavity shaving(s) (CS) were performed. Clear pathological margins were defined as those ≥1mm.
Results: Ninety-six cases were included. Median patient age was 60 years and median lesion size was 17mm (range 3-120mm). Commonest mammographic abnormality was ill defined mass (n=42;44%). The majority of cases were screen detected (n=71;74%). Ninety-eight percent were Magseed localised WLE, performed for invasive disease (n=75;72%). Two patients (2%) had routine CS, 69 (72%) had targeted CS. Radiologists reported 74 (77%) departmental x-rays with satisfactory margins, compared with surgeons reporting 38 (40%) FAXITRON images with satisfactory margins. On pathology, 79% (n=76) had clear margins. Of these, 68% (n=52) underwent targeted CS. Surgeons' interpretation of FAXITRON resulted in 41 (79%) patients undergoing targeted CS. Of these, three had further disease. CS were undertaken after an unsatisfactory departmental x-ray in 11 cases (21%), three containing further disease. Seventeen patients had re-excision of margins (18%). In the majority, this was for DCIS (n=12;71%).
Conclusion: There is a lack of concordance in margin assessment between surgeons using FAXITRON and departmental x-ray and pathological reporting, leading to excessive CS being performed.

P095

OUTCOMES OF MAGSEED LOCALISED WIDE LOCAL EXCISION FOR IMPALPABLE BREAST LESIONS: THE STOBHILL EXPERIENCE

Rachael Boardley, Vivienne Blackhall, Keith Ogston, Margaret Maclean. *New Stobhill Hospital, Glasgow, United Kingdom*

Introduction: Impalpable breast lesions have traditionally been localised using wire-guided techniques. Our unit has recently adopted Magseed localisation as an alternative. This project examines outcomes from the first cohort of patients undergoing localisation using Magseed, particularly with reference to marker migration and re-excision rates. We used a target re-excision rate of less than 20%, in keeping with National Quality Performance Indicators.
Methods: Retrospective review of the first cohort of patients undergoing Magseed localised wide local excision (WLE) at Stobhill Hospital between January 2020 and 2021. Data from a comparator group undergoing wire-guided localisation were also collected.
Results: Each group included 51 patients. No cases of Magseed migration were described but wire migration was documented in 9.2% (n=5) of cases. In this respect, there was no statistically significant difference between the groups (p=0.056). For Magseed, 19.6% (n=10) patients had positive margins requiring re-excision. For wire-guided localisation, 13.7% (n=7) had positive margins requiring re-excision. There was no statistically significant difference for re-excision rates between the groups (p=0.56). Median time between magseed insertion and surgery was seven days (range 0-26 days) whereas all wire localisations were performed on the day of surgery.
Conclusions: Magseed localisations are a safe and promising alternative to wire-guided WLE. Re-excision rates are acceptable (<20%) and comparable with wire-guided techniques. We observed a trend toward increased risk of marker migration with wires, but this was not statistically significant. Magseed insertion can be performed well in advance of surgery, meaning less potential delay on the day of surgery.

P096

DOES THE USE OF AN INTRAOPERATIVE DEVICE TO ASSESS MARGINS REDUCE NEED FOR RE-EXCISON AFTER BREAST CONSERVING SURGERY: MULTICENTRE RANDOMISED CONTROLLED TRIAL

Nigel Bundred [1], Mike Dixon [2], Raj Achuthan [3], Emma Barrett [4], John Benson [5], Carol-Ann Courtney [6], Anthony Skene [7], Fiona Hoar [8], Pud Bhaskar [9], Donna Watterson [10], Nicola Barnes [4]. [1] *University of Manchester, Manchester, United Kingdom;* [2] *University of Edinburgh, Edinburgh, United Kingdom;* [3] *Leeds Breast Unit;* [4] *Manchester Foundation Trust, Manchester, United Kingdom;* [5] *Cambridge Breast Unit, Cambridge, United Kingdom;* [6] *Royal Derby NHS Trust, Derby, United Kingdom;* [7] *Royal Bournemouth Hospital, Bournemouth, United Kingdom;* [8] *Sandwell and West Birmingham Hospital NHS Trust, Birmingham, United Kingdom;* [9] *North Tees and Hartlepool NHS Trust, North Tees, United Kingdom;* [10] *University of Manchester, Manchester, United Kingdom and Manchester Foundation Trust, Manchester, United Kingdom*

Background: Re-excision is required in 20% of invasive cancers and 30% of DCIS to clear margins after Breast Conservation (BCS).
Methods: To determine if using the MarginProbe device on the removed specimen, (after tissue specimen radiography) of a cancer reduces re-excision operations, compared to standard practice. We performed a multicentre UK randomised controlled trial. The total number of re-excision procedures required following BCS due to positive margins less than 1mm (circumferentially) and the number with clear margins greater than 1mm circumferentially after histopathological assessment was compared. Women aged 18 to 90 years, with breast cancer larger than 1.5cm (invasive breast cancer with surrounding DCIS or DCIS alone) undergoing BCS. All 10 UK centres agreed the protocol and were proctored (trained in the use of the device) for their first 5 cases.
Results: Randomisation by block allocation of 457 patients (242 underwent marginprobe assessment intraoperatively and 225 no assessment (control)) led to 78 patients requiring repeat BCS within 9 months (40 MarginProbe: 38 Control). DCIS, re-excision rate was 20.5% and Invasive cancer was 13.5%. Re-excision rates did not differ between groups (41.5% MarginProbe :39.3% Controls had re-excision within 9 months). However 0.7% MarginProbe and 2.2% Controls with margins >1mm had re-excision within 9 months. Re-excision rate in the Marginprobe arm varied across centres from 6.5 to 33.3% (Highest re-excision rate vs lowest centre p=0.0029) and controls from 7.5%-45%. There was no difference in the tissue weight excised between the treatment groups.
Conclusion: Due in part to variation in margin clearance between centres, marginprobe device use did not impact outcomes

P097

PRELIMINARY FINDINGS OF CONFOCAL LASER ENDOMICROSCOPY AND RAMAN SPECTROSCOPY IN HUMAN BREAST TISSUE CHARACTERISATION

Ahmed Ezzat [1], Khushi Vyas [1], Manish Chauhan [2], Martin Asenov [3], Anna Silvanto [4], Animesh Jha [5], Subramanian Ramamoorthy [3], Alexander Thompson [1], Daniel Richard Leff [1]. [1] *Imperial College London, London, United Kingdom;* [2] *University of York, York, United Kingdom;* [3] *University of Edinburgh, Edinburgh, United Kingdom;* [4] *Imperial College NHS Trust, London, United Kingdom;* [5] *University of Leeds, Leeds, United Kingdom*

Introduction: As highlighted within the ABS gap analysis, breast cancer re-excision rates for positive margin, estimated at 30% within conserving surgery, needs active research. Traditional intra-operative diagnostic techniques such as frozen section are timely, hence real time tools are necessary. We report on the diagnostic utility of probe confocal laser endomicroscopy (pCLE) and raman spectroscopy in the optical histopathological characterisation of frozen breast tissue.
Methods: Local approval for the study was granted. 20 freshly excised human breast tissue specimens were studied for rapid ex-vivo evaluation. Specimens were analysed using a 785 nm fibre optic raman probe. Subsequently, tissue was stained with 0.01% acriflavine hydrochloride dye, then scanned using pCLE (3.5 μm resolution and image acquisition rate of 120 frames/second). Samples were expertly validated against histopathology in a blinded manner.
Results: We plotted the mean Raman spectrum for each sample class and observed qualitative differences between the spectra from normal and cancerous samples. Comparing normal tissue against all cancerous samples, changes in spectral peak intensities were observed at Raman shifts of 1089 cm-1, 1263 cm-1, 1300-1400 cm-1, 1440 cm-1 and 1660 cm-1. A principal component analysis comparing stained and unstained samples using raman demonstrated no difference. Similarly, pCLE images of normal versus cancer tissue types demonstrated differences in adipose cell appearance, stromal arrangement and cell nucleus morphology and fluorescence.

Conclusions: We are deploying both Raman and pCLE in breast cancer; both show qualitative potential for identification of sample type; future work will entail developing analysis protocols to extract maximum diagnostic information from both datasets combined.

P098

METHODOLOGICAL OPTIMISATION OF INTRAOPERATIVE MARGIN ASSESSMENT USING CONFOCAL MICROSCOPY

Nicholas Holford [1], Patriek Jurrius [2], Michael Boland [1], Urvashi Jain [3], Ahmed Ezzat [4], Ashutosh Kothari [3], Kushi Vyas [5], Belul Shifa [3], James Rosekilly [6], Cheryl Gillett [2], Rathi Ramakrishnan [1], Sarah Pinder [2], Daniel Leff [4], Arnie Purushotham [2]. [1] *Imperial College Healthcare NHS Trust, London, United Kingdom;* [2] *King's College London, London, United Kingdom and Guy's and St Thomas' NHS Foundation Trust, London, United Kingdom;* [3] *Guy's and St Thomas' NHS Foundation Trust, London, United Kingdom;* [4] *Imperial College Healthcare NHS Trust, London, United Kingdom and Imperial College London, London, United Kingdom;* [5] *Imperial College London, London, United Kingdom;* [6] *King's College London, London, United Kingdom*

Introduction: Approximately 20-30% of women who undergo breast-conservation surgery (BCS) for cancer will require further surgery due to a close or involved margin with associated psychological morbidity and financial cost. This study focuses on the methodological technique for capturing intraoperative cellular level images using the Histolog® Scanner (SamanTree Medical SA, Lausanne, Switzerland).
Methods: Following ethics approval, women ≥18 years diagnosed with invasive breast cancer or ductal carcinoma *in situ* undergoing BCS were recruited at two sites in London, UK. Following excision, specimens and shave margins were placed in Histolog® Dip (fluorochromatic dye) for 10 seconds then saline for 5 seconds. Confocal microscopy images were captured of all 6 resection margins for wide local excision (WLE) specimens and of both sides for shave margins. Image acquisition and assessment times for surgeons and pathologists were recorded.
Results: A total of 100 patients were recruited. Throughout the trial imaging proceedings evolved, including the use of peripheral supports and vertical compression to improve specimen contact and stability. This resulted in improved image quality, substantial reductions in time to capture images between patients 1-10 and 41-50 for WLE (26:34 vs 19:09 min.), WLE and shaves (36:49 vs 23:53 min.) and time to acquire an individual image (6:25 vs 3:27 min.). The average time to interpret images was approximately 5 minutes per patient for an experienced pathologist.
Conclusion: The improvements in imaging proceedings have resulted in high-quality images and considerable reduction in the time for image acquisition, demonstrating that this technique could be feasible to aid intra-operative margin assessment.

P099

NATIONAL MARGINS AUDIT 2 - STUDY PROTOCOL

Sarah Tang [1], Alicia Skervin [1], Alicja Rudnicka [2], Sarantos Kaptanis [3], Anup Sharma [1]. [1] *St George's University Hospitals NHS Foundation Trust, London, United Kingdom;* [2] *Population Health Research Institute, St George's, University of London, London, United Kingdom;* [3] *London Surgical Research Group, London, United Kingdom*

Background: The 2016 National Margins Audit (NMA1) found that 50% of units in the UK and Ireland followed the ABS consensus position for acceptable margin widths in breast conserving surgery while 4% adhered to the ASCO standard. The national margin re-excision rate was 17.2% and a wide variation in re-excision rates (0-40%) across units was observed.
Aim: Re-audit of margin re-excision rates 5 years after NMA1.
Objectives: To establish the current national re-excision rate. To identify changes in unit policies and surgical practices (e.g. changes in intra-operative margin assessment and use of chest wall perforator flaps). To explore how these changes may have impacted on re-excision rates. To highlight variation in practice and outcomes.
Methodology: Consultants involved in NMA1 will be invited to participate in the new audit and to nominate trainee leads. Concurrently, an on-line national campaign will be run through the trainee collaboratives to recruit new leads. A unit questionnaire will be completed to evaluate margin policies including changes since 2016. Local audit approval will be required. The study period is between 1st June 2022 and 31st September 2022. Each centre will be allocated a unique Centre ID. Data will be stripped of patient identifiers and entered securely into REDCap.
Primary outcome: Re-excision rate. Secondary outcomes include margin width, patient demographics, tumour characteristics (size and biology), localisation method and intraoperative margin assessment technique.
Analysis and presentation of findings: REDCap data will be exported into SPSS v25 for analysis resulting in an expected publication in January 2023 and a submission for presentation at ABS in May 2023.

P100

TRANEXAMIC ACID USE IN BREAST SURGERY: A SYSTEMATIC REVIEW

Alicia Skervin [1], Emma Wilson [2], Georgette Oni [3]. [1] *East Surrey Hospital, Redhill, United Kingdom;* [2] *Division of Epidemiology and Public Health, School of Medicine, University of Nottingham, Nottingham, United Kingdom;* [3] *Nottingham Breast Institute, Nottingham University Hospitals NHS Trust, Nottingham, United Kingdom*

Background: Tranexamic acid (TXA) has revolutionised the management of bleeding in trauma and surgery. Postoperative bleeding in breast surgery can have significant adverse patient implications. The resulting psychological, aesthetic, financial and physiological morbidity may be mitigated with the perioperative use of TXA. This systematic review aims to evaluate the efficacy and safety of TXA in breast surgery in preventing postoperative bleeding-related complications.
Methods: Medline, Embase, the Cochrane Database of Systematic Reviews, ClinicalTrials.gov and ScienceDirect were electronically searched from 1st January 1990 to 1st January 2021 in accordance to the PRISMA guidelines. All randomised controlled trials and cohort studies comparing the use of TXA in oncological, reconstructive and aesthetic breast surgery with a placebo or no TXA were included. Study eligibility, methodological assessment, data extraction and quality analysis were performed by two independent reviewers. Descriptive data analysis was performed.
Results: A total of 9,518 articles were identified, with another 28,904 articles from grey literature. Four studies inclusive of 850 patients were included. TXA causes a reduction in drain volume at 24 hours of 39% (median volume= 12.5 vs. 20.5ml, P= 0.038, TXA and placebo respectively). Haematomas occurred significantly less frequently with TXA (P= 0.018). TXA reduces the duration of a drain (odds ratio= -15.6% (95% CI: -30.2 to -2.6%); P= 0.017) and lowers the incidence of seroma. No adverse effects to TXA were found.
Conclusion: TXA is a promising pharmacological adjunct to reduce postoperative bleeding in breast surgery without compromising safety.

P101

LOCAL RECURRENCE AFTER BREAST CONSERVATION (LRAB) - STUDY PROTOCOL

Sarah Tang [1], Alicia Skervin [1], Alicja Rudnicka [2], Sarantos Kaptanis [3], Anup Sharma [1]. [1] *St George's University Hospitals NHS Foundation Trust, London, United Kingdom;* [2] *Population Health Research Institute, St George's, University of London, London, United Kingdom;* [3] *London Surgical Research Group, London, United Kingdom*

Background: ABS and NICE recommend routine auditing of local recurrence (LR) (target 3.5%, maximum 5%). One of the main determinants of LR after breast conserving surgery (BCS) is margin status. The 2016 National Margins Audit 1 (NMA1) found that 50% of UK units followed the ABS position for acceptable margins and 4% adhered to the ASCO standard. Wide variation in re-excision rates (0-40%) was found with an average national rate of 17.2% in 2858 patients. A UK national margin policy should

be matched to LR data from an up-to-date prospectively collected UK cohort.
Aim: To examine the 5 year LR rates in patients from NMA1
Objectives: To provide the most current assessment of UK LR rates. To identify variation in LR rates. To prospectively assess the association between margin width and LR in a UK cohort supporting the development of national guidelines.
Methodology: The data collection period is between 1st and 31st of May 2022. Consultant leads from NMA1 will be invited to participate and to nominate trainee leads. Local audit approval is required. Details of margin width were prospectively collected during NMA1. Trainee leads will identify LR (a subsequent carcinoma of similar biology within the same quadrant of the breast) by accessing patient records locally. Data entered into REDCap is stripped of all patient identifiers with patients using their original study ID from NMA1.
Analysis/presentation of findings: REDCap data will be exported into SPSS v25 for data analysis with an expected submission for publication in January 2023 and presentation at ABS in May 2023.

P102

INFLUENCE OF MRI USE ON SURGICAL OUTCOMES IN LOBULAR BREAST CANCER

Philippa Wadsworth, Lara Rimmer, Lucia Sepesiova, Joey Fong, Tamara Kiernan, Olga Harris. *St Helens and Knowsley NHS Trust, Prescott, United Kingdom*

Introduction: Lobular carcinomas account for around 10% of invasive breast cancers. Accuracy of pre-operative evaluation can be troublesome. NICE guidelines recommend MRI "to assess the tumour size if breast-conserving surgery is being considered for invasive lobular cancer". However, each additional investigation introduces cost and potentially prolongs the treatment pathway, which is only justified if likely to affect outcomes.
Aim: To evaluate the use of breast MRI in our unit and effect on immediate surgical outcomes, as determined by re-operation rates following breast conserving surgery (WLE) and discrepancies of tumour size between imaging modalities (USS/mammogram vs MRI) and operative histology.
Method: A retrospective study of all lobular cancers diagnosed/managed in the unit in the 5 years to February 2021. Data obtained from electronic case notes.
Results: Of 182 patients, 78 underwent WLE, 74 mastectomy, 30 non-operative. 33 (42%) undergoing WLE had pre-operative MRI; re-operation rate was 21.2% with MRI, 24.4% without. There was no difference in need for re-operation due to tumour size underestimation (15.2% vs 15.6%) or mastectomy as second operation (6.1% vs 6.7%). Of 73 MRI completed, 23 sized tumour >10mm larger than USS/mammogram. MRI vs other imaging discrepancy >10mm AND MRI being more accurate to histological size occurred in 8 cases.
Conclusion: Contrary to other studies, MRI scans for lobular cancer do not appear to have made a considerable difference to immediate surgical outcomes in this study group. There may be a small subset of cases where MRI does add value, further analysis or larger sample size may identify features indicative of those most likely to benefit.

P103

IMPLEMENTATION OF RECOMMENDATIONS AND OUTCOME OF PATIENTS UNDERGOING NEOADJUVANT CHEMOTHERAPY

Uzma Andaleeb, Ennio Agabiti, Ibrahim Ahmed, Delilah Hassanally. *Medway Maritime NHS Foundation Trust, Gillingham, United Kingdom*

Background: A local audit in 2016 showed an improved outcome for patients operated within 28 days after the end of the last chemotherapy cycle. This brought to the production of recommendations for the management of these patients. A re-audit was conducted to analyse the impact of the recommendations.
Materials and Methods: All cases of neoadjuvant chemotherapy (NACT) followed by breast conservation surgery or mastectomy from November 2016 to January 2020 (n=68) were retrospectively reviewed to analyse the impact of the recommendations: 1) surgery within 28 days after completion of the last NACT cycle, 2) MDT discussion before completion of the last NACT cycle, 3) cases placed on waiting list before the completion of the last NACT cycle, 4) surgery <4 weeks after placement on waiting list, 5) clip inserted before NACT, 6) mid-NACT imaging, 7) post-NACT imaging.
Results: Patients population was similar to the previous audit with a slight trend towards an older age (31-40 year old: 7% vs 17%, 61-70 year old: 27% vs 14%). Tumour type was similar (IDC 93% vs 92%) as well as tumour grade (G3 75% vs 71%), triple negativity (24% vs 39%) and Her2+ (15% vs 20%). Triple positivity was more frequent (30% vs 4%). Biopsy confirmed axillary node positivity (31% vs 49%) and mastectomy rate (46% vs 39%) were similar. Re-excision rate (10% vs 22%) and post-NACT sentinel node positivity (4% vs 14%) were decreased. Axillary clearance with one or more positive nodes were the same (22% vs 22%). Post-NACT imagining was done more frequently (66% vs 30%). Pathological complete response (PCR) was observed to be increased (43% vs 20%).
Conclusion: With the implementation of local guidelines, patients undergoing neoadjuvant chemotherapy followed by breast surgery showed higher PCR rates and improved surgical outcome, in particular fewer re-excisions and less sentinel node positivity post NACT.

P104

VACUUM ASSISTED EXCISION OF BREAST MALIGNANCY OFFERS A LESS INVASIVE THERAPEUTIC OPTION IN SELECTED CASES

Andrew Atayi, Sheetal Sharma, Julia Henderson, Geraldine Mitchell, Matthew Rowland. *Liverpool University Hospital NHS Foundation Trust, Liverpool, United Kingdom*

Background and Objective: The gold standard for excision of breast cancers is 'open' operative techniques. Vacuum assisted excision (VAE) is widely recognised for diagnostic purposes and utilised for therapeutic excision of selected benign lesions. This single-centre cohort aims to assess whether VAE is a safe and effective treatment for patients with small invasive and non-invasive malignancies.
Materials and Methods: Single centre retrospective cohort study with cases identified January 2016 – December 2021 from clinic letters, PACs software and results systems. All patients who underwent VAE as the primary resection of breast cancer were included; analysis included patient and cancer demographics, ultrasound reports, neoadjuvant and adjuvant treatment, and clinical follow up.
Results: 10-Ultrasound and 3-stereotactic VAEs (n=13) were performed on 13 patients. Presentation via screening in 62% (n=8/13) cases. Mean patient age was 67 years. Median performance-status was 1. Invasive cancer was identified in 8/13. Mean pre- and post-op tumour size was 12.7mm and 6.7mm, respectively. Hormone status was Estrogen-positive in 11/13 patients; of which 45% (5/11) had neoadjuvant endocrine treatment. Eleven cancers were T1N0, 1 T2N0 and 1 TxN0. Adjuvant radiotherapy was given to n=5. No post-VAE complications were observed. Cohort mean follow up was 14 months. Possible incomplete excision was recorded in n=1 and managed with surveillance mammograms. Recurrence occurred in n=1, 26 months post VAE. Indications for VAE included significant comorbidities (6/13), SMALL trial randomisation (3/13), refusal of surgery (2/13), diagnostic (1/13) and other (1/13).
Conclusion: VAE offers an alternative to 'open' surgery in the treatment of selected breast cancers, with acceptable post-resection outcomes.

P105

DOES TRAVEL BURDEN INFLUENCE THE USE OF RADIOTHERAPY AFTER SURGERY FOR EARLY INVASIVE BREAST CANCER IN ENGLAND?

Maddy Sketchley [1], Mel Gannon [1], Katie Miller [2], Karen Clements [3], Jibby Medina [2], Kieran Horgan [4], David Dodwell [5], David Cromwell [1]. [1] *London School of Hygiene & Tropical Medicine, London, United Kingdom;* [2] *Royal College of Surgeons of England, London, United Kingdom;* [3] *National Cancer*

Registration and Analysis Service (NCRAS), London, United Kingdom; [4] Department of Breast Surgery, St James's University Hospital, Leeds, United Kingdom; [5] Nuffield Department of Population Health, University of Oxford, Oxford, United Kingdom

Introduction: For patients with early invasive breast cancer (EIBC), radiotherapy (RT) is administered in multiple visits, and longer travel times may reduce its use. We examined the relationship between travel duration and receipt of adjuvant RT in England among patients who received breast-conserving surgery (BCS) or mastectomy.
Methods: The study used patient data collated by the National Disease Registration Service and included women (aged ≥50 years) diagnosed with Stage 1-3a breast cancer between 2014 and 2018 in England. Travel duration was defined as car journey time from patients' homes to their nearest RT centre. The relationship between non-receipt of RT and travel duration was analysed using Poisson regression, with adjustment for patient characteristics.
Results: Among 81,064 women who had BCS, the proportion of women with a journey time of less than 10 minutes who did not have RT was 8.4% compared to 13.2% among those living over 50 minutes away (Adjusted Incidence Rate Ratio (IRR)=1.65; 95%CI: 1.45-1.88). Among 29,800 women who had mastectomy, the proportion of women with a journey time of less than 10 minutes who did not have RT was 54.6% compared to 57.8% of those living over 50 minutes away (adjusted IRR=1.14; 95%CI: 0.99-1.30). In both BCS and mastectomy analyses, older age and a greater number of comorbidities increased the likelihood of women not receiving RT.
Conclusion: For women with EIBC who had BCS or mastectomy in England, longer journey times had a modest association with lower use of adjuvant RT. Discussions about treatment options should not overlook travel burden.

P106

CAN WE DE-ESCALATE SURGICAL TREATMENT FOR DCIS?

Aisling Eves [1], Andrew Pieri [2], Ross McLean [2], Nerys Forester [2]. [1] *Newcastle University, Newcastle, United Kingdom; [2] Royal Victoria Infirmary, London, United Kingdom*

Background: DCIS accounts for 20% of malignancies diagnosed by the breast screening programme and is primarily managed by surgical excision. This study aims to investigate how often DCIS is fully removed via core biopsy, thereby negating the need for surgery.
Methods: This was a single-centre retrospective cohort study of 101 consecutive breast screened patients diagnosed with DCIS who underwent surgical excision. All patients diagnosed with DCIS had radiological abnormalities <15mm. Clinical, radiological, and histological data were collected from patients who had been diagnosed within a 5-year period, and a complete excision by core biopsy was defined as 0mm of DCIS found in the surgical specimen.
Results: Complete DCIS excision following core biopsy was 21.8% (n=22). The median mammographic size of DCIS was 8mm (range: 4-14mm), median number of cores was 8 (3-16) and median biopsy weight was 1.82 grams (1.1-7.5g). There were no significant differences in mammographic size (10mm, p=0.06), number of cores (9, p=0.14), or biopsy weight (2.73, p=0.26) for those who had incomplete excision. Complete excision was seen in 40% of low-grade DCIS cases, 29% of intermediate-grade, and 16% of high-grade DCIS (p=0.19).
Conclusion: There are no clear factors which predict complete excision by core biopsy in screen-detected DCIS. It is possible that DCIS <15mm could be excised with VAE techniques but further investigations are needed to determine this. In low-grade DCIS further work could be considered due to higher rates of complete excision with core-biopsy. We would recommend following relevant guidelines to proceed to surgical excision where appropriate.

P107

MOLECULAR BIOMARKER EXPRESSION WITHIN WINDOW OF OPPORTUNITY STUDIES FOR OESTROGEN RECEPTOR-POSITIVE BREAST CANCER

James Francis, Manmeet Saundh, Ruth Parks, Kwok-Leung Cheung. *University of Nottingham, Nottingham, United Kingdom*

Introduction: Window of opportunity trials allow the opportunity to demonstrate pharmacodynamic parameters of a drug in vivo and are increasingly used in the context of breast cancer. Most breast cancer tumours are oestrogen receptor-positive (ER+), and multiple treatment options exist for this tumour subtype. The aim of this systematic review was to collate window of opportunity trials pertaining to the pharmacodynamic activity of drugs available for use in oestrogen receptor-positive breast cancer.
Methods: Five appropriate databases (EMBASE, Cochrane, MEDLINE, PubMed, Web of Science) were searched for eligible studies investigating ER+ patient populations with a window of exposure <31 days. Study selection based on eligibility was performed in a stepwise fashion (via title, abstract and then full-paper text). Relevant findings were consequently extracted and analysed.
Results: Fifteen eligible studies were found, representing six different drug classes (AIs, SERMs, SERDs, mTOR inhibitors, AKT inhibitors and oestrogens). Proliferative marker Ki67 was significantly downregulated in all drug classes except for oestrogens. Most endocrine therapies (ETs) prompted a significant fall in both oestrogen receptor and progesterone receptor expression, while both SERMs and oestrogens significantly increased SHBG protein expression in post-treatment biopsies.
Conclusions: Multiple treatment options exist to decrease the proliferative capacity of oestrogen receptor-positive breast cancer tumours, as demonstrated by widespread downregulation of Ki67. This review demonstrated the predictive value of numerous lesser-established biomarkers including pS6 and pAKT and illustrated the requirement for subsequent research into of window of opportunity trials.

P108

CHANGE IN THE USE OF FRACTIONATION IN RADIOTHERAPY USED FOR EARLY BREAST CANCER AT THE START OF THE COVID-19 PANDEMIC: A POPULATION-BASED COHORT STUDY OF OLDER WOMEN IN ENGLAND AND WALES

Melissa Gannon [1], David Dodwell [2], Katie Miller [1], Kieran Horgan [3], Karen Clements [4], Jibby Medina [1], Ian Kunkler [5], David Cromwell [1]. [1] *Clinical Effectiveness Unit, The Royal College of Surgeons of England, London, United Kingdom and London School of Hygiene & Tropical Medicine, London, United Kingdom; [2] Nuffield Department of Population Health, University of Oxford, Oxford, United Kingdom; [3] Department of Breast Surgery, St James's University Hospital, Leeds, United Kingdom; [4] National Cancer Registration and Analysis Service, NHS Digital, Birmingham, United Kingdom; [5] University of Edinburgh, Edinburgh, United Kingdom*

Background: Adjuvant radiotherapy is recommended for patients with early breast cancer (EBC) receiving breast-conserving surgery (BCS) and those at moderate/high risk of recurrence treated by mastectomy. During the first wave of COVID-19 in England and Wales, the Royal College of Radiologists published guidance recommending the use of five-fraction ultra-hypofractionated radiotherapy (HFRT) regimens for eligible patients based on randomised controlled trial-based evidence demonstrating non-inferiority compared with standard moderate-HFRT. We evaluated the uptake of this recommendation by NHS services in England and Wales as part of the National Audit of Breast Cancer in Older Patients.
Methods: Women aged ≥50 years undergoing surgery for EBC from Jan-2019 to Jul-2020 were identified from the Rapid Cancer Registration

Dataset for England and Wales Cancer Network data, linked to routine national hospital and radiotherapy datasets.
Results: Among 35,561 women having surgery for EBC, 71% received post-operative radiotherapy. Receipt of 26 Gray in five fractions (26Gy5F) increased from 12% in Mar-2020 to 70% in Apr-2020. Regional variation in the use of 26Gy5F during Apr-Jul 2020 was similar by age, ranging from 49-87% among older women. Use of 26Gy5F was characterised by no known nodal involvement, no comorbidities, initial BCS. Of radiotherapy to the breast/chest wall, 85% was 26Gy5F; 23% if radiotherapy included regional nodes.
Conclusions: There was a striking increase in use of 26Gy5F regimens for EBC, among women (≥50 years), within a month of recommendations in guidance published at the start of the COVID-19 pandemic in England and Wales. This work includes patient data collated by the National Disease Registration Service.

P110

ROLE OF ONCOTYPE-DX TESTING IN OLDER VERSUS YOUNGER WOMEN WITH HORMONE RECEPTOR POSITIVE & HER-2 NEGATIVE EARLY STAGE BREAST CANCER

Saira Khawaja, Yousef Shariaha, Anita Huws, Sohail Khan, Darren D'Souza, Asma Munir. *Hywel Dda Health Board, Carmarthen, United Kingdom*

Introduction: Oncotype DX Breast Recurrence Score (RS) has proven to be useful in predicting the risk of recurrence and the potential benefit of chemotherapy in hormone-receptor positive, HER-2 negative early-stage breast cancer patients. The aim of this study (part of service evaluation) was to explore the role of Oncotype DX recurrence scores in the treatment of older versus younger women, treated within the Hywel Dda Health-Board between 2010 to 2018.
Methods: Patients' demographics and treatment were retrieved from CANISC database and medical records. 10-year survival data was computed using SPSS vs-19.
Results: A total of 448 patients had Oncotype Dx testing done for early-stage, ER/ PR positive, HER-2 negative breast cancer. 395 patients were aged 69 or less and 53 were aged 70 and above. The proportion of patients with low (<18), intermediate (18-30), and high (>30) RS were not different among older versus younger women (p=0.468). The proportion of patients receiving chemotherapy decreased with age in all RS categories. This difference was statistically significant in the high RS category (p=0.015). The median follow-up was 61 months (range 0-120 months). 5yr breast cancer specific survival was statistically worse for patients older than 70 years with intermediate RS (78% vs 99%, p= 0.005) and high RS (39% vs 91%, p= 0.032).
Conclusion: Older patients with high Oncotype DX RS are less likely to receive chemotherapy. They also have worse BCSS as compared to younger women. Frailty and omission of chemotherapy may have contributed to the worst survival in older women, which needs further exploration.

P111

A RETROSPECTIVE ANALYSIS OF A SINGLE-CENTRE EXPERIENCE WITH ADMINISTRATION OF NEOADJUVANT CHEMOTHERAPY PRIOR TO SURGICAL REMOVAL OF BREAST TUMOUR

Dharsshini Reveendran [1], Catherine Tait [2], Brian Hogan [3]. [1] *Leeds General Infirmary, Leeds, United Kingdom;* [2] *Bradford Teaching Hospitals NHS Foundation Trust, Bradford, United Kingdom;* [3] *Leeds Teaching Hospitals NHS Trust, Leeds, United Kingdom*

Introduction: Neoadjuvant chemotherapy (NACT) is increasingly used to aid breast preservation surgery for patients with non-conservable disease at presentation. NICE guidelines recommend offering primary systemic therapy to patients with ER- disease and/or HER2+ disease and for those with ER+ disease to reduce tumour size. This retrospective study aimed to analyse the incidence of local and systemic recurrence post NACT.
Methods: A retrospective analysis of NACT usage was conducted from January 2011 to December 2020 at the Bradford Royal Infirmary. Clinical data of patients who received NACT were collected using the local Breast Unit database, Electronic Patient Record (EPR) and Systm1. Data included patient demographics, type of breast and axillary surgical procedure, histopathology of breast tumour, pathological response to NACT and time to local and/or systemic recurrence.
Results: 202 patients received NACT for breast cancer between January 2011 to December 2020. Analysis showed an increasing use of NACT ranging from 2.19% of all cancers in 2013 to 14.5% in 2020. 89/202 patients underwent breast preservation surgery. 1 patient developed local recurrence at median follow up of 26 months. 42 patients developed systemic recurrence, and 40 of them had residual disease found at surgery post NACT at median follow up of 24 months.
Conclusion: Our unit has been increasingly using NACT over the last 8 years in line with guidance. Breast conserving surgery post NACT is associated with a low risk of local recurrence. The risk of systemic disease progression post NACT is very low for patients who have complete pathological response.

P112

AUDITING A NIPPLE AREOLA MICROPIGMENTATION CLINIC

Victoria Harmer. *Imperial College Healthcare NHS Trust, London, United Kingdom*

Introduction: A nurse-led nipple areola micropigmentation service commenced in 2012. The service was audited in 2013 and 2015. The clinic was suspended during the first wave of COViD-19 and then reaudited when it restarted in 2021.
Methods: The first 10 consecutive patients were asked to complete the audit. The audit tool was the same used for similar purposes in 2013 and 2015. The tool consists of two likert scales asking the patient how informed and involved they felt in decisions regarding shape, position and colour of the new nipple-areola, and how satisfied they were with results. An additional question asking how safe they felt from a C-19 point of view was added.
Results: The first 10 consecutive patients agreed to take part in the audit. The patients had a combination of implant-based and autologous reconstruction. 9 felt very informed and involved in decisions about the shape, position and colour (10/10, one 8/10). 9 felt very satisfied with the results (10/10). 1 patient rated 9/10. Free text comments included;
- Having the procedure has enhanced my contentment
- Excited and pleased
- It gives confidence
- It's very satisfying to know that this could potentially be the final part of a very long process
- Aesthetically it will improve my confidence
- I am pleased. Just need to go a bit darker next visit
- Was a good procedure and has helped me feel a bit more 'complete' as a woman
- Elated, relieved

Conclusions: This service remains a well-evaluated one and the patients felt safe from a C-19 stance.

P113

CONTENT SPECIFICATION FOR A PATIENT DECISION AID FOR BRCA MUTATION CARRIERS

Yvonne Hanhauser [1], Sarah McGarrigle [2], Manria Polus [2], Carol Spillane [1], Niamh Byrne [1], Geraldine Prizeman [2], Amanda Drury [3], Elizabeth Connolly [4], Anne-Marie Brady [2]. [1] *St James's Hospital, Dublin, Ireland;* [2] *Trinity College Dublin, Dublin, Ireland;* [3] *University College Dublin, Dublin, Ireland;* [4] *St James's Hospital, Dublin, Ireland and Trinity College Dublin, Dublin, United Kingdom*

Women with a pathogenic mutation in the BRCA1 or BRCA2 genes have an elevated lifetime risk of developing breast and ovarian cancer. To address this risk, women are managed with a combination of surveillance and/or risk-reduction strategies. Decisions about risk-management strategies can be complex, personal and multifactorial. The overall aim of this project is the development of a web-based patient decision-aid toolkit for BRCA mutation carriers that will improve the decision-making process by

providing the user with information about their cancer risk, options for risk-management and potential benefits and side-effects. The content specification phase of this study is presented herein. With appropriate ethical approval; a mixed-methods approach was used to identify suitable content for the decision-aid. A decision-making needs assessment was conducted to identify the information needs of women with a BRCA mutation. Semi-structured interviews were held with cancer unaffected BRCA mutation carriers (n = 16) and key stakeholders including healthcare professionals, policy makers and patient group representatives (n= 10). Data were analysed by thematic-analysis. Systematic scoping reviews were conducted to synthesise relevant evidence on risk-management options, benefits, harms and the development and testing of patient decision-aids in general. Content for the decision-aid was refined using a Delphi process to build consensus on items for inclusion in the decision-aid amongst a diverse panel of experts (n=13). Data analysis is ongoing and will be presented at the conference. The content identified through the qualitative needs assessment, evidence synthesis and Delphi process will be used to develop a prototype patient decision-aid.

P114

THE DEVELOPMENT OF A NURSE-LED SECONDARY BREAST CLINIC TO ENSURE HOLISTIC NEEDS ARE IDENTIFIED AND MET

Rachel Pastore, Gillian Harris, Amanda Snippe. *Manchester Foundation Trust, Manchester, United Kingdom*

A person's age, gender and ethnicity are no predictors as to whether patients with a history of a breast cancer diagnosis will develop secondary (metastatic) breast cancer. The actual population affected is unknown due to poor data collection. Until recently their needs were often unrecognised and unmet, although the impact of a non-curative diagnosis is acknowledged to be immense. There was a noticeable gap in the provision of care delivery since the introduction of treatment summaries, which actively identified and addressed the unmet needs of patients with a primary breast cancer diagnosis as well as ensured they were fully informed and supported. To ensure equality, a nurse-led secondary breast clinic was established. During this appointment the patient is offered a HNA and the CNS will discuss and address any concerns highlighted. This provides patients with time to discuss their concerns and feel comfortable to ask any questions they may have regarding their treatment plan and prognosis. Any referrals required will be completed plus the patient can be signposted to appropriate support services. From this initial appointment a plan will be made as to how to support these patients further, whether this will be face-to-face or by telephone. This will be dependent on their needs and any psychological morbidities or anxieties. The initial benefits have been that patients are more inclined to fully discuss their concerns with a CNS as previously they may have been more concerned their treatment would be stopped if it was perceived by the Clinician that they were not coping.

P115

INTRAOPERATIVE SENTINEL LYMPH NODE ANALYSIS AFTER NEOADJUVANT CHEMOTHERAPY IN BREAST CANCER PATIENT - A 5 YEAR SINGLE CENTRE COHORT STUDY

Louise Alder [1], Sam Laali [2], Kago Relaeng [2], Ramsey Cutress [2]. [1] *Portsmouth Hospitals University NHS Trust, Portsmouth, United Kingdom;* [2] *University Hospital Southampton, Southampton, United Kingdom*

Introduction: Intraoperative analysis (IOA) of sentinel lymph nodes is effective, and reliable for assessing node in breast cancer allowing for immediate clearance. Metasin® is a quantitative PCR Assay that detects CK 19 and mammaglobin. ABS guidance does not advocate IOA methods after neo-adjuvant chemotherapy (NACT) due to concern regarding detection of residual disease. We completed a retrospective comparative review of all consecutive patients who had IOA during SNB following NACT.
Method: This was a single centre, retrospective cohort of 1335 breast cancer patients who underwent SNB between 2015-19. Those receiving NACT were selected and collected directly to Excel.
Results: There were 63 nodes identified with both IOA and histology SLB results (23 patients). All patients were radiologically node negative prior to chemotherapy. The median age was 47, with a median cancer size of 27mm and a median of 3 SNs retrieved. Histological subtypes included 56% (n=13) HER2 positive, 30% (n=7) ER/PR/HER2 negative and 13% (n=3) ER positive/HER2 negative. IOA identified three nodes positive for CK-19. 2 macrometastases and 1 micrometastases. All sentinel nodes with disease on histology were identified by IOA (100% sensitivity). Complete pathological response occurred in 52% (n=12). 8.7% (n=2) patients showed lymph node fibrosis with an expected negative IOA. Median follow-up was 4 years during this time 3 patients died of metastatic cancer.
Conclusion: The sensitivity of Metasin® analysis for residual disease in the sentinel node following NAC was 100%. Metasin®, does not and, is not designed to detect residual fibrosis. This study suggests that Metasin® IOA would be acceptable for NACT IOA.

P116

RISK-REDUCING MASTECTOMY AND RECONSTRUCTION - A TEN-YEAR REVIEW OF METHODOLOGICAL TRENDS AND OUTCOMES

Aiman Aslam [1], Zaki Arshad [1], Amir Ahmed [1], Fawz Kazzazi [2], John Benson [3], Parto Forouhi [3], Amit Agrawal [3], Sarah Benyon [3], Michael Irwin [3], Charles Malata [3]. [1] *Cambridge University School of Clinical Medicine, Cambridge, United Kingdom;* [2] *Imperial Healthcare NHS Trust, London, United Kingdom;* [3] *Addenbrooke's Hospital, Cambridge University Hospitals NHS Foundation Trust, Cambridge, United Kingdom*

Introduction: Risk-reducing mastectomy (RRM) substantially decreases the risk of breast cancer in individuals with higher susceptibility due to strong family history or genetic mutations. This retrospective study evaluates cases of RRM, and subsequent reconstruction performed at a tertiary referral centre over the last decade, with emphasis on mastectomy and reconstructive trends.
Methods: All cases of RRM performed between January 2010 and January 2020, divided into two groups corresponding to the first half (group 1) and second half (group 2) of the decade, were retrospectively reviewed. Data collected included demographics, genetic test results, family/personal breast cancer history, co-morbidities, mastectomy type, reconstruction type, surgical histopathology findings and complications.
Results: 167 patients (group 1= 76, group 2= 91) underwent RRM, with a significant increase in RRM cases over time despite negative genetic test results (p=0.047). There was a significant difference in type of mastectomy performed (Fisher's exact test, p=0.029); post-hoc analysis revealed that the proportion of nipple-sparing mastectomies increased (10.5% to 25.3%, p=0.016). Alongside an increase in acellular dermal matrix (ADM) usage from 20% to 66% ($\chi 2$=25.0, p<0.0001), post-hoc analysis of reconstruction type revealed a rise in the proportion of implant-only reconstructions (58% to 81.8%, p<0.001), and decrease in combined flap-implant reconstructions (17.4% to 1.14%, p<0.001).
Conclusion: This study documents a recent increase in nipple-sparing RRM compared to more traditional skin-sparing techniques. Concomitantly, post-RRM reconstruction has progressively become solely implant-based, to coincide with a rise in ADM usage. This is consistent with national trends towards fewer complex autologous procedures. Approved locally as service-evaluation project.

P117

10 YEARS OF CHANGING TRENDS IN RECONSTRUCTIVE CHOICES IN PATIENTS PRESENTING TO THE GUILDFORD GENE CARRIER CLINIC

Shramana Banerjee [1], Meera Joshi [1], Dimitrios Kokkonis [1], Connie Saunders [1], Kirakoula Georgas [1], Jemma Hopper [1], Adam Blackburn [2], Jonathan Horsnell [1], Tracey Irvine [1]. [1] *Royal Surrey County Hospital, Guildford, United Kingdom;* [2] *Queen Victoria Hospital, East Grinstead, United Kingdom*

Background: The Guildford dedicated gene carrier clinic identifies, counsels, and optimises surgical decision making of patients carrying high risk cancer predisposition genes. Currently 4 genes are identified, and carriers can discuss breast risk reduction (BRR) surgery. We reviewed the

type of surgery chosen and trend over 10 years to improve future resource management.

Methods: Our prospective carrier database was reviewed to assess patient characteristics and surgical management.

Results: 339 patients were referred between 2011 and 2021. Median age at a mutation diagnosis was 40 years (18-74yrs). 39% (n=133) had BRCA1, 50% (n=169) had a BRCA2, 0.9% (n=3) had both BRCA1 & 2 mutation, 1.8% (n=6) had PALB and 0.9% (n=3) had CHEK mutations. Breast risk reducing surgery (RSS) was performed in 29.5% (n=100) in this 10-year period. Only 12% of these patients had no reconstruction. The median age of patients having RRS was 40 (range 23-70). Reconstruction types included implant reconstruction (55%) with autologous reconstruction 45%. Deep Inferior Epigastric Perforator (DIEP) was performed in 50% with 25% Latissimus Dorsi (LD) Transverse upper Gracillis (TUG) 23% with 2% having L-shaped Upper Gracilis (LUG) in the autologous sub-group. Over the ten years the dominant choice of reconstruction has changed with 92% choosing implant based reconstruction (83% with acellular dermal matrix) from 2012-2016 compared to 69% choosing autologous reconstruction mostly with DIEP from 2017-2021.

Discussion: Patients are increasingly choosing autologous reconstruction when faced with a gene carrier diagnosis. This has important implications for resource, service and training provisions for the future.

Table 1

	Ngarkar et al 2013	Mohan et al 2015	Thacoor et al 2018	Chan et al 2019	This study
Reconstruction technique	DIEP	All abdominal based	DIEP	All abdominal based	DIEP
Cohort size	25	42	35	25	138
Donor site dead spacing reducing technique	Progressive tension suture	Progressive tension suture	Quilting suture	Progressive tension suture	None
Incidence of seroma	0	2.4% (1)	2.85% (1)	0	2.2% (3)
Incidence of haematoma	0	0	0	0	0
Incidence of wound dehiscence	8.0% (2)	14.0% (6)	8.6% (3)	0	6.5% (9)
Incidence of umbilical loss	0	4.8% (2)	0	4% (1)	0
Total drain free complication rate	8.0% (2)	21.4% (9)	11.4% (4)	4.0% (1)	8.7% (12)
Average length of hospital stay	not recorded	3.7	3.6	5.4	4.2 +/- 1

P118

ADJUNCT AND DRAIN FREE CLOSURE OF THE DEEP INFERIOR EPIGASTRIC PERFORATOR FLAP DONOR SITE IN BREAST RECONSTRUCTION: A LITERATURE REVIEW AND SINGLE SURGEON EXPERIENCE

Christie Brennan, Ammar Allouni, Augustine Akali. *Hull University Hospital Trust, Hull, United Kingdom*

Donor site seroma and wound dehiscence in Deep Inferior Epigastric Perforator (DIEP) free flaps can be problematic. The use of donor site drains is debated, and alternative closure techniques demonstrate favourable outcomes. However, no literature exists on patient outcomes whereby the donor site is closed with no drain or dead spacing reducing technique. This senior author has performed drain free layered closure, without adjuncts since 2016. We evaluate the outcomes of this technique against the literature. A single centre, single surgeon, five-year prospective study of all DIEP flap breast reconstruction and review of literature. 138 patients, mean age 50.72 +/- 9.16 (range 26-73) underwent DIEP breast reconstruction across 5 years (78% unilateral (n=107), 22% bilateral (n=31)). Incidence of drain free specific donor site complications was 8.7%, with wound breakdown the most common (9/138, 6.5%). However, only one patient required secondary closure. Average length of hospital stay was 4.2 +/- 1 days (range 2-9). Our patient outcomes were comparable or superior to those in transferrable studies where drain free but adjunct assisted closure was performed (Table 1). Abdominal drains can serve as a psychological barrier for patients in expediting discharge, as well as being painful and cumbersome. This translates into significant cost implications. Evidence suggests superior outcomes are achieved when dead space reducing adjuncts rather than drains are used. However, our data suggests that DIEP donor sites can also be safely closed without adjuncts, which may unnecessarily lengthen procedure time, consume resources and increase localised foreign body reactions, without good indication.

P119

IMMEDIATE PRE-PECTORAL BREAST RECONSTRUCTION USING ACELLULAR DERMAL MATRIX - RESULTS FROM A SINGLE CENTRE FROM UNITED KINGDOM

Mihir Chandarana, Pavneet Kohli, Ahmed Gaber, Monika Kaushik. *Glenfield General Hospital, Leicester, United Kingdom*

Introduction: Pre-pectoral implant-based reconstructions are a relatively recent addition to the armamentarium of implant-based reconstruction. There is emerging evidence regarding outcomes with paucity of long-term results. We report on outcomes of pre-pectoral implant-based reconstruction (IBR) from a single centre in the United Kingdom.

Methods: All patients operated for mastectomy with immediate, one-stage or two-stage pre-pectoral IBR using a single variety of acellular dermal matrix from 2016 to 2021 were included in the study. Patient demographic factors and treatment characteristics were noted. Complications and implant losses for the entire follow-up period were recorded. Complications within 90 days were categorised as early complications and those with Clavien-Dindo grade IIIb or higher as major complications. Factors affecting complications and implant loss rates were analysed.

Results: 52 patients underwent 73 reconstructions in the study period with a mean follow-up of 16.66 months. Patient demographics and treatment characteristics are listed in Table 2. Overall early complication rate was 28.8%, major complication rate was 11% and implant loss rate was 2.7%. About 5.5% patients had an unplanned readmission within 30 days and 4.1% of patients required a surgical intervention for early complications. 4% of reconstructions had a delayed complication. None of the possible contributing factors had a significant impact on early complication or implant loss rates.

Conclusion: Pre-pectoral immediate implant-based reconstructions have acceptable outcomes. Larger studies are needed to confirm these results and patient-reported outcomes need to be evaluated.

Table 2

Characteristic	Number (%)
Median age (years)	49
Median BMI (kg/m2)	25.40
Smoker	5(6.8)
Previous breast radiotherapy	5(6.8)
Neoadjuvant chemotherapy	3/38(7.89)
Indication for mastectomy	
Therapeutic	38(52.1)
Risk-reduction	35(47.9)
Laterality	
Unilateral	31(42.5)
Bilateral	42(57.5)
Stage of reconstruction	
One-stage	49(67.1)
Two-stage	24(32.9)
Axillary surgery	
Sentinel lymph node biopsy	32(43.8)
Previous SLNB	4(5.5)
Axillary node clearance	2(2.7)
None	35(47.9)
Mean breast weight (grams)	472.14(94-1460)
Mean implant volume	391.5(150-600)
Mean hospital stay (nights)	1.15(0-3)
Median drain duration (days)	9(2-17)
Adjuvant chemotherapy	8/38(21.05)
Adjuvant radiotherapy	6/38(15.79)

P120

OBJECTIVE COMPARISON OF RECOVERY AFTER DEEP INFERIOR EPIGASTRIC PERFORATORS (DIEP) BREAST RECONSTRUCTION VERSUS MASTECTOMY-ONLY, USING WEARABLE ACTIVITY MONITORS

Nur Amalina Che Bakri [1], Richard Kwasnicki [1], Catharina Moenig [2], Kieran Dhillon [2], Salem Elias [2], Zoha Imam [2], Luqman Tenang [2], Ara Darzi [1], Daniel Leff [3]. [1] *Department of Surgery and Cancer, Imperial College London, London, United Kingdom and Academic Surgical Unit, St Mary's Hospital, London, United Kingdom;* [2] *Department of Surgery and Cancer, Imperial College London, London, United Kingdom;* [3] *Department of Surgery and Cancer, Imperial College London, London, United Kingdom and Breast Unit, Charing Cross Hospital, London, United Kingdom*

Introduction: Current validated tools to measure recovery after breast surgery are mainly subjective and prone to bias. Objective assessment using wearable activity monitors (WAMs) would allow quantitative analysis of recovery by measuring physical activity (PA). Whilst clinical and patient-reported outcomes suggest Deep Inferior Epigastric Perforators (DIEP) is associated with significant morbidity, we aimed to clarify the impact of DIEP on physical recovery.
Methods: A single-centre, prospective, non-randomised, comparative observational study was conducted involving 33 patients. Consecutive patients undergoing breast and reconstruction surgery were identified from theatre lists. Eligible consented patients wore WAMs (AX3-triaxial accelerometer) on both wrists at least one day pre-operatively and up to two weeks post-operatively. The Mann-Whitney U test was used to analyse the PA between different surgeries.
Results: A significantly greater PA reduction was observed in DIEP reconstruction compared to mastectomy patients across post-operative days 1-3 (Mean: 44% vs 61.2%, $p<0.05$). The most significant PA reduction for DIEP reconstruction compared to mastectomy patients was found to be on post-operative day 1 (Mean: 30.4% vs 53.6%, $p<0.05$). In week 2, the PA levels for DIEP and mastectomy patients were observed to be similar, where there was no significant difference in the PA (Mean: 75.1% vs 85.9%, $p=0.24$).
Conclusion: Patients after DIEP reconstruction experienced more significant morbidity compared to mastectomy alone, especially during the first few days post-operatively. This information helps clinicians and patients have informed discussions about expectations for recovery and in deciding whether to undergo DIEP reconstruction during the shared decision-making process.

P121

FEASIBILITY OF BREAST LESION LOCALISATION USING SIRIUS PINTUITION; A NEW MAGNETIC SEED LOCALISATION SYSTEM - REPORT OF THE FIRST DOZEN CASES IN THE UK

Rachel Foster, Sonia Bathla, Olga Harris, Ramesh Jois, Tamara Kiernan, Atanu Ray, Leena Chagla. *St Helen's and Knowsley Trust, Prescott, United Kingdom*

Introduction: Impalpable breast cancers can be localised using different techniques. Recently, magnetic seed localisation systems have been developed and shown to offer benefits over traditional wire guided techniques. This study aims to assess the feasibility of a new seed localisation device, Sirius Pintuition, at St Helen's and Knowsley NHS Trust.
Methods: Data including patient demographics, dates of procedures, tumour details, post-operative margin status, successful seed localisation, and adverse events at time of surgery was prospectively collected between January - September 2021.
Results: 12 seeds were inserted into 12 patients' breast tumours. Median age was 59 (range 46-71), tumours were n=7 invasive, n=5 DCIS. The median size on imaging was 21 mm. 12/12 seeds were detectable transcutaneously prior to surgery. 3 patients had involved margins, 2 of which required re-excision surgery, this is in keeping with national rates for re-excision. Operation success as measured by seed retrieval was n=12/12. Median post-op size was 16mm invasive and 50mm DCIS. The median specimen weight was 43g (range 21-120g). Surgeons viewed the technique favourably, finding the device easy to use, particularly the real time feedback of distance from the seed. The new device represents a cost saving compared to the currently used device and allows intraoperative use of metallic retractors.
Conclusions: The first 12 cases performed at St Helen's and Knowsley NHS Trust have demonstrated the feasibility of the Sirius Pintuition device. Future work is planned for a multi-centre, international evaluation of the device in a larger cohort of patients across a greater number of hospitals.

P122

FINANCIAL IMPACT OF POST-MASTECTOMY RADIOTHERAPY AFTER IMMEDIATE AUTOLOGOUS BREAST RECONSTRUCTION

David Hakim [1], Michael Boland [1], Yasmin Grant [2], Lana Kovacevic [2], Elias Mossalios [3], Francis Henry [1], Simon Wood [1], Paul Thiruchelvam [1], Daniel Leff [1]. [1] *Imperial College Healthcare Trust, London, United Kingdom;* [2] *Imperial College London, London, United Kingdom;* [3] *Department of Social Policy, London School of Economics, London, United Kingdom*

Introduction: Post-mastectomy radiotherapy (PMRT) in patients who have undergone immediate autologous breast reconstruction (IBR) increases morbidity and the need for further surgery. However, there remains a paucity of data regarding the financial cost of PMRT in this cohort. The aim was to compare patient level costs between irradiated and unirradiated autologous breast reconstructions.
Methods: After service evaluation approval (ID:661), a retrospective review of all patients undergoing DIEP flap autologous IBR between 2014 and 2020 was performed. Clinicopathological characteristics as well as details of radiotherapy treatments were recorded and propensity score matching performed between groups. Costing analysis was formulated using patient level information and costing system (PLICS) data.
Results: Complete financial data was available on 116 patients undergoing IBR with a DIEP flap, of whom 55 received PMRT and 61 were spared irradiation. Median (IQR) costs in the IBR and PMRT group were £28751

(IQR=£18521) compared to £17233 (IQR=£9722) in patients not receiving PMRT (unpaired t test; p<0.01). 20% (11/55) of patients required additional corrective surgical procedures due to PMRT morbidity. 22% (12/55) of patients required ≥3 additional OPD visits due to PMRT morbidity. On multivariate regression analysis, cost (p<0.01) and BMI ≥25 (p<0.01) were the only co-variates to be significantly different between irradiated and unirradiated autologous breast reconstructions.
Conclusion: PMRT after autologous IBR is associated with a substantial financial burden compared to those not receiving PMRT. Although PMRT is necessary for certain patients, clinicians must be aware of financial implications when deciding on adjuvant therapies, and the costs of alternative strategies such as preoperative radiotherapy merit consideration

P123

ATTITUDES TO ONCOPLASTIC BREAST SURGERY AND AXILLARY TREATMENT AMONGST BREAST HEALTHCARE PROFESSIONALS

Adam Heetun, Edward St John, Avi Agrawal, Lucy Mansfield, Sophie Helme. *Queen Alexandra Hospital, Portsmouth, United Kingdom*

Introduction: Oncoplastic treatment options have been increasing over the years with mammoplasty and chest wall perforator techniques available to patients. We aimed to investigate the personal attitudes of specialist breast healthcare professionals to oncoplastic and axillary treatment using a standardised questionnaire.
Methods: An anonymous survey to breast healthcare professionals was performed in our region. Data was collected on gender, role and ability to perform oncoplastic surgery. Questions were about a hypothetical setting and considering personal views only - "if you or your partner had a solitary/Multifocal/Multicentric breast cancer (2cm tumour(s), c/d cup), would you opt for - breast conserving surgery (BCS) or Mastectomy (Mx)". "If you or your partner had a T1-2 breast cancer and 1-2 positive sentinel nodes would you opt for - Axillary node clearance (ANC), Axillary radiotherapy (A-Dx), no further treatment (NFT)."
Results: Respondents were: 6 Male, 19 Female. Role was: 17 Surgeon, 1 Oncologist, 3 Nurse Practitioner, 4 Radiologist. 15 respondents perform oncoplastic surgery, 10 do not. For solitary breast cancer n=20 BCS and n=5 Mastectomy. For multifocal breast cancer n=10 BCS and n=14 Mastectomy. For Multicentric breast cancer n=3 BCS and n=22 mastectomy. Regarding the axilla n=17 ANC, n=7 A-Dx, n=1 NFT. Of those that offer oncoplastic surgery (n=15), all opted for BCS for solitary breast cancer, n=10 BCS Multifocal, n=2 BCS Multicentric.
Conclusion: Despite advances in oncoplastic breast surgery, our results show reluctance within the breast healthcare profession to use oncoplastic techniques, especially for multifocal and multicentric disease. High quality evidence is urgently required to support the use of oncoplastic breast surgery in the multifocal/multicentric setting.

P124

NIPPLE SPARING MASTECTOMY WITHOUT RECONSTRUCTION+/- LIPOMODELLING IN SMALL BREASTED WOMEN

Natalie Johnson, Katherine Krupa, Theo Nanidis, Rachel O'Connell, Kelvin Ramsey, Jennifer Rusby. *The Royal Marsden Hospital, London, United Kingdom*

Introduction: Women who require or request mastectomy should be offered immediate breast reconstruction. However, immediate reconstruction poses specific issues for women with a low body mass index (BMI) who often have a breast volume of 200cm^3 or less yet a breast width greater than 12cm. Currently, the smallest implant on the market with a width of 12cm is the Sebbin extra short height, low projection (3.6cm) which has a volume of 210 cm^3. Nipple-sparing mastectomy without reconstruction has been reported in South East Asia but not, to our knowledge, in a UK population.
Methods: Women with breast weights of less than 200g who had undergone NSM without reconstruction were identified for review of images. The mastectomy surgery was performed using standard techniques via an inframammary fold incision. Some women underwent immediate or delayed lipofilling to achieve a breast mound but most have chosen to remain flat.
Results: Six procedures have been undertaken since July 2019 with the majority occurring during the pandemic. Each of these patients had undergone nipple-sparing mastectomy without reconstruction by choice. The BMI ranged from 18 kg/m^2 to 23 kg/m^2. Most patients had a small cup size with breast weights between 70 and 190g. Illustrative photographs will be presented with patients' consent.
Conclusions: Having reviewed images of the women who have undergone this procedure, the multidisciplinary oncoplastic team are satisfied with the aesthetic outcomes and remain willing to continue to offer this option to patients who request this procedure or who are suitably small-breasted.

P125

PUSHING THE BOUNDARIES OF PEDICLED CHEST WALL PERFORATOR FLAPS AND PATIENT REPORTED OUTCOMES

Ishita Laroiya, Shaista Zafar, Melissa Tan, Geeta Shetty. *City Hospital Birmingham, Birmingham, United Kingdom*

Introduction: Very few studies have explored the use of chest wall perforator flaps (CWPFs) for indications out of the traditional boundaries.
Methods: Out of 145 patients, 10 patients who underwent CWPFs for novel indications were included in the analysis. Using a pre-existing database, the characteristics of tumour and post-operative complications were noted. The patient reported outcomes (PROMs) were measured using a questionnaire.
Results: The patient characteristics and the procedures performed are summarised in Table 1.

Table 1

Procedure performed	Indication (number)	Complications Number- Type	Clavien Dindo Grade
Nipple sparing mastectomy + Sentinel lymph node biopsy(SLNB) + Immediate reconstruction with CWPF	Multifocal DCIS (2) Recurrence (1) Persistent margin positivity (1)	Nil	
Implant exchange + cover with CWPF with skin	Implant Complications (2)	1- Implant re-infection	IIIa
Wide local excision with skin + SLNB + CWPF Flap with skin	Large tumours close to skin/NAC (2)	Nil	
Wide local excision + SLNB + MICAP Flap	Upper inner quadrant tumours (2)	Nil	

The median follow up was 7 months (range 1-9 months). The PROMs assessment showed that 83.3% (5/6) were satisfied with the post-operative breast appearance. 66.6% (4/6) felt the results of their surgery to be good. 66.7% (4/6) have no/little persistent pain. None of the patients had difficulty in carrying out normal activities.
Conclusion: The applications of CWPFs could be extended for whole breast reconstruction, management of implant complications, for upper inner quadrant tumours and for providing skin cover in a selected subset of patients with a low complication rate and a high patient satisfaction rate.

P126

POST-MASTECTOMY IMMEDIATE BREAST RECONSTRUCTION IN OLDER WOMEN - A SYSTEMATIC REVIEW

Rachel Xue Ning Lee [1], Ruth Parks [2], Maria João Cardoso [3], Kwok Leung Cheung [2]. [1] *Queen's Medical Centre Campus, Nottingham University Hospitals NHS Trust, Nottingham, United Kingdom;* [2] *School of Medicine,*

University of Nottingham, Nottingham, United Kingdom; [3] Breast Unit, Champalimaud Foundation and Nova Medical School Lisbon, Lisbon, Portugal

Background: Post-mastectomy immediate breast reconstruction (PMIBR) improves patients' quality of life and is an important component of the multidisciplinary care of breast cancer patients. Despite the increasing proportion of older women (aged >65 years) living with breast cancer, studies suggest there is still a lower uptake of PMIBR in older women. We aim to explore reasons for the disparity in uptake of PMIBR in older women compared to younger women.
Methods: A systematic search of Pubmed and EMBASE was conducted up to March 2021. Eligible studies compared PMIBR rates between younger and older women with invasive primary breast cancer. Cases of DCIS were excluded.
Results: Our review included ten studies, appraising 64,169 women, of which 313,298 (67%) were younger and 152,836 (33%) older women. Overall, 45% of younger women underwent PMIBR, in contrast to 10% of older women. Only two studies explored factors affecting uptake of PMIBR in older women. Women of older age, lower socioeconomic status, ethnic minority and more comorbidities were less likely to undergo PMIBR. Surgeon's practices like providing preoperative information and patient involvement in decision-making process played an influential role in patient's decision of having PMIBR. Having insurance coverage and attending hospitals in city area were predictive factors of having PMIBR.
Discussion: Uptake of PMIBR in older women is significantly lower than in younger women and there is a paucity of data in the literature on the barriers and facilitators to PMIBR in older women. Considering the increasing proportion of older women living with breast cancer, further research is warranted.

P127

OUTCOME REPORTING IN THERAPEUTIC MAMMAPLASTY: A SYSTEMATIC REVIEW

Alice Lee [1], Richard M. Kwasnicki [1], Hasaan Khan [2], Yasmin Grant [3], Abigail Chan [2], Angela EE. Fanshawe [4], Daniel R. Leff [1]. [1] *Department of Surgery and Cancer, Imperial College London, London, United Kingdom; [2] Faculty of Medicine, Imperial College London, London, United Kingdom; [3] Department of BioSurgery, Imperial College London, London, United Kingdom; [4] Charing Cross Hospital, Imperial College NHS Trust, London, United Kingdom*

Introduction: Therapeutic mammaplasty (TM) is an oncological procedure, which combines tumour resection with breast reduction and mastopexy techniques. Previous systematic reviews have demonstrated oncological safety of TM, but inconsistent reporting of quality-of-life, aesthetic and functional outcomes. This systematic review aims to identify all outcomes reported in clinical studies of TM to facilitate development of a Core Outcome Set.
Methods: Medline, EMBASE, CINAHL and Web of Science were searched from inception to 05/08/20. Included studies reported clinical outcomes following TM for adult women. Two authors independently screened articles for eligibility. Primary outcomes included the type of reported outcomes, their definitions and outcome measures. Timing of outcome measurement was a secondary outcome.
Results: Of 5709 de-duplicated records, 148 were included in the narrative synthesis. Most studies (n=102, 69%) reported measures of survival and/or recurrence; the majority (n=75, 74%) had follow-up times of <5 years. Aesthetic outcome was reported in 75 (51%) studies using mainly subjective, non-validated measurement tools. Timing of aesthetic assessment was defined in only 48 (64%) studies and was highly variable; none included a pre-operative baseline. Few studies reported quality-of-life (n=30, 20%), functional (n=5, 4%) or cost-effectiveness (n=28, 19%) outcomes.
Conclusions: Given the equivalence of TM and mastectomy in terms of oncological outcomes, treatment decisions are often driven by aesthetic, functional and cost-effectiveness outcomes, which are infrequently and inconsistently reported with non-validated measurement tools.

P128

SHOULD WE FOLLOW THE GUIDANCE OF ASSOCIATION OF BREAST SURGERY ON GYNAECOMASTIA?

Rebecca Lefroy, Ehsan Rahman, Brian Isgar, Senthurun Mylvaganam, Raghavan Vidya, Pilar Matey, Tapan Sircar. *Royal Wolverhampton Hospital Trust, Wolverhampton, United Kingdom*

Introduction: Gynaecomastia affects up to one third of men at some point in their life. The Association of Breast Surgery (ABS) published Summary Statement on management of Gynaecomastia in January 2021. The guidance for performing imaging and biopsy are as follows:
- Imaging
- Bilateral pseudogynaecomastia: No imaging
- Bilateral gynaecomastia P2: No imaging
- Unilateral lump in age <25years: No imaging
- Unilateral lump in age >25 years and P2: No imaging
- Unilateral lump in age >25years and P3+: USS +/- mammogram according to local practice Pathology
- Biopsy only if one or more of the following: P3+, M3+, U3+.

Aims and Methods: We audited our practice in comparison to the ABS guidance. We retrospectively reviewed all male patients referred into the rapid access breast clinic between January 2020 to December 2020. The clinical records were accessed through the clinical web portal.
Results: Altogether 203 men were referred into fast track clinic, of which 137 were diagnosed with gynaecomastia. 136 patients (99%) had diagnostic imaging in the form of ultrasound scan and or mammogram. 22 patients (16%) underwent core biopsy. One patient had metastatic breast cancer from a colorectal primary. All other biopsies showed gynaecomastia. As per ABS guidance 110 patients (80%) would not have needed imaging and biopsy could have been avoided in 13/22 (59%) patients.
Conclusions: Our study shows that by following the ABS guidelines we could avoid breast imaging in 80% and avoid biopsy in nearly 60% of patients with gynaecomastia. This will save a lot of resource especially breast imaging time.

P129

SURGICAL AND ONCOLOGICAL OUTCOMES OF ONCOPLASTIC LEVEL 2 PROCEDURES VERSUS IMMEDIATE DIRECT TO IMPLANT RECONSTRUCTION WITH ADM

Konstantinos Siafakas, John Mathew. *North West Anglia NHS Foundation Trust, Peterborough, United Kingdom*

Introduction: This study compares the surgical and oncological outcomes of level 2 oncoplastic breast conservation surgery (Therapeutic mammoplasty-TM, Chest wall perforator flaps-CPF) and immediate direct to Implant reconstruction (IDTIR) with ADM.
Methods: Review of prospectively collected data between Sep 2016 and Dec 2021 by a single surgeon. Patients were selected for level 2 procedures based of multiple factors (size of breast, position of nipple, site of cancer, anticipated volume of residual breast tissue, type of axillary surgery, willingness for contralateral surgery) 1. All patients were offered IDTIR irrespective of age, smoking history, BMI, and the potential need for radiation treatment. 2. Patients were followed up at 3 months and then every 12 months by surveillance mammogram and or clinical examination. Any significant difference between groups were analysed using Chi-squared test and independent t test, and a P value of < 0.05 was considered significant.
Results: There was no significant difference between the two groups with regard patient characteristics except for radiology size as shown in table 1.

Table 1

	Level 2 procedures (CPF-36 patients TM-55 patients) Median FU- 30 months (1-61)	Immediate Direct to Implant reconstruction with ADM Median FU- 32 months (1-60)	P value
No of patients	91	98	
No of breasts	92	130	
Symptomatic vs screening	75 vs 16	77 vs 21	0.505
Median BMI	27 (16-44)	27 (19-48)	0.079
Smoker	14 (15%)	21 (21%)	0.285
Bra cup A, B & C Vs D and above	45 vs 46	53 vs 45	0.524
DCIS vs Invasive	11 vs 81	14 vs 84	0.635
Neoadjuvant chemotherapy	33 (36%)	42 (43%)	0.354
Radiology size	27mm (6-76)	37mm (6-100)	<0.001
Pathology size	25mm (6-90), 11 pCR	25mm (4-100) 21 pCR	0.334
Overall complications in 3 months of surgery	4 (4%)	24 (18%)	<0.001
Complications in index breast needing minor intervention (LA)	0	12 (12%)	<0.001
Complications in index breast needing major intervention (GA)	1 (1%) Haematoma	9 (9%) 2 haematomas, 4 losses of recon, 2 wound dehiscence /threatened wound, 1 change of implant	0.012
Additional revision surgery + symmetrisation	13 (14%)	57(44%)	<0.001
Revision surgery on index breast	3 (3%)	37 (38%)	<0.001
Local recurrence	0	0	>0.05
Regional recurrence	0	1 (1%)	>0.05
Distant metastasis	7 (8%)	5 (5%)	0.465
Breast cancer specific survival	85 (93%)	96 (98%)	0.120

Conclusion: Level 2 procedures were associated with significantly lower complications and revision surgery compared to IDTIR with ADM.

P130

LONG-TERM ONCOLOGICAL OUTCOMES IN IMMEDIATE RECONSTRUCTION FOLLOWING MASTECTOMY FOR BREAST CANCER

Liusaidh McClymont, Eman Dafalla, Kerry Davies, Jane Macaskill, Fiona Hogg, Alex Munnoch. *NHS Tayside, Dundee, United Kingdom*

Background: Reconstruction following mastectomy for breast cancer may be immediate or delayed. Immediate reconstruction offers superior aesthetic results and improved psychological outcomes. There is concern that rates of cancer recurrence could be higher in immediate breast reconstruction due to any delay in adjuvant therapy.
Aims: The aim of this study was to evaluate the oncological outcomes of patients who have undergone immediate reconstruction following mastectomy for breast cancer. Outcomes were compared to National Breast Cancer outcomes from Public Health Scotland.
Methods: This is a retrospective cohort study of all patients undergoing mastectomy and immediate breast reconstruction for breast cancer within our institution over a 10 year period (2007 - 2017). Patient outcomes were analysed from the time of their surgery until the beginning of December 2021.
Results: 399 patients underwent immediate reconstruction at the time of mastectomy for breast cancer; all were female with a mean age at time of surgery of 50 years (range 24-71 years). 12 patients had bilateral mastectomy and reconstruction. 330 patients had deep inferior epigastric perforator, DIEP reconstruction (82.7%), 23 patients had transverse rectus abdominis myocutaneous, TRAM flap reconstruction (5.8%) and the remaining 11 patients had other types of reconstruction (2.8%). Median follow-up was 104 months. Disease free survival at five and ten years was 87% and 94.8%. At 10 years, overall survival and breast cancer specific survival was 62.3% and 63.7% respectively.
Conclusions: This large retrospective cohort demonstrates the oncological safety of immediate reconstruction in patients with breast cancer in comparison to national breast cancer survival rates in Scotland.

P131

MODIFIED LICAP TURN-OVER FLAP - A SIMPLE RECONSTRUCTIVE TECHNIQUE FOR LARGE BREAST LUMPECTOMY DEFECTS IN RESOURCE CONSTRAINED ENVIRONMENT

Ashutosh Mishra, S.V.S. Deo, Sandeep Bhoriwal. *All India Institute of Medical Sciences, New Delhi, India*

Introduction: LICAP is used for reconstruction of the lateral breast defects. Conventional technique described involves use of doppler to identify perforators and require special plastic surgery training to harvest the flap. We propose a simple technique using anatomical landmarks and single position rather than doppler and other special equipments.
Materials and Methods: We mark the safe zone of perforators using anatomical landmarks. Flap is dissected all around except the safe zone. With this technique, we performed a total of 20 LICAP turn-over flaps between Jan 2020 to April 2021. In all 20 cases, the indication of flap was to fill the post BCS defects in lower outer, central and upper outer quadrant of breast. All LICAP flaps were harvested by drawing anatomical landmarks and without handheld doppler.
Results: Out of 20 LICAP turn-over flaps, 11 were harvested for left breast and 9 for right breast. The median width and length of flap was 12 cm and 19 cm respectively. The additional mean operative time was 42 minutes. All LICAP flaps survived well and grade 1 Clavien dindo morbidity documented in 3 cases. Mean hospital stay was 2.5 days. There was no delay in initiation of radiotherapy. Early cosmetic outcome was good, and we are following up for the long-term outcome.
Conclusion: Modified LICAP flap can be done safely without any special equipment and with basic knowledge of the easily identifiable anatomical landmarks. This technique has short learning curve and without the need for any plastic surgery training. The early cosmetic outcomes are good.

P132

ONCOPLASTIC BREAST-CONSERVING SURGERY VERSUS CONVENTIONAL BREAST-CONSERVING SURGERY FOR BREAST CANCER: A SYSTEMATIC REVIEW AND META-ANALYSIS OF 31 STUDIES

Ali Yasen Y. Mohamedahmed, Shafquat Zaman, Shaista Zafar, Ishita Laroiya, Javeria Iqbal, Melissa Ley Hui Tan, Geeta Shetty. *Sandwell and West Birmingham NHS Trust, Birmingham, United Kingdom*

Introduction: To evaluate comparative outcomes of oncoplastic breast-conserving surgery (OBCS) versus conventional breast-conserving surgery (BCS) for breast cancer treatment.
Methods: A systematic search of multiple electronic data sources was conducted, and all eligible studies comparing OBCS and BCS were included. Characteristics of the tumour include pre-operative size on imaging and the weight of the specimen after resection. The positive margins rate, re-excision rate, and locoregional recurrence were considered oncological outcome parameters. Post-operative complications include surgical site infection (SSI), seroma, haematoma, and skin/nipple necrosis.
Results: Thirty-one studies reporting a total number of 115600 patients who underwent OBCS (n=11942) or BCS (n=103658) were included. OBCS

group showed lower risk of positive margins rate [6.9% in OBCS vs 7.7% in BCS, OR 0.76, 95% CI (0.57, 1.00), P= 0.05], re-excision rate [11.8% in OBCS vs 13% in BCS, OR 0.72, 95% CI (0.55,0.94), P=0.02], and loco-regional recurrence [1.8% in OBCS vs 2.3% in BCS, OR 0.62, 95% CI (0.40, 0.96), P= 0.03] compared to BCS group. There was no difference between the two groups regarding post-operative complications; SSI [OR 1.21, P= 0.17], seroma [OR 0.6, P= 0.23], haematoma [OR 1.07, P=0.65] and skin / nipple necrosis [OR 2.17, P=0.12].
Conclusion: Although there is a lack of level 1 evidence, the available studies demonstrate superior or at least equivalent outcomes when comparing OBCS with conventional BCS. The benefits of OBCS include dealing with larger tumours, wider surgical margins and better aesthetic results for patients.

P133

"ALL CHANGE!": TEN YEARS THAT CHANGE THE FACE OF ONCOPLASTIC BREAST SURGERY

Ahmed Morad, James Harvey. *Manchester University NHS Trust, Manchester, United Kingdom*

Introduction: The last ten years of oncoplastic breast surgery (OBS) has led to multiple changes to technique and the introduction of new procedures. We aimed to set out the changes and surgical evolution that have occurred in OBS practice in Manchester.
Methods: Retrospective analysis was performed of all breast procedures - DCIS/Invasive Cancer - performed at Wythenshawe Hospital from 2010 to early 2020. Data was obtained from the theatre electronic records. Outcomes of interest were; the change in management of breast conservation surgery (BCS), mammoplasty, perforator flaps & immediate breast reconstructive techniques. Textual Data mining techniques were used by R-Programming, a corpus of key words and Logical Functions were generated, and outcomes were manually cross-checked.
Results: A total of 18,053 operations were analysed. There was no variation in BCS rate despite an increasing use of OBS including therapeutic mammoplasty and perforator flaps, which now make up 8% of the BCS. Implant-based reconstruction changed from 83% submuscular in 2010, to 100% subpectoral with ADM by 2016, to 72% pre-pectoral in 2019. Practice has changed from 80% two-stage implant reconstruction in 2010 to 86% one-stage reconstruction in 2019, with change from no nipple-sparing mastectomies at the start of the study period to 36% by 2020. The dataset also describes changes in lipomodelling, workload, risk reducing mastectomies and autologous reconstructions.
Conclusion: This dataset demonstrates that oncoplastic surgery continues to evolve rapidly, offering patients choice. This dataset is a fascinating insight into UK oncoplastic practice.

P134

COMPARING THE OUTCOMES OF VOLUME REPLACEMENT ONCOPLASTIC BREAST SURGERY WITH STANDARD BREAST-CONSERVING SURGERY FOR BREAST CANCER

Akriti Nanda [1], Anisha Chopra [2], Hibatullah Abuelgasim [2], Pankaj Roy [3]. [1] *Croydon University Hospital, Croydon, United Kingdom and Nuffield Department of Surgical Sciences, University of Oxford, Oxford, United Kingdom;* [2] *University of Oxford, Oxford, United Kingdom;* [3] *Oxford University Hospitals NHS Trust, Oxford, United Kingdom and Nuffield Department of Surgical Sciences, University of Oxford, Oxford, United Kingdom*

Introduction: Oncoplastic breast surgery (OPS) allows breast conservation for women who would otherwise have a mastectomy or a suboptimal aesthetic result with standard breast-conserving surgery (s-BCS). Although OPS is gaining acceptance, evidence for safety and long-term outcomes is lacking - especially for volume-replacement (VR-OPS) techniques. We present the comparison of lateral chest-wall perforator VR-OPS with s-BCS with a 7-year follow-up.
Methods: A retrospective review analysed all VR-OPS (in 2012-2014) and s-BCS (in 2013-2014) operations in a single centre by the same surgeon. Patients undergoing mastectomy or volume-displacement OPS as their initial operation were excluded. Clinicopathological, demographic, treatment data and follow-up results (mean: 89 months; range 24-115 months) were collected.
Results: 80 patients underwent s-BCS and 41 patients had VR-OPS during the study period. Patients in the OPS group were significantly younger, more likely to be lymph node-positive and had larger tumours with the majority in outer quadrants of the breast whereas those in the s-BCS group varied in location. The OPS group had a higher proportion of high-risk cancer types (triple-negative and Her-2 positive). There was no difference in smoking status or grade between the two groups. Patients who underwent OPS were significantly more likely to achieve clear margins (p=0.01, Fisher's-exact) and less likely to need further re-excision/mastectomy (p=0.03, Fisher's-exact). More complications were observed in women who underwent OPS (24% vs 13%, p=0.07 Fisher's-exact). No significant difference was observed in cancer recurrence or survival (p=1.00, Fisher's-exact).
Conclusion: The results from this dataset add strength to the safety of volume replacement breast-conserving surgery as the primary treatment for breast cancer.

P135

3 MONTHS ANALYSIS OF THE PROM-Q STUDY: COMPARISON OF PATIENT REPORTED OUTCOME MEASURES USING THE BREAST-Q QUESTIONNAIRE IN PRE- VERSUS SUB-PECTORAL IMPLANT BASED IMMEDIATE BREAST RECONSTRUCTION

Ritika Rampal, Natalie Hirst, Stacey Jones, Clare Young, Sue Hartup, Shireen Mckenzie, Raj Achuthan, Brian Hogan, Emma Macinnes, Jessica Savage, Philip Turton, Baek Kim. *Leeds Teaching Hospitals NHS Trust, Leeds, United Kingdom*

Introduction: There is a lack of comparative data on clinical and patient perceived outcomes on pre- versus sub-pectoral implant-based breast reconstruction (IBR). We investigated whether this difference in surgical approach influenced clinical or patient perceived outcomes.
Methods: This single centre prospective non-randomised longitudinal cohort study (ClinicalTrials.gov identifier: NCT04842240) recruited patients undergoing mastectomy and immediate IBR (Sep 2019-Sep 2021). Data collection included patient characteristics and post-operative complications. BREAST-Q questionnaires were collected at baseline, 2 weeks, 3 and 12 months post-surgery (scores stated in median).
Results: We recruited 76 patients (44 pre-pectoral; 57.9% vs. 32 sub-pectoral; 42.1%). Patient characteristics were comparable (Table 1). Complication rates (13.6% pre-pectoral vs. 9.4% sub-pectoral; p=0.57) were similar. Overall implant loss rate was 3.9% with higher implant loss in pre-pectoral IBR (6.8% pre-pectoral vs. 0% sub-pectoral; p=0.13).

Table 1

	Pre-pectoral	Sub- pectoral	p-value
Patient age (years)	43.5	49	0.09
BMI	24.5	26.8	0.17
Mastectomy weight	368.5g	466g	0.17
Smoking rate	9%	12.5%	0.6

Breast-Q scores were similar between pre- and sub-pectoral IBR at 3 months; breast satisfaction (64 vs. 57.5 respectively; p=0.3), Animation Q scores (74.5 vs. 73 respectively; p=0.17), and psychosocial well-being (61 vs. 56 respectively; p=0.62). Comparable physical well-being scores were seen at 2 weeks (47.5 pre-pectoral vs. 45 sub-pectoral; p=0.39), with similar recovery in physical well-being observed at 3 months (70 pre-pectoral vs. 76 sub-pectoral; p=0.49).
Conclusions: This study so far demonstrates equivalent clinical and patient perceived outcomes between pre- and sub-pectoral IBR, and informs the design of sufficiently powered multicentre study.

P136

ASSESSMENT OF THE USE OF ONCOPLASTIC BREAST CONSERVING TECHNIQUES TO TREAT PATIENTS USUALLY DEEMED FOR MASTECTOMY

Adeline Rankin, Abdelqader Asha, Galia AliAdjakarim, Inga Peerlinck, Evangelos Mallidis, Caroline Mortimer, Hussein Tuffaha. *Ipswich Hospital, Ipswich, United Kingdom*

Introduction: We present our experience of 'extreme' oncoplastic breast conservation techniques in treatment of breast cancer patients who would have been offered a mastectomy in most centres.
Methods: Retrospective analysis of patients undergoing breast conserving surgery where a mastectomy would usually be indicated. Patients were included if they had tumours larger than 40mm on imaging, those with multifocal or multicentric tumours or involving more than one quadrant of the breast.
Results: Fifty patients (median age 60 years) underwent 'extreme oncoplastic' breast conservation procedures between April 2019 and November 2021. Median tumour size was 50mm (range 40-120mm). 33/50 (66%) patients had therapeutic mammoplasty, 13/50 (26%) had local perforator flaps, and 4/50 (8%) had a combination of therapeutic mammoplasty and a local perforator flap. Contralateral symmetrising procedures were carried out in 23/33 (69.7%) mammoplasty patients; 16/33 (48.5%) immediate and 7/33 (21.2%) delayed. 12/50 (24%) were found to have positive margins requiring further surgery. Of which 5/12 (41.7%) had completion mastectomy. The majority of patients were managed on a day-case basis (33 vs 17). Five patients (10%) experienced minor wound complications without delay to adjuvant treatment.
Conclusion: In our practice, 45/50 (90%) of patients who would have had a mastectomy in some centres have avoided one successfully. We believe that indications for breast conserving surgery can safely be expanded to include patients who would classically only be suitable for mastectomy based on tumour size or multifocality. However, longer follow-up, quality of life data and local recurrence rates need be explored in the future.

P137

SINGLE UNIT EXPERIENCE WITH ONCOPLASTIC BREAST RECONSTRUCTION USING LOCAL PERFORATOR FLAPS

Adeline Rankin, Abdelqader Asha, Galia AliAdjakarim, Inga Peerlinck, Evangelos Mallidis, Caroline Mortimer, Hussein Tuffaha. *Ipswich Hospital, Ipswich, United Kingdom*

Introduction: We present our experience with breast reconstruction using local perforator flaps in a District General Hospital setting.
Methods: A retrospective analysis of prospectively collected list of patients undergoing partial breast reconstruction with local perforator flaps. Data included demographics, type of surgery, length of stay, complications, size and site of tumour and re-excision rate.
Results: Between March 2019 and October 2021, a total of 57 patients underwent partial breast reconstruction with a local perforator flap, 3 patients had reconstruction utilising local perforator flaps following margin re-excision. 60% were Lateral Intercostal Artery Perforator (LICAP), 23% Anterior Intercostal Artery Perforator (AICAP), 7% Medial Intercostal Artery Perforator (MICAP), 7% Lateral Thoracic Artery Perforator (LTAP) and 3% had a combination. Mean tumour size was 29.4mm (range 100mm to 6mm). Tumour locations were upper outer quadrant in 47%, upper inner quadrant in 3%, lower outer quadrant in 25% and lower inner quadrant in 20%. There was 1 incidence of post-operative infection and 3 instances of haematoma all managed conservatively. There were no instances of flap loss. Margin positive rate was 12% with subsequent re-excision performed successfully. Patients were managed as a day case in 68%.
Conclusions: The introduction of local perforator flaps has enabled us to avoid mastectomy in a significant proportion of patients. The operation has an acceptable rate of margin positivity. In the majority of cases this can be safely done as a single stage procedure. We believe that the use of perforator flaps should be an essential tool of oncoplastic breast surgeons.

P138

THE USE OF PREOPERATIVE NPI IN PREDICTING THE NEED FOR ONCOTYPE TEST, A POTENTIAL WAY TO IMPROVE PATIENT TREATMENT PATHWAYS

Galia Jadkarim, Abdelqader Asha, Adeline Rankin, Inga Peerlinck, Evangelos Mallidis, Caroline Mortimer, Hussein Tuffaha. *Ipswich Hospital, Ipswich, United Kingdom*

Introduction: We present our analysis aiming to assess the accuracy of predicting which patients are suitable for Oncotype pre-operatively.
Methods: Retrospective analysis of patients having a sentinel lymph node biopsy as the first axillary procedure. Preoperative NPI was calculated based on preoperative tumour characteristics with the assumption that the axilla was clear (negative USS). A score of NPI > 3.4 pre-operatively was considered to be eligible for Oncotype. The score was compared with post-operative NPI to determine accuracy.
Results: A total of 260 cases were reviewed, 221/260 (85%) were ER+ve and Her2-ve, 121/221(54.8%) cases were correctly predicted not to be eligible for Oncotype, 57/221 (25.8%) cases were correctly predicted to be eligible for Oncotype. NPI score did not change post-operatively in 198/221 (89.6%). 39/221 (17.6%) were not eligible pre-operatively but became eligible post- operatively. Only 5/221 (2.3%) of predictions were incorrect and those patients became ineligible post-operative, theoretically resulting in a waste of test expense. 57/96 (59.4%) of Oncotype eligible patients would have had a result ready at the post-operative appointment speeding up the pathway by several weeks.
Conclusions: Pre-operative NPI on radiologically node negative breast cancer patients can speed up the pathway in 56.4% of eligible patients, resulting in fewer appointments and a definite plan at the first post-operative visit. The cost of the false-positive tests (5 tests=2.3%) would be offset by the decreased number of appointments in outpatients freeing up capacity for other patients and improving the patient experience and quality of care.

P139

THE USE OF ARTIFICIAL INTELLIGENCE TO TRIAGE NEW SYMPTOMATIC PATIENTS TO ONE-STOP CLINIC - PRELIMINARY DATA

Lara Manley, Ahsan Rao, Ahmed Ebrahim, Elly Oo, Simon Smith. *Broomfield Hospital, Broomfield, United Kingdom*

Introduction: The pressure on one-stop symptomatic clinic is rising due to COVID pandemic and increased referral from GPs. The study aimed to develop and assess the use of artificial intelligence (AI) to triage new symptomatic patients to the one-stop clinic.
Method: The retrospective data was collected from electronic database for period January-December 2021. The presenting complaint and medical history from the GP referral form was used to create AI software that would use this information to predict the likelihood of patient getting biopsy or having a follow up appointment.
Results: There were 257 patients (females n=247, 96.1%) with the average age of 40.9. The common presenting complaint was lump (n=175, 68%), pain (n=50, 19.4%), and change in shape/skin change (n=20, 7.8%). 18 patients (7.0%) had a biopsy in the clinic and 22 patients (8.6%) had follow-up review. The GPs' accuracy of correct referral was 69.1%. One third (36.9%) of the referrals could have been managed in the community or as a routine review by the breast surgeon. The online software's accuracy was 91%. The accuracy for detecting patients who needed urgent breast clinic review and a biopsy was 100%.
Conclusion: The use of AI has the potential to triage patients to one-stop clinic and reduce the number of patients seen in the clinic. More data is required to validate the AI software and to be tested in the community.

P140

IMMEDIATE IMPLANT-BASED BREAST RECONSTRUCTION USING TILOOP BRA POCKET - A SINGLE TERTIARY CENTRE EXPERIENCE

Claire Rutherford, Alex Meredith-Hardy, Muhammad Talha, Anokha Joseph, Jennifer Hu, Zaker Ullah. *Barts Health NHS Trust, London, United Kingdom*

Introduction: With the increasing use of immediate implant-based reconstruction (IBBR) has evolved various meshes to support the implant and minimise tension on the skin envelope. The aim of this study was to evaluate our case series of patients undergoing IBBR with TiLoop Bra Pocket, a titanium-coated polypropylene mesh which acts as an internal bra.
Methods: A single-centre retrospective study was conducted assessing consecutive patients undergoing IBBR with TiLoop Bra Pocket between January 2019 and November 2021 in a tertiary centre. Patient records were assessed for pre-operative factors such as surgical indication, intra-operative factors including mastectomy weight, and post-operative complications including infection and implant loss.
Results: 40 patients underwent 50 IBBR using TiLoop Bra Pocket. Median age was 44.5 (27-65). 16 (32.0%) of the reconstructions were risk-reducing mastectomies, while 33 (66.0%) were for malignancy, and the remaining 1 (2.0%) for symmetry. 27 (54.0%) had nipple-sparing and 23 (46.0%) had nipple-sacrifice, with a median mastectomy weight of 385g (130-1400). 37 (74.0%) patients had pre-pectoral and 13 (26.0%) had sub-pectoral implant placement. 30 (60.0%) had fixed-volume implants with a median volume of 450cc (270-755). In terms of complications 4 (8.0%) patients required antibiotics, 4 (8.0%) required return to theatre and 3 (6.0%) implants were lost within 90 days of surgery.
Conclusion: Implant with TiLoop Bra Pocket is a safe means of performing IBBR. This series demonstrates complications lower than the national iBRA audit. However, as with all IBBR, patient selection and meticulous surgical technique is crucial in minimising complications.

P141

STUDY OF MULTIPARAMETRIC MRI MORPHOLOGY IN BREAST CARCINOMA AND ITS CORRELATION WITH TNBC

Sabnam Parvin, Archana Singh, Diptendra Kumar Sarkar, Madhumita Mondal. *The Institute of Post-Graduate Medical Education and Research, Kolkata, India*

Introduction: Pre-operative breast MRI for the patient with newly diagnosed BC increases the sensitivity of characterising the tumours , tumour size, multifocality-multicentricity, dermal and lymph node involvement. It assesses treatment response and guides treatment planning. Predicting biological subtype using IHC (ER, PR, Her2 neu) has become the standard of care. Very few studies focussing on the comparison between multiparametric MRI and molecular subtypes are available.
Aims: To assess whether MRI can predict specific molecular subtype characters in BC.
Methodology: A cross-sectional observational study to differentiate the MR- imaging pattern of triple-negative breast ca (TNBC) from Non-TNBC was conducted in the department of radiology in collaboration with the Breast service & pathology at IPGME&R-SSKM-Hospital from February 2020 to July 2021 with 50 sample sizes. Breast MRI findings were compared with post HPE/IHC molecular subtypes.
Result: 40 mass lesions and 11 non-mass lesions are included in our study. Only one patient has both mass & non-mass lesions in the same breast. The majority of mass lesions are irregular in shape with spiculated margin (52%) & heterogeneous enhancement in Non-TNBC (Luminal A, Luminal B, HER2+). In TNBC, oval-shaped mass lesions are more common with circumscribed margins (57%) and show rim enhancement. There is a significant correlation between MR characteristics mass lesion and expression of hormonal receptors with p-value <=0.5 but there is no significant correlation between the internal enhancement pattern of the non-mass enhancement (NME).
Discussion: TNBC are associated with specific features at multiparametric MRI that can be predictors of immunohistochemical results.

P142

IMPACT OF COVID-19 ON BREAST STAGE AT DIAGNOSIS

Olivia Smith, Louise Merker, Rachel Ainsworth. *North Bristol Trust, Bristol, United Kingdom*

Background: Covid 19 led to unprecedented changes in our healthcare system and the way patients access it. During the first national lockdown, breast cancer screening was suspended in our area and we also saw a decrease in referrals into our unit. We hypothesized that this may have resulted in patients presenting with later stage disease in the period following lockdown.
Methods: We defined the pre-covid period as 1st Oct 2018 - 31st March 2020 inclusive and the post covid period as 1st April 2020 - 30th Sep 2021 inclusive. Patients diagnosed with invasive breast cancer were identified from the Somerset Cancer Registry and the records interrogated for tumour size and nodal status then analysed using chi-square statistics.
Results: 1573 patients were diagnosed with breast cancer between Oct 2018 and Sept 2021 in our unit. The number of cancers diagnosed decreased by 9.5% in the period following COVID (862 v 711 patients). There was a statistically significant difference ($p<0.05$) in patients presenting with T3/4 tumours following the arrival of COVID (27 out of 862 pre-covid compared to 38 out of 673 post-covid). The nodal status of patients at presentation did not differ pre and post covid, with 78% of patients with N0 disease (670 pre COVID and 558 post COVID).
Conclusion: Size of breast tumour at diagnosis was significantly increased in the period immediately post COVID, however nodal status was unchanged. We suggest that patients had delayed presentation because of perceived pressure in the NHS, disinclination to attend medical appointments and also cessation of breast screening programme.

P143

PREPECTORAL IMPLANT RECONSTRUCTION + ADM AS A METHOD FOR REVISION SURGERY

Ewa Sobczak, Christopher Munson, James Harvey. *Nightingale Centre & Genesis Prevention Centre, Wythenshawe Hospital, Manchester University NHS Trust, Wythenshawe, United Kingdom*

Introduction: Prepectoral reconstruction has been used in Manchester to correct animation deformity associated with submuscular implant reconstruction since 2014. We wished to evaluate the indications for the surgery and the outcomes for patients undergoing revision of an implant reconstruction to the prepectoral plane with ADM (Acellular Dermal Matrix) coverage.
Methods: We performed a retrospective review of 68 patients who underwent unilateral or bilateral conversion from previous breast reconstruction to prepectoral implant reconstruction with ADM from March 2014 till April 2019 in our unit. The primary outcomes were animation deformity, rippling, asymmetry, pain, capsular contracture, volume loss. Complications assessed with Clavien Dindo classification involved: infection, delayed wound healing and implant specific complications.
Results: In total, 68 patients underwent prepectoral reconstruction with ADM as conversion from subpectoral implant or LD + implant reconstruction. The patients' median age was 52 (range 27-78). Median follow up was 4.5 years (range 0.83-8). Risk factors included diabetes (4%) and smoking (13%). Inclusion criteria were animation (30%), rippling (4%), capsular contracture (4%), revision surgery for other reasons (pain, asymmetry, implant rotation -75%). The overall rate of complications such as unplanned readmission (0 and implant loss (0 cases) was lower comparing to ABS quality criteria (<5% and <3% adequately) ($p<0.001$). 3.9% cases of capsular contracture were registered later in follow up period (<0.001). 10% of patients required lipomodelling for volume correction postoperatively.
Conclusions: Preliminary data show that prepectoral implant reconstruction with implant ADM coverage is a safe and effective method of revision for complication of submuscular/subpectoral implant reconstruction.

P144

PUSHING THE BOUNDARIES OF BREAST CONSERVATION: A PROSPECTIVE 6-YEAR CASE SERIES OF CHEST WALL PERFORATOR FLAPS

Thomas Walton, Jenny Banks, Sisse Olsen, Rachel Tillett. *Royal Devon and Exeter NHS Foundation Trust, Exeter, United Kingdom*

Introduction: Chest wall perforator flaps (CWPf) provide volume replacement in patients with a high tumour to breast ratio, as an alternative to mastectomy. This study expands the current literature, reporting a case series of CWPfs at a regional centre for breast reconstruction.
Methods: This study is a consecutive case series from a prospectively maintained database, by two surgeons operating at a single NHS Trust. All patients undergoing CWPf between 1st January 2016 and 30th November 2021 were included. Demographic and surgical outcome data were prospectively collected and completed post-operatively.
Results: 67 patients underwent partial breast reconstruction with CWPf; 34 LTAP, 20 LICAP, 8 AICAP, 5 MICAP. 58 (86.5%) were single stage. Mean patient age was 53 years (28-79), with BMI 24.69 (19-32). Mean specimen weight was 105.28g (11-282). 16 patients underwent re-excision (23.88%). 1 patient proceeded to mastectomy for radiologically underestimated large volume DCIS, and 1 patient opted for bilateral risk reduction (subsequent CHEK 2 diagnosis). 3 patients developed haematomas requiring return to theatre (4.48%), and there was 1 wound infection requiring intra-venous antibiotics. No flap loss occurred. For patients requiring re-excision, mean tumour size on pre-op imaging was 27.06mm, compared with mean tumour size on histology of 50.75mm, representing an 88% increase in anticipated tumour size.
Conclusion: CWPfs successfully prevented mastectomy in 98% of patients, with no associated flap loss, despite a significantly higher specimen weight than previously reported in literature. The higher re-excision rate was attributable to radiological under-estimation of tumour size.

P145

SURGICAL OUTCOMES OF AMBULATORY CHEST WALL PERFORATOR FLAPS BREAST RECONSTRUCTION

Shaista Zafar, Melissa Tan, Ishita Laroiya, Geeta Shetty. *City Hospital Birmingham, Birmingham, United Kingdom*

Introduction: Chest wall perforator flaps (CWPF) are recognised volume replacement flaps in breast cancer surgeries. It has been shown to have satisfactory cosmetic outcomes with low donor site morbidities.
Aim: This study aimed to report a single unit's experience of ambulatory CWPF breast reconstruction and its 30 days surgical outcomes.
Methods: A retrospective cohort study to include all CWPF reconstructions between July 2019 and November 2021.
Results: N=119 patients. Median age of patients was 54 years (26-73 years). Twenty patients (16.8%) had at least one risk factors (diabetes, smoking, BMI>30, cardiorespiratory illnesses). All CWPF reconstructions were planned 23 hours stay surgeries. 116 (97.5%) patients were discharged <24 hours. Majority 112 (94.1%) was for partial breast reconstruction following wide local excision; 2 (1.7%) were for salvage reconstruction due to implant loss; and 5 (4.2%) were for full breast reconstruction using both lateral and anterior/medial CWPF. Median imaging tumour size and excised volume were: 37mm (5-100mm) and 115g (0-602g) respectively. No reported flap lost. The 30 days post-surgery complications were: 6 (5%) seroma; 5 (4.2%) wound dehiscence, 3 (2.5%) haematoma, 1 (0.8%) flap necrosis, 1 (0.8%) pulmonary embolism, 3 (2.4%) other minor complications. Unplanned second surgery was required in 17.5% patients: 13 (10.9%) re-excision margin(s); 4 (3.4%) axillary node clearance; 2 (1.6%) completion mastectomy.
Conclusion: It is feasible to discharge patients following chest wall perforator flaps breast reconstructions within 23 hours. It can be performed in patients with risk factors with acceptable surgical outcomes.

P146

THE BREAST PAIN CONUNDRUM

Raouef Bichoo, Ruby Williams, Kartikae Grover. *Hull University Teaching Hospitals NHS Trust, Hull, United Kingdom*

Introduction: Breast care units across the UK are hard pressed to meet the 2ww demand. Breast pain constitutes a significant proportion of referrals (12-20%) but is rarely associated with breast cancer.
Methods: Audit of prospective data recorded in the electronic patient record (EPR) of symptomatic breast patients seen by a single consultant surgeon between April 2018 and July 2021.
Results: 18.6% (266/1426) patients were referred with breast pain alone. 1/3(n=79;30%) of the patients were below the age of 40. In patients under 40 breast imaging performed was normal in 88% (n=60) and had positive findings in 12% (n=8). 1:5 patients with clinical findings had positive US scan. None of these patients required biopsy or had a malignant diagnosis. See table 1.

Table 1
Over 40s analysis

	Normal clinical examination (113)	Abnormal clinical examination (71)
Positive breast imaging	17%	37%
Pathological assessment	2.6%	8.4%
Pathology B3 and above	1.8%	1.4%

Breast cancer was discovered in 1 patient who had normal clinical findings taking the overall incidence to 0.5% (1% in patients with normal examination).
Conclusion: No significant pathology was identified in patients under the age of 40 and the likelihood of finding a radiological abnormality in the absence of clinical abnormality is less than 5%. Consideration may be given to managing this cohort outside the one stop 2ww pathway. In the over 40s 1:5 (21.3%) had positive radiological findings with 4.2% (8/187) being R3 and above. Normal breast examination was a poor discriminator of underlying pathology. Breast imaging identified significant lesions (B3 and above) in 1.6% and breast cancer in between 1:100 and 1:200 patients which is comparable to the pickup rate of breast screening (8.4 cancers per 1000 women screened) suggesting imaging may be of value.

P147

INTERIM MRI IN HER2-POSITIVE BREAST CANCER PATIENTS RECEIVING NEOADJUVANT CHEMOTHERAPY

Sunna Asghar, Kathryn Sinclair, Georgios Kourounis, Laura Arthur, Caroluce Musyoka, Mike McKirdy, Iffet Rabnawaz, Abdulla Alhasso, E Jennifer Campbell. *Royal Alexandra Hospital, Paisley, United Kingdom*

Introduction: Dynamic contrast-enhanced magnetic resonance imaging (MRI) is routinely used in breast cancer (BC) patients starting neoadjuvant chemotherapy (NAC). We additionally perform an interim MRI after cycle 2 to assess response and consider therapy change. We examined if tumour response on MRI performed after 2 cycles of NAC and pathological response was influenced by the oestrogen receptor (ER) status in HER2-positive BC.
Methods: All HER2-positive BC patient records, who received NAC between 2009 and 2019 and underwent initial and interim MRI, were reviewed. All patients had 2 anthracycline-based cycles and, depending on MRI response, either switched early to taxane plus anti-HER2 therapy or

switched after cycle 3. MRI response was classified: complete, good, partial, minimal, and progression. Radiological, clinical and pathological data was compared. Chi square test was used to test significance.
Results: 94 patients with HER2-positive BC underwent NAC, 41% were ER-negative (n=39) and 59% ER-positive (n=55). Interim MRI response demonstrated 3% complete (n=3), 20% good (n=19), 50% partial (n=47), 24% minimal (n=23) and 2% progression (n=2). 27% had early switch (n=25), 73% switched after cycle 3 (n=69). Following completion of NAC and surgery 45% had complete pathological response (cpr) (n=42), 19% very good/almost complete (n=18), 31% partial (n=29) and 5% no response (n=5). There was no statistical difference in interim MRI response, early switch or pathological response by ER status.
Conclusion: In this cohort of HER2-positive BC receiving NAC, interim MRI guides therapy change with high cpr rate, which was not influenced by ER status.

P148

VIDEO CONSULTING DURING THE COVID-19 PANDEMIC- IMPROVING OR WORSENING ACCESS TO CARE?

Simran Dhugga [1], Georgette Oni [2]. [1] *University of Nottingham, Nottingham, United Kingdom;* [2] *Nottingham Breast Institute, Nottingham, United Kingdom*

Introduction: The use of telemedicine in breast surgery occurred almost overnight to maintain outpatient service provision during the COVID-19 pandemic. There is concern that remote consultations could lead to a widening of health inequalities. To evaluate this issue further, the present study looked to explore patient attitudes and access towards video consultations (VCs) in a tertiary referral breast oncology centre.
Methods: Research approval was granted from the Local NHS Quality Improvement Office. Prospective questionnaires were distributed to outpatients at the Nottingham Breast Institute from July to September 2021. Along with patient demographics, information regarding access to VC hardware and general attitudes towards VCs were collected. The data was tabulated and explored both quantitatively and qualitatively.
Results: 519 questionnaires were analysed. The average age was 47.3 years (range 14-88 years). 92% of respondents had access to a video-enabled device, with 90% having access to a video-enabled smartphone. For each additional increase in decade of age over 40 years there was a decrease in access to a video-enabled device. Digital literacy also varied with age, with 61% of under 40s being happy to use VC technology independently compared to 39% of over 50s. Interestingly, 58% of respondents preferred telephone consultations and 80% face to face consultations when compared to VCs.
Conclusion: This study illustrates that most patients only have access to a mobile phone for VCs and prefer traditional face to face consultations. Older patients were more likely to have poorer access to VCs and considerations are required to minimize inequalities in this group.

P149

CLINICOPATHOLOGICAL CHARACTERISTICS OF BREAST CANCER PATIENTS FROM NORTHERN TANZANIA: COMMON ASPECTS OF LATE STAGE PRESENTATION AND TRIPLE NEGATIVE BREAST CANCER

Marianne Gnanamuttupulle, Oliver Henke, Shilanaiman Hilary Ntundu, Furaha Serventi, Leila E. Mwakipunda, Patrick Amsi, Alex Mremi, Kondo Chilonga, David Msuya, Samuel G. Chugulu. *Kilimanjaro Christian Medical Centre, Moshi, Tanzania*

Purpose: Breast cancer (BC) is the second commonest cancer among Tanzanian women. Estrogen, progesterone and human epidermal growth factor receptor-2 play major roles in prognosis and treatment but data for Tanzania are sparse. This study aimed to determine these patterns and histological types, tumour grading and staging of BC patients in northern Tanzania for a better understanding of BC in the Sub-Saharan African (SSA) setting.
Methods: Cross-sectional study recorded newly diagnosed BC cases at Kilimanjaro Christian Medical Centre between October 2018 and March 2019. Receptor status, histological types, grade, clinical stage and socio-demographic were recorded and descriptive and bivariate analyses performed.
Results: 116 patients were enrolled. Median age was 53 years, 71.6% were ≥45years. Commonest molecular subtype was triple negative breast cancer (TNBC) (n=33;28.4%), 102(87.9%) patients had invasive ductal carcinoma (IDC), poorly differentiated tumours (60;51.7%) and clinical stage III disease (62;53.0%). ER negative tumours were associated with poorly differentiated histological grade (relative risk (RR):1.34(0.87–2.07)), tumour size >5 cm (RR:1.67(0.33-8.35)) and IDC (RR:3.35(0.56–20.23)). Clinical stages III & IV (odds ratio (OR):1.64(0.63-4.24)) were associated with hormone receptor (HR) negative tumours and metastasis (OR:1.60(0.68-3.74)) with TNBC. 18% of patients reported first-degree relatives with BC.
Conclusions: Most patients presented in advanced stages and TNBC in their menopause. HR negative tumours were associated with poor histological differentiation and IDC. High percentage of positive family history of BC and differences in receptor patterns compared to other parts of the world should urge further genetic research on BC in SSA.

P150

FORMALISED MENTORSHIP WITHIN ONCOPLASTIC BREAST SURGERY TRAINING - IS IT INDICATED? A SYSTEMATIC REVIEW

Alison Hunter-Smith [1], Alexandra Humphreys [2], Belinda Pearce [3], Isabella Dash [4], Reena Shah [5], Leena Chagla [1]. [1] *St Helens and Knowsley Teaching Hospitals NHS Trust, Prescott, United Kingdom;* [2] *Gloucestershire Hospitals NHS Foundation Trust, Gloucester, United Kingdom;* [3] *Poole Hospital NHS Foundation Trust, Poole, United Kingdom;* [4] *North Bristol NHS Foundation Trust, Bristol, United Kingdom;* [5] *Worcestershire Acute Hospitals NHS Trust, Worcester, United Kingdom*

Introduction: Oncoplastic breast surgery places unique psychosocial and multi-disciplinary demands upon its trainees. As such, a healthy balance of personal and professional spheres are necessary to cultivate resiliency, emotional intelligence and self-awareness. Whilst the UK is a global leader in oncoplastic breast surgery training, no current trainee self-development scheme exists beyond the clinical/ educational supervisor. With the introduction of the revised breast surgery curriculum in August 2021, we assess whether a formalised mentorship programme would benefit oncoplastic breast surgery training.
Methods: All articles detailing mentorship schemes within oncoplastic breast surgery (and complementary specialties) were identified using Medline, EMBASE and CINAHL. Predetermined exclusion/ inclusion criteria were used to screen articles by two investigators. Relevant themes identified and grouped for analysis.
Results: 4,746 unique articles identified; 15 relevant for full review. Most prevalent themes: 'implementation of mentorship scheme' (54%), 'forming mentor-mentee relationships' (13%) and 'structured guidelines for formalised mentorship schemes' (33%). Of those that implemented mentorship schemes, mean participant number was 46; mean follow-up 18 months. Three-quarter of schemes were face-to-face didactic. Mentee benefits included increased research productivity (38%), improved goal setting (38%), improved morale (25%) and better work-life balance (50%). All studies reported mentee satisfaction with the mentorship scheme.
Conclusions: We report clear benefit from formalised mentorship within oncoplastic breast surgery training. An inexpensive development tool, such a novel scheme should be considered alongside the new breast surgery curriculum, enabling trainees to thrive and excel within a positive training environment.

P151

INTRODUCTION OF POST MASTECTOMY SOFTIES IN DIVERSE SKIN TONES

Natalie Johnson, Sarah Adomah. *The Royal Marsden Hospital, London, United Kingdom*

Introduction: This pilot project arose after patients expressed concerns that the softies provided after mastectomy were not available in their skin tones. This highlighted a degree of exclusion and produced psychological

distress in the time of their healing. This is in keeping with and further highlighted by the 100-woman survey by blackwomenrisinguk.org, which reported that 74% of the women in their survey, who use a softie, prosthetic breast or nipple were not offered one to match their skin tone. The aim of this project is to diversify the prosthetic options offered to patients of differing skin tones. The current softies offered exclude darker skin tones and has been noticed by the patients.
Methods: The current providers create pockets in the colour of ivory and another in beige. This hospitals breast department is collaborating with a company called NubianSkin, who currently create nude underwear in diverse skin tones. The softie covers created will diversify the options currently given to patients. This should not be an additional cost to the hospital in the long term as the number of softies purchased will not change but the options offered to patients will be more inclusive.
Conclusion: Granted we have provided this service for many years we are yet to include the diverse population. Current patient dissatisfaction and the use of a patient questionnaire post introduction will demonstrate the relevance of inclusion of all patients with the understanding that one size does not fit all.

P152

TELEPHONE BREAST PAIN CLINIC AT DERRIFORD HOSPITAL; AN EVALUATION OF A NEW PATHWAY

Chrystal Jumbo, Kirsty Hall, Kate Lansdell, Maria Verroiotou. *University Hospitals Plymouth NHS Trust, Plymouth, United Kingdom*

Introduction: Mastalgia occurs in approximately 66% of working women and is the most common breast-related complaint in primary care. It is a large proportion of referrals to the one-stop clinic and can put a strain on the service. Several studies suggest that mastalgia as a sole symptom is rarely associated with breast cancer. Therefore, an initiative was required to alleviate the pressure, at the same time offer an effective service to mastalgia patients.
Method: A telephone breast pain clinic (BPC) was initiated. Run by a Physician Associate, Nurse Consultant and an Advanced Practitioner Radiographer, with 20 minutes appointment slots. All referrals were triaged by a Consultant Surgeon. Data was collected for the first 12 months, identifying the numbers of patients discharged, referred to one-stop, and those re-referred.
Results: Over 12 months, 375 mastalgia patients, median age of 46 (range 17-86). 340 (90.7%) were discharged, avoiding a face to face (F2F) appointment, and 35 (9.3%) were referred to the one stop clinic (1 male patient). 19 (5.1%) required no diagnostic investigations, 3 (0.8%) required intervention, 2 cyst aspirations and 1 biopsy. On imaging, 12 had normal glandular tissue, 1 had gynaecomastia, 1 fibroadenoma and 2 had a cyst. All 35 (100%) patients were discharged. There have been 2 re-referrals.
Conclusion: This new pathway has shown that telephone BPCs can successfully reduce the number of mastalgia patients being seen in one-stop, allowing appointments for breast symptoms that are clinically more suspicious and that reassurance via telephone is effective.

P153

CORRELATION OF ER, PR, NODAL STATUS & NPI WITH ONCOTYPE RECURRENCE SCORE IN OLDER WOMEN WITH BREAST CANCER. WAS THERE ANY IMPACT ON OFFER OF CHEMOTHERAPY?

Alia Hameed Kayani, Aysha Arshad, Jacqueline Donnelly, Jane Steven. *University Hospital Birmingham, Birmingham, United Kingdom*

Background: Few studies were published in literature on correlation of oncotype recurrence score (RS) and traditional prognostic tools such as Nottingham Prognostic index (NPI) in older women with ER+ cancer. This study aims to establish any correlation between ER/PR, grade, nodal status (N), NPI and RS in older women to inform us additional benefits gained by RS.
Methods: Single centre retrospective cohort study of patients at 70 or above. Hospital database from 2015 to 2021 used for demographics, histological tumour characteristic, NPI and RS. HER2+, ER 0, incomplete or missing data sets were excluded. Spearman rank correlation coefficient used for nonparametric values.
Results: RS and grade showed statistically significant correlation in 1/3rd cases with coefficient value= 0.3765 ('p' value= 0.003). On 3-way analysis, RS correlated strongly with highest grade (0.9428) with better predictive value of RS for PR 0. N status showed no correlation with RS (Coeff.0.02, 'p' value= 0.516). Paired Correlation for NPI with RS showed their agreeability on 45.8% cases (Coeff 0.4582)
Conclusion: NPI value correlated with RS only 45.8% of occasions leaving 54.2% where additional information was obtained through RS score. This study has demonstrated over half of patients benefitted from investing resources in RS testing.

P154

FACTORS INFLUENCING ADHERENCE TO CHEMOTHERAPY AMONGST BREAST CANCER PATIENTS AT A TERTIARY HOSPITAL: HEALTHCARE WORKERS' PERSPECTIVES

Brigitta Kepkey[1], Bronwyne Coetzee[1], Jenny Edge[2], Ashraf Kagee[1]. [1] *Department of Psychology, Stellenbosch University, Stellenbosch, South Africa;* [2] *Breast and Endocrine Surgery Unit, Stellenbosch University, Stellenbosch, South Africa*

In South Africa, breast cancer is the most commonly diagnosed cancer amongst women. Adherence to cancer therapy such as chemotherapy is essential for the achievement of optimal treatment benefits and treatment efficacy, which requires patients to receive 100% of their intravenous chemotherapy doses. However, factors such as beliefs regarding breast cancer complicate adherence to treatment. In contexts like South Africa, geographic and socio-economic disparities as well as cultural factors impact on adherence to cancer therapy, yet little is documented and understood about these factors in the South African literature. Given this gap, the aim of this qualitative study was to explore the barriers to and facilitators of adherence to chemotherapy amongst breast cancer patients, from the perspectives of healthcare workers at a tertiary hospital in South Africa. Interviews were guided by an interview schedule, were transcribed verbatim and analysed using thematic analysis and ATLAS.ti v8 and v9. The findings demonstrated that barriers and facilitators to adherence occurred at both an individual and structural level. At an individual level, the most salient barriers identified were limited patient knowledge and awareness regarding breast cancer. Facilitators at this level were patient self-motivation and support from significant others. Structural barriers to adherence were related to transport and finances, which impacted patients' ability to get to the hospital to undergo treatment. These findings highlight important factors that complicate adherence to chemotherapy amongst South African women. Further research should focus on interventions aimed at mitigating the impact of individual, and structural barriers to adherence to chemotherapy.

P155

GUT MICROBIOME ENVIRONMENT AND ITS RELEVANCE IN BREAST CANCER THERAPY

Stanislau Makaranka, Eilidh Bruce, Gordon Urquhart, Beatrix Elsberger. *Aberdeen Royal Infirmary, Aberdeen, United Kingdom*

Introduction: The gut microbiome is a novel player in the pathogenesis and treatment of breast cancer. Emerging evidence exists to suggest that the gut microbiome may impact systemic breast cancer treatment by mediating drug efficacy and toxicity.
Methods: This literature review presents the influence of the gut microbiome on systemic treatments, including chemotherapy, anti-HER2 therapy, endocrine therapy, immunotherapy and other targeted treatments comprehensively.
Results: The gut microbiome impacts the host response to chemotherapeutic drugs via three main mechanisms: facilitating drug efficacy, compromise of anti-cancer effects and mediation of toxicity. Specific microbiota clusters have been identified in patients, who had a complete response with anti-HER2 therapy. Regarding endocrine therapy, particular

bacteria have been detected to deconjugate oestrogens via hydrolytic enzymes. By deconjugating oestrogen, its re-uptake is promoted and therefore thought to influence the risk of disease recurrence. Additional evidence suggests that the degree of clinical response to immune checkpoint inhibitors CTLA4 and PD-L1/PD-1 is shaped by characteristics of the gut microbiome.
Conclusions: Numerous potential connections exist between the gut microbiome and malignant breast disease. Various clinical trials and studies suggest that the microbiome influences response to systemic chemotherapy and mediates its side-effects. It also has the capacity to metabolise systemic therapy and modulates the immune response to treatments. However, investigations into specific interactions are still in its infancy, but starting to gain momentum as more significant and clinically relevant effects are emerging. Future work is exploring the potential of gut dysbiosis to act as a biomarker and therapeutic target.

P156

MANAGEMENT OF BREAST CANCER PATIENTS DURING THE FIRST CORONAVIRUS PANDEMIC: LESSONS LEARNED AND FUTURE DIRECTIONS

Bhagat Manku, Emily Slack, Stuart Robertson, Katherina McEvoy, Mohamed Sait, Hamed Khan, Hassan Al-Omishy. *University Hospital Coventry & Warwickshire, Coventry, United Kingdom*

Introduction: The coronavirus (COVID-19) pandemic presented significant challenges to the management of breast cancer patients. Immunosuppression from chemotherapy increases risk of COVID-19 related complications and mortality. Balancing patient safety and service provision required careful assessment. ABS released guidelines on how services should adapt. This audit aimed to assess how well guidelines were adhered to and evaluate patient outcomes.
Methods: This study was approved by the clinical audit department and conducted in accordance with trust guidelines. 152 patients were identified from hospital records between January-December 2020. Comparisons with ABS guidelines were made in key areas: minimising face-to-face consultations, more day cases, universal drains (mastectomy or axillary clearance), bridging endocrine therapy, prioritising biologically aggressive tumours, neoadjuvant chemotherapy for inoperable disease, and no benign / reconstructive / risk-reduction surgeries.
Results: No COVID-19 positive cases were detected from swab results. 1 operation was cancelled due to COVID-19 exposure. Mean face-to-face and telephone consultations were 4 and 1 respectively. 21% patients had bridging endocrine therapy, 70% primary surgery, and 9% neoadjuvant chemotherapy as initial treatment. 72% were day cases. All patients with mastectomies or axillary clearance had drains, resulting in less seroma aspirations. Mean time until full post-operative receptor status was 22 days $\pm$ 4.7. Very few complications (3 wound infections).
Conclusion: Significant changes were adopted, including bridging endocrine therapy instead of surgery until capacity resumed. Patients were managed appropriately against ABS guidelines, with excellent infection control practices. Oncotype testing led to reduction in chemotherapy. Further study will assess long-term cancer outcomes and survival.

P157

MULTI-CENTRE REVIEW OF THE MANAGEMENT OF PATIENTS UNDERGOING SURGERY FOR PHYLLODES TUMOURS

Carolyn Chiam Pei Lyn [1], Elizabeth Morrow [2], Elizabeth Mallon [2], James Mansell [2]. [1] *University of Glasgow, Glasgow, United Kingdom;* [2] *NHS Greater Glasgow and Clyde, Glasgow, United Kingdom*

Introduction: Phyllodes tumours (PT) of the breast are relatively rare with no current UK guidance on appropriate management. The aim of this study was to assess management and outcomes for PT in a contemporary cohort.
Methods: Patients undergoing surgery for PT from April 2012 to March 2021 in 4 breast units were identified from a pathology database. Clinical, pathological and follow up data was collected retrospectively. Patients who had previously undergone surgery for PT were excluded.
Results: 143 patients were identified with a median follow up of 48 months. Median age at time of surgery was 45 (13-86) years. A pre-operative diagnosis of suspected PT was made in 94 (65.7%) patients. Initial surgery was either an excision biopsy (85.3%) or wide local excision (14.0%). At final pathology 108 (75.5%) were benign, 27 (18.9%) borderline and 8 (5.6%) malignant. 107 (74.8%) had a margin stated as involved or <1mm. 13 (9.1%) patients underwent further surgery (Re-excision: 11, 84.6% and Mastectomy: 2, 15.4%). 111 (77.6%) of patients underwent follow up with either clinic visits, mammography or both. 6 (5.6%) patients developed a recurrence during follow up (Benign 3/108 (2.8%); Borderline 2/27 (7.4%); Malignant 1/8 (12.5%); Log Rank 0.178).
Conclusions: Although in this study the recurrence rate for PT increased with borderline and malignant PT the limited number of events limit the conclusions that can be made. The low recurrence rate for Benign PT does not support wide excision. There is limited consistency in the management of PT and consensus guidance would be helpful.

P158

LOSS OF BREAST RECONSTRUCTION SERVICES DURING THE COVID-19 PANDEMIC: NEGATIVE IMPACT ON PATIENT QUALITY OF LIFE AND WELLBEING

Jenna Shepherd, Sue Rodwell, Rachel Moir, Mairi Fuller, Beatrix Elsberger, Yazan Masannat. *Aberdeen Royal Infirmary*

Introduction: The COVID-19 pandemic has disrupted many NHS services including breast reconstruction, which was unavailable in Aberdeen Royal Infirmary from March to September 2020. This study aims to determine; how many patients were affected and how did this impact on patients' physical, psychosocial, and sexual wellbeing.
Methods: Patients, who underwent mastectomy in Aberdeen Royal Infirmary from 18th September 2019 to 18th September 2020, were identified to cover 6 months pre-Covid when there were no restrictions and subsequent 6 months with no immediate breast reconstruction (IBR) service available. Breast Q questionnaires were administered via post to all eligible individuals. Participants were asked if they would have preferred IBR had it been offered. QoL scores were compared between two groups; 1) patients who underwent IBR prior to restriction of services and 2) patients who were not offered but would have preferred IBR. Data analysis was carried out using SPSS statistical software.
Results: 164 patients underwent surgery during the period, of which 147 were eligible to participate. 105/147 (71.4%) completed questionnaires were returned. Of those who had a procedure post-COVID restrictions, 15 (27.8%) stated they would have preferred IBR had it been offered. Lower QoL scores were observed in group 2 compared to group 1 in both psychosocial wellbeing (medians 49 and 63 respectively, $p=0.022$) and sexual wellbeing (medians 37.5 and 51.5 respectively, $p=0.026$).
Conclusions: Loss of IBR services affected 27.8% of patients. We demonstrate the negative impact on psychosocial and sexual wellbeing, which should inform decisions regarding service provision in future.

P159

THE NEW BREAST TRAINING CURRICULUM; CAN IT BE SUCCESSFULLY DELIVERED?

Louise Merker [1], Ben Mitchell [2], Alice Chambers [3], Urszula Donigiewicz [4], Rebecca Llewyn-Bennett [5], Nicola Cook [6]. [1] *North Bristol NHS Trust, Bristol, United Kingdom;* [2] *Musgrove Park Hospital, Taunton, United Kingdom;* [3] *Royal United Hospital, Bath, United Kingdom;* [4] *Royal Devon and Exeter Hospital, Exeter, United Kingdom;* [5] *Cheltenham General Hospital, Cheltenham, United Kingdom and Gloucester Hospitals, Gloucester, United Kingdom;* [6] *The Great Western Hospital, Swindon, United Kingdom*

Introduction: The new general surgery training curriculum was implemented in August 2021 with much anticipation. The changes were particularly relevant to breast surgery, with a reduction in the general surgery training required and ability to reduce on-call commitments to aid

breast surgery skill consolidation. This was paired with an increase in the number and type of breast surgery index procedures required for CCT. The oncoplastic breast procedures offered regionally has a wide national variation and trainees will need to find ways to circumvent this, especially now that fellowships have become post CCT only.
Method: A trainee in each Breast Unit within our region was asked to collect the number of oncoplastic procedures performed locally from 1st January 2017 to 31st December 2020 using local operative diaries.
Results: 6 Units contributed data. Only 1 Unit was performing more than 5 local perforator flaps a year. The number of therapeutic mammoplasties performed each year was increasing in all Units. There was a large difference between Units with the number of implant-based reconstructions with some trainees having access to less than 10 cases per year.
Conclusion: Whilst the curriculum has changed to a competency-based assessment to allow for shortened training the reality is somewhat different. Trainees will need to rotate inter-deanery and possibly inter-region in order to achieve the new CCT requirements. Training Programme Directors in each region should have awareness of their current breast surgery provisions as this is likely to be national issue whilst local practice evolves.

P160

THE ASSOCIATION BETWEEN GUIDELINE ADHERENCE, AGE AND OVERALL SURVIVAL AMONG WOMEN WITH NON-METASTATIC BREAST CANCER: A SYSTEMATIC REVIEW

Katie Miller [1], Irene Kreis [1], Melissa Gannon [1], Jibby Medina [1], Karen Clements [2], Kieran Horgan [3], David Dodwell [4], Min Hae Park [1], David Cromwell [1]. [1] *Clinical Effectiveness Unit, Royal College of Surgeons of England, London, United Kingdom;* [2] *National Cancer Registration and Analysis Service, Public Health England, London, United Kingdom;* [3] *St James's University Hospital, Leeds, United Kingdom;* [4] *Nuffield Department of Population Health, University of Oxford, Oxford, United Kingdom*

Introduction: Conformity with treatment guidelines should benefit patients. Studies have reported variation in adherence to breast cancer (BC) guidelines, particularly among older women. This study investigated (i) whether adherence to treatment guideline recommendations for women with non-metastatic BC improves overall survival (OS), (ii) whether that relationship varies by age.
Methodology: MEDLINE and EMBASE were systematically searched for studies on guideline adherence and OS in women with non-metastatic BC, published after January 2000, which examined recommendations on breast surgery, chemotherapy, radiotherapy or endocrine therapy. Study results were summarised using narrative synthesis.
Results: Sixteen studies met the inclusion criteria. The recommendations for each treatment covered were similar, but studies differed in their definitions of adherence. 5-year OS rates among patients having compliant treatment ranged from 91.3%-93.2%, while rates among patients having non-compliant treatment ranged from 75.9% - 83.4%. Six studies reported an adjusted hazard ratio (aHR) for non-compliant treatment compared with compliant treatment; all concluded OS was worse among patients whose overall treatment was non-compliant (aHR range: 1.52 [1.30-1.82] to 2.57 [1.96-3.37]), but adjustment for potential confounders was limited. Worse adherence among older women was reported in 12/16 studies, but they did not provide consistent evidence on whether OS was associated with treatment adherence and age.
Conclusions: Individual studies reported that better adherence to guidelines improved OS among women with non-metastatic BC, but the evidence base has weaknesses including inconsistent definitions of adherence. More precise and consistent research designs are required to fully understand the relationship between guideline compliance and OS, following a BC diagnosis.

P161

ONCOTYPE RESULTS COMPARED TO STANDARD PATHOLOGICAL MARKERS: A FIVE YEAR AUDIT 2015 -2020 NHS LANARKSHIRE

Padmanabha Mohanlal [1], Jonathan Hicks [2]. [1] *Lanarkshire Beatson, Airdrie, United Kingdom;* [2] *Beatson Oncology Centre, Glasgow, United Kingdom*

Aims: Oncotype Dx is a multi-gene test used to help define the prognosis in ER+ve node -ve breast cancer. This audit examines whether there is any further patient or pathological data that might refine the population that should get the oncotype funded.
Methods: Data was collected from all patients who had an Oncotype test from Oct 2015 to Feb 2020 in NHS Lanarkshire. We explored the data to find what factors might help predict a high score.
Results: 157 tests were ordered: using the criteria funded by MPEP of an NPI > 3.4 41 (26%) had a RS > 25. Consideration of Allred score with pathology did change the likelihood of a high RS. If we had tightened the criteria for ordering an Oncotype to NPI > 3.4 and ER or PR < 7 or Grade 3 only 114 tests would have been ordered of which 40 were >25 (35%). Only one RS >25 would have been missed. If we had tightened criteria even further to NPI > 3.4 and ER or PR < 7: only 67 tests would have been ordered of which 28 were >25 (41%). 13 cases with a RS > 25 would have missed. Using these tighter criteria, we would have found 28 of the 41 high scores (68%) whilst ordering only 67/157 (42%) of the tests.
Conclusion: Incorporating commonly used pathological assessments of receptor activity into deciding which tumours to request an oncotype would improve the cost effectiveness of the process.

P162

DO HER2 POSITIVE BREAST CANCER PATIENTS WITH HIGHER HER2-FISH RATIO AND/OR HIGHER ERB2-GENE COPY NUMBERS HAVE WORSE CLINICAL OUTCOMES?

Karola Pawlov [1], Natthaya Eiamampai [2], Louisa Smith [1], Joan Cunningham [3], Gordon Urquhart [1], Ehab Husain [1], Beatrix Elsberger [1]. [1] *Aberdeen Royal Infirmary, Aberdeen, United Kingdom;* [2] *University of Aberdeen, Aberdeen, United Kingdom;* [3] *Ninewells Hospital, Dundee, United Kingdom*

Background: HER2 positivity found in 20-30% of breast cancer predicts a more aggressive phenotype and poorer outcomes, but anti-HER2 targeted therapies can improve prognosis. This study aimed to investigate whether a greater HER2:CEP17 amplification ratio and/or higher erb2-gene copy numbers influences patients' outcomes and response to HER2-targeted therapies.
Methods: HER2-positive breast cancer patients diagnosed 2012-2019 with HER2-FISH testing (IHC 2+) were identified by NHS Grampian and Tayside Cancer Audit Registry. Patients' pathological details, cytogenetic reports, treatments, and clinical events were collected and analysed using multivariate analysis including Kaplan-Meier analysis and log-rank testing (SPSSv27).
Results: Within 382 HER2-positive patients, 197 (51.57%) underwent HER2-FISH testing with median age 61 years, median tumour size 16mm and 13.2% with nodal involvement. 98.5% were pathological graded as g2/3. Tumours were subdivided into those with high HER2-FISH ratio and erb2-gene copy numbers (mean >6.17/>7.86; n=67/35) or low (mean <6.17/<7.86; n=127/72). Overall, 16 recurrence and 10 deaths due to breast cancer were recorded in a median follow-up time of 30.7 months. 10/131 patients (7.63%), receiving anti-HER2 therapies, experienced disease recurrence and 6/63 patients, not receiving anti-HER2 therapies, had a recurrence (9.52%; p= 0.130). High erb2-gene copy numbers were associated with disease recurrence compared to low (CR: p=0.024, HR=0.132, 95% CI [0.023-0.767]) regardless of anti-HER2 treatment. Whereas high

versus low HER2-FISH ratio was not significantly associated with disease recurrence (CR: p=0.279 (95% CI [0.562-7.391]).
Conclusions: High ERB2-gene copy number, not FISH ratio, seems to influence clinical outcome. More attention should be paid to these patients regarding treatment.

P163

HOW RARE IS RARE? FOUR "RARE" CANCERS PRESENT TO A DISTRICT GENERAL HOSPITAL OVER A 6 MONTH PERIOD

Mina Stephanos, Phoebe Greenwood, Chris Chatzidimitriou, Mandana Pennick. *Glan Clwyd Hospital, Bodelwyddan, United Kingdom*

Introduction: Whilst invasive ductal carcinomas account for the majority of breast cancers, this poster was produced to highlight four cases considered to be histopathologically "rare". Case management with histological images will be presented as follows. Case 1: A screen detected neuroendocrine tumour of the breast in a 54 year old woman. These cancers account for <5% of breast cancers per annum. 1 Staging CT confirmed this was a breast primary. The case was observed at both the breast and CUP (Cancer of Unknown Primary) MDTs. Case 2: A small cell carcinoma of the breast in a 76-year-old woman. These account for less than 1% of primary breast cancers. Diagnosis relies on excluding other potential primary sites. Case 3: A solitary fibrous tumour (SFT) in a 71 year old woman. This tumour was discovered as an incidental finding of an infraclavicular lump by a GP. Described as being exceedingly rare in the breast and more often seen in the pleura. Recurrence is common with incomplete excision. Case 4: A metaplastic carcinoma in a 79 year old woman. These account for 0.2-5% of breast cancers officially recognised in 2000. Surgery remains first line treatment as they are less responsive to chemotherapy.
Conclusions: Although described as "rare" these tumours may present more frequently than we appreciate. Cross MDT working can support timely investigation and management of these cases.

P164

DEVELOPING THE MOBILE APP 'ABCS OF BREAST HEALTH' - USING DIGITAL INNOVATION TO IMPROVE BREAST HEALTH IN INDIA

Sai Pillarisetti [1], Raghu Ram Pillarisetti [2]. [1] *British International Doctors Association (BIDA), Stockport, United Kingdom;* [2] *Ushalakshmi Breast Cancer Foundation, Hyderabad, India*

Introduction: Breast cancer is the most common cancer affecting women, both in India and the world. With 87,000 deaths per annum, tragically, a woman loses her life to breast cancer every ten minutes in India. Due to a lack of awareness and the absence of an organised population-based screening programme in India, more than 60% of breast cancers present in the advanced stages, with most succumbing to the illness within a year of being diagnosed. This mobile app aims to empower people about various aspects of breast cancer & benign breast disease explained in simple, easy-to-understand format.
Methods: To help address these striking realities, I worked with a Breast Cancer Charity based out of India, to help create the Mobile App - 'ABCs of Breast Health' - available in English and 11 regional Indian Languages. The app has an interactive 'Myths & Facts' section which is aimed at debunking many of the common myths surrounding breast cancer and ensuring that users are well informed with accurate information, thus filling a huge void in the delivery of Breast Health Care in India where counselling is not given much importance.
Results: This App is South Asia's First Breast Health App and is also the World's first breast health app available in so many languages. Within the first month of its launch, it recorded 9000+ downloads.
Conclusion: The content of the app in 11 commonly spoken regional languages has ensured that accurate information relating to breast health is accessed by women in rural India, where 70% of the population resides.

P165

TRAINEE ENGAGEMENT WITH THE NEW HIGHER SURGICAL TRAINING CURRICULUM

Adeline Rankin [1], Sarah Downey [2]. [1] *Ipswich Hospital, Ipswich, United Kingdom;* [2] *James Paget University Hospital, Great Yarmouth, United Kingdom*

Introduction: In August 2021, the new curriculum for higher surgical training was implemented. Trainees are now assessed against outcomes based on the fundamental capabilities required of consultants. Feedback from trainers has become the measurement of level of competency against the nine domains set out in the GMC Framework. A new assessment, the Multiple Consultant Report (MCR), encompasses the concepts of Generic Professional Capabilities (GPCs) and Capabilities in Practice (CiPs) (Table 1). It enables Clinical Supervisors to discuss their experiences of trainees and share their professional opinions about trainee performance to form a collective judgement.

Table 1

Capabilities in Practice (CiPs)
Manages an out-patient clinic
Manages the unselected emergency take
Manages ward rounds and the on-going care of in-patients
Manages an operating list
Manages multi-disciplinary working
Generic Professional Capabilities (GPCs)
Professional values and behaviours professional skills
Professional knowledge
Capabilities in health promotion and illness prevention
Capabilities in leadership and team working
Capabilities in patient safety and quality improvement
Capabilities in safeguarding vulnerable groups
Capabilities in education and training
Capabilities in research and scholarship

Methods: We assessed the current state of trainee engagement with the new curriculum using data from 1605 Intercollegiate Surgical Curriculum Programme trainee portfolios.
Results: Of the 1605 trainees visible on ISCP with current placements, 1286 have declared a current ST training level; 198 (15%) are at ST8 level. There are 14 trainees in ST8 that have chosen the new curriculum (184 who have not) of the following specialties: breast (7), benign upper GI surgery (2), and colorectal surgery (5). Of ST7 trainees, 44 have elected to remain on the old curriculum.
Conclusions: The vast majority of higher surgical trainees in their final year do not wish to change to the new curriculum. They have prepared portfolios to match the old curriculum. However, 80% of those in ST7 and below have changed. As trainers, are we ready for this significant change in surgical training?

P166

DOES DIABETES MELLITUS AND INSULIN RESISTANCE LEAD TO LACTATION FAILURE?

Agnimita Sarkar [1], Deborshi Jana [2]. [1] *Institute of Child Health, Kolkata, India and Disha for Cancer, Kolkata, India;* [2] *The Institute of Post-Graduate Medical Education and Research, Kolkata, India*

Introduction: Non-lactation leads to high incidence of lactational mastitis, abscess (short term) and breast, ovarian cancer (long term) in mothers. In children there is higher incidence of malnutrition, ARI, and under 5 mortality. Faulty feeding techniques and nipple abnormalities are common but correctable factors. Diabetes and insulin resistance is considered as a factor for non-lactation.

Aims: To evaluate the association between diabetes-suspected insulin resistance and non-lactation.
Methodology: Study Place was the Lactation and Paediatric Breast Health Clinic.
Inclusion criteria: Non-lactating mothers (no breast abnormality, no faulty feeding, no neonatal congenital abnormality).
Duration: 2 years.
Study Type: Prospective
Observational Factors evaluated: diabetes, hypertension, hypothyroidism, BMI, and hyperlipidemia. The association between the risk factors and non-lactation was statistically evaluated using chi-square test with SPSS software version 27.0.0.
Results: 32 mothers were observed over a period of 2 months. 10 out of 32 had hypothyroidism. Of these in 4 (25.0%) mothers lactation was not achieved ($p=0.4456$). 18 had hypertension. No initiation in 12 (75.0%) mothers ($p=0.0325$). 18 had diabetes mellitus with no initiation in 12 (75.0%) mothers ($p=0.0325$). 22 had hyperlipidemia with non-lactation in 16 (72.7%) mothers ($p<0.0001$). 24 had obesity and non-lactation in 16 (66.6%) mothers ($p=0.0010$).
Discussion: The study establishes that diabetes, obesity, hypertension, and hyperlipidemia are independent risk factors for non-lactation. The last 3 factors are markers of insulin resistance. Recent studies suggest that insulin plays a direct role in lactation by secretory differentiation. A multivariate study is planned based on this study.

P167

SAFETY AND COSMETIC OUTCOME FOLLOWING EXTREME ONCOPLASTY: A PROSPECTIVE OBSERVATIONAL STUDY

Diptendra Kumar Sarkar, Srija Basu, Rudradeep Banerjee. *The Institute of Post-Graduate Medical Education and Research, Kolkata, India*

Introduction: Large tumour size, multifocal and multicentric disease, high tumour-breast ratio are barriers to successful BCT. Extreme oncoplasty allows wider resection and achieves preservation in apparently non-conservable lesions.
Aims: To assess the safety and acceptability of breast conservation using extreme oncoplasty.
Methodology: Prospective observational study.
Inclusion criteria: Post NST-Tumour size>5cm. Multifocality high tumour-breast ratio. Skin involvement<50%.
Exclusion criteria: Metastatic and multicentric disease. Various oncoplastic techniques (mini-LDMF, VRAM, mammoplasty, Chest wall perforator flaps) were used. 2 mm and 'No-ink on margin' were considered as negative for DCIS and invasive cancers respectively. Cosmetic satisfaction was assessed using a scale of 1 to 10. Patients were followed up for 2 years.
Primary outcome: Incidence of local recurrence.
Secondary outcome: Cosmetic acceptance.
Results: 43 (34 IDC,1 ILC,3 DCIS, 5 malignant PT) were studied. Of 38 BC, (15(40%), 16(42%) and 7(18%) were Luminal, NBC and Her2 neu enriched respectively. 10 (23.2%) had multifocality. 35(81.3%) patients had tumour size >5cm. 17 (39.5%) were >7cm and 18 (41.8%) were between 5-7cm. All patients underwent BCS with extreme OPS. R0 status was achieved in 42 patients (97.6%). One patient had positive superior margin (underwent cavity-shaving). Median follow up was 24 months. Two local recurrence (4.6%) were noted and one died due to lung metastasis (2.3%). The cosmetic outcome was excellent (score >8) in 32, Good (>6) in 6 and average in rest.
Discussion: Short-term FU shows DFS and LR rates are comparable with mastectomy. The cosmetic outcome and psychological morbidity is superior to mastectomy. The study establishes the safety and cosmetic superiority of extreme OPS.
Conclusion: Extreme OPS is an important tool to achieve breast conservation in mid and low-income countries.

P168

MULTIWAVELENGTH LASER INDUCED FLUORESCENCE SPECTROSCOPY FOR BREAST CANCER DIAGNOSTICS

Dhurka Shanthakumar, Vadzim Chalau, Ara Darzi, Dan Elson, Daniel Leff. *Imperial College London, London, United Kingdom*

Introduction: The 'Getting It Right First Time' report suggests a high rate of re-operative intervention following breast conserving surgery. Intra-operative margin assessment (IMA) tools may reduce re-excision rates. Laser induced fluorescence spectroscopy (LIFS) is a non-invasive optical modality which can be used for real-time discrimination of normal and malignant tissues. This pilot study investigates LIFS signals from varying tissue types, aimed towards IMA tool development.
Method: A custom-built LIFS system was used to analyse frozen tissue samples (Tissue Bank Ethics ID R21032-1A). 10 samples each of normal breast tissue; invasive ductal (IDC); and invasive lobular (ILC) carcinoma were utilised. 980 total spectra were acquired from 30 thawed samples. Two autofluorescence spectra in the range 420 – 900 nm, excited at 375nm and 405nm, were acquired from each point per tissue sample. Ratio of the autofluorescence intensities was used as a diagnostic criterion. The Wilcoxon test was applied for comparison of signals between normal and malignant tissue.
Results: At 375nm excitation, statistically significant difference in LIFS signal was detected between normal breast tissue and IDC ($p=0.001$) but not for ILC ($p=0.06$). At 405nm excitation significant difference was detected for ILC only ($p=0.003$), but not for IDC ($p=0.26$). Endogenous fluorophores vary amongst different malignant tissue types, and is likely to account for these observed differences.
Conclusion: An ideal IMA tool must account for breast cancer heterogeneity. LIFS signal disparity has been observed between normal, ductal and lobular cancer, with wavelength dependence. Future work will use freshly excised tissue to evaluate how fluorescent properties alter.

P169

PATIENT EXPERIENCE OF A BREAST CANCER STRATIFIED FOLLOW UP PROGRAMME AT A DISTRICT GENERAL HOSPITAL: A QUALITATIVE IMPROVEMENT PROJECT

Leyla Swafe, Ponnuthurai Pratheepan, Bernadette Pereira, Jasdeep Gahir. [1] *North Middlesex Hospital, London, United Kingdom*

Introduction: Routine follow-up has been shown to be costly and time consuming and there is little evidence suggesting it identifies recurrence of disease. Stratification of patients with low-risk breast cancer onto follow up pathways have therefore emerged where patients can be supported to manage their own follow-up. Our aim was to elicit patients' opinions regarding their experience with our stratified follow up programme and to assess whether patients felt they could manage their own health thus avoiding unnecessary hospital visits.
Methods: A patient survey consisting of a questionnaire with 16 questions was given to eligible patients including those with early breast cancers who completed their adjuvant therapies and were seen in clinic after their first annual mammogram from October 2020 to June 2021.
Results: We received 38 questionnaires, which were analysed. Most patients (78.9%) had contact details for their Breast Cancer Nurse Specialist (BCNS). Most patients (80.6%) did not have to contact their GP practice for advice or support with issues relating to their treatment for cancer over the past months. 65.7% felt they had all the information, advice or support they needed to help manage their health. 34.3% were very confident and 48.6% were fairly confident about managing their health.
Conclusions: Many patients felt they were able to manage their own health thus avoiding unnecessary hospital visits, however they need to be

provided with further support to improve their confidence in managing it better. There is therefore scope to address the informational needs for patients for stratified follow up.

P170

ANALYSIS OF DETECTION OF BREAST CANCER RECURRENCES DURING INTENSIVE FOLLOW-UP AFTER TREATMENT OF PRIMARY BREAST CANCER

Iram Hassan [1], Matthew G. Davey [1], Ibrahim Alibrahim [2], Richard Farnan [1], David Miresse [1], Denise Suyin Chai [1], Carmel Malone [1]. [1] *University Hospital Galway, Galway, Ireland;* [2] *Roscommon Hospital, Roscommon, Ireland*

Introduction: Since the outbreak of the COVID-19 pandemic, the paradigm has evolved such that virtual breast cancer clinics and surveillance has dominated patient follow-up. Breast cancer patients are routinely followed up for years in surgical, medical oncology and radiation oncology clinics. However, controversies surround follow-up, and its value is uncertain. The aim of this study was to assess whether breast cancer recurrences presenting at our breast unit were detected clinically or radiologically and proportion of the recurrences detected during routine physical exam.
Methods: An observational cohort study of retrospective design was performed evaluating patients suffering breast cancer recurrence (locoregional and/or distant) between 2016 and 2020. Electronic hospital records were reviewed to update patient data. Basic descriptive statistics (Chi-square, Fisher's Exact tests) were performed using SPSS version 26.0.
Results: In total, 181 patients presented to our unit with breast cancer recurrence during the period of this study. Overall, 88 recurrences were detected clinically and 93 were detected using radiology (48.6% and 51.4%). Interestingly, 77 recurrences were detected by the patient themselves (42%) and only 11 recurrences were detected by physical examination on scheduled appointments (6%). These eleven patients had asymptomatic recurrences identified by clinical exam, which could have been identified by surveillance imaging.
Conclusion: Breast cancer recurrences are as likely to be detected clinically as using radiology. Keeping the substantially low cancer detection rate of asymptomatic recurrences, review of data in post covid period requires appropriate utilization of resources for breast cancer follow-up. Long term routine hospital follow-up appears to be inefficient in detecting recurrence.

P171

LOOKING BACK AT LONG TERM OUTCOMES FOLLOWING NEO-ADJUVANT CHEMOTHERAPY: IS IT ABOUT TIME TO DE-ESCALATE AXILLARY SURGERY

Goonj Johri [1], Stanley James Schofield [2], Matthew Davenport [3], Rashmi Verma [3], Isabel Hughes [4], Sumohan Chatterjee [3], Lyndsey Highton [3], Sacha Howell [5]. [1] *Wythenshawe Hospital, Wythenshawe, United Kingdom and Nightingale Breast Centre, Manchester University Foundation Trust, Manchester, United Kingdom;* [2] *University of Manchester, Manchester, United Kingdom;* [3] *Manchester University Foundation Trust, Manchester, United Kingdom;* [4] *Plastic Surgery, Wythenshawe Hospital, Wythenshawe, United Kingdom;* [5] *The Christie Hospital, Manchester, United Kingdom*

Introduction: Neoadjuvant chemotherapy (NACT) is increasingly being utilized as first-line treatment for high-risk non-metastatic breast cancer. However, not much is known about its impact after pathological complete response (PCR).
Methods: We conducted a retrospective review of our prospectively maintained database for patients who received NACT for non-metastatic breast cancer from Jan 2016 - Dec 2018. Immediate and long-term outcomes were analysed.
Results: 136 patients were identified, all women with mean age 52.4+12.5years. Median tumour size was 30 mm (33.7+22.2) on mammogram and 37mm (422+267) on MRI. 24% had multifocal disease, 41.7% triple negative (TNBC) and 2% had bilateral cancers. 50% patients had axillary lymph nodes metastases (ALN) at presentation. 42.4% showed complete/near-complete radiological response (on mid-cycle/end of treatment MRI). 59% underwent mastectomy. Overall, 52% had pcr to breast and 74.2% for axilla. Over a mean follow-up of 42.7+11.6 months (range: 12-64), 10.8% had recurrence. 6% (n=8) were loco-regional (LRR), 3% (n=4) systemic and 1% (n=2) had both. A positive correlation was seen between pcr, radiological response (0.572) and age at diagnosis (0.191). There was a negative correlation between pcr and ALN metastases on final histology (-0.334). Multivariate regression showed only post-op ALN status (<0.001) and radiological response (<0.001) as significant predictors of pcr. There was no correlation between Her 2 status/TNBC. Overall mortality was 5% (late systemic metastases).
Conclusion: Based on the results, a large cohort of patients could have avoided ALN clearance based on response to NACT. Additionally, although pcr showed an association with improved overall survival (p=0.02), this was not a predictor of decreased LRR.

P172

THE MARECA (NATIONAL STUDY OF MANAGEMENT OF BREAST CANCER LOCOREGIONAL RECURRENCE AND ONCOLOGICAL OUTCOMES) STUDY: NATIONAL PRACTICE QUESTIONNAIRE OF UNITED KINGDOM MULTIDISCIPLINARY DECISION MAKING

Jenna Morgan [1], Vinton Cheng [2], Peter Barry [3], Ellen Copson [4], Ramsey Cutress [4], Rajiv Dave [5], Beatrix Elsberger [6], Patricia Fairbrother [7], Sue Hartup [2], Brian Hogan [2], Kieran Horgan [2], Cliona Kirwan [8], Stuart McIntosh [9], Rachel O'Connell [3], Neill Patani [10], Shelley Potter [11], Tim Rattay [12], Lisa Sheehan [13], Lynda Wyld [1], Baek Kim [2]. [1] *University of Sheffield, Sheffield, United Kingdom;* [2] *Leeds Teaching Hospitals NHS Trust, Leeds, United Kingdom;* [3] *The Royal Marsden NHS Foundation Trust, London, United Kingdom;* [4] *University of Southampton, Southampton, United Kingdom and University Hospital Southampton, Southampton, United Kingdom;* [5] *Wythenshawe Hospital, Manchester, United Kingdom;* [6] *Aberdeen Royal Infirmary, Aberdeen, United Kingdom;* [7] *Independent Cancer Patient Voices, London, United Kingdom;* [8] *University of Manchester, Manchester, United Kingdom;* [9] *Queen's University Belfast, Belfast, United Kingdom;* [10] *University College London Hospitals NHS Foundation Trust, London, United Kingdom;* [11] *North Bristol NHS Trust, Bristol, United Kingdom;* [12] *University of Leicester, Leicester, United Kingdom;* [13] *Wessex Deanery, Winchester, United Kingdom*

Background: Evidence based guidelines for the optimal management of breast cancer locoregional recurrence (LRR) are limited, with potential for variation in clinical practice. This national practice questionnaire (NPQ) was designed to establish the current practice of UK breast multidisciplinary teams (MDTs) regarding LRR management.
Methods: UK breast units were invited to take part in the MARECA study MDT NPQ (February-August 2021). Scenario-based questions were used to elicit unit preference in pre-operative staging investigations, breast and axillary surgery, and adjuvant therapy.
Results: Across 42 breast units (out of 144; 29%), 822 MDT members participated in the NPQ. Most units (95%) routinely performed staging investigations with CT chest, abdomen, and pelvis, but bone scan was selectively performed (31%). For patients previously treated with breast conserving surgery (BCS) and radiotherapy, few units (7%) always/usually offered repeat BCS. However, in the absence of radiotherapy, most units (90%) always/usually offered repeat BCS. For patients presenting with isolated local recurrence following previous BCS and SLNB (sentinel lymph node biopsy), most units (95%) advocated repeat SLNB. Where a SLN could not be identified, 86% proceeded to a four-node axillary sampling procedure. For ER+HER2- node negative local recurrence, 10% of units always/usually offered chemotherapy. This recommendation increased to 64% in patients with ER+HER2- node positive local recurrence. For triple negative breast cancer subtype local recurrence, 90% of units always/usually offered chemotherapy.
Discussion: This national survey has highlighted consistencies and variations in the management of breast cancer LRR. Further research in patient management and prognosis will determine optimal treatment pathways.

P173

BREAST CANCER RECURRENCE IN A TERTIARY REFERRAL HOSPITAL

Tejas Haritas, Saed Ramzi, Maria Verroiotou. *University Hospitals Plymouth NHS Trust, Plymouth, United Kingdom*

Introduction: Breast cancer local recurrence (LR) and mortality (M) remain a challenge for interdisciplinary management. The aim of this study was to investigate any significant contributing factors for LR and M.
Methods: Electronic records were retrospectively collected of 5545 patients that underwent breast cancer surgery between January 2010 and December 2020. Kaplan-Meier and Stepwise Cox Proportional-Hazards tests were used for any-cause deaths and LR events. Recurrence data was stratified by age at diagnosis, type of operation (intention-to-treat) and gender. Survival data was additionally stratified by presence or absence of local recurrence.
Results: All-cause mortality rate was 8.7% (n=463). Mean survival=129 months (SE= 0.52). Hazard ratios: male vs female= 2.85; p=0.074, age>40 vs ≤40 years= 1.01 (p=0.953); Mastectomy vs BCS= 2.35 (p<0.0001); LR vs no LR=22.57 (p<0.0001). On multivariable analysis, mastectomy and LR were significant (HR= 2.10, p<0.0001 and 3.78, p<0.0001, respectively). Local recurrence rate was 3.0% (n=161). There were no recurrences in male patients. Hazard ratios: age>40 vs ≤40 years= 0.20 (p=0.0001); Mastectomy vs BCS= 1.88 (p=0.0005). On multivariable analysis, mastectomy and age>40 were significant (HR= 0.38, p=0.0006 and 1.72, p=0.0013, respectively).
Conclusions: All-cause M is more frequent in those diagnosed with LR and young age is associated with higher LR. Mastectomy seems to be a predictor of higher rate of recurrence and M, yet the current data does not adjust for tumour stage or biology. These results are consistent with international studies and provide an assessment of the surgical management of breast cancer patients. Data as currently recorded in NHS hospitals is of poor quality and a prospective database that hosts diagnostic, clinical, surgical and outcome information is required.

P174

EVALUATION OF A NOVEL PAPER-BASED ALGORITHM FOR BREAST FAMILY HISTORY RISK ASSESSMENT

Ghassan Elamin, Nikki Milburn, Ali Jahan. *Sherwood Forest Hospitals Foundation Trust, Derby, United Kingdom*

Introduction: The lack of rapid and reliable triaging family history (FH) assessment tool in clinics is contributing to unmet FH need in our service. Software based tools are unwieldy and not routinely used in busy clinics. Instead, clinical assessment is relied upon but this is unreliable and a potential clinical risk.
Method: This prospective audit evaluated a novel FH risk assessment algorithm (Mansfield Rapid Triaging Algorithm) in breast clinics. This is compliant with NICE CG 164 guideline and was developed with the regional genetics service. The algorithm is paper based pro forma the clinician completes during the consultation and takes less than a minute to do. Based on this, patients are divided into population or increased risk. The latter referred to the local FH service for further management. A copy of the pro forma is kept in the medical record and a copy given to the patient. This also includes information about the significance of their assessment.
Results: There were 820 patients: 77 (9.3%) increased risk, 740 (90.2%), 3 (0.3%) unknown FH (adopted). Of these, 140 out of 141 patients found the algorithm questions easy, quick to complete, and happy with the assessment process.
Conclusions: The algorithm is simple to use and well-liked by both patients and clinicians. FH assessment can be done rapidly and reliably in busy clinics and this of mutual assurance to the patient and the clinician. The assessment of FH in our service has improved as a result of using this tool. It also has the advantage of avoiding the difficulties of using software.

P175

STEROID RECEPTOR POSITIVITY AND TUMOUR TYPE ARE INFLUENCING ONCOTYPE DX RECURRENCE SCORE AND SUBSEQUENT TREATMENT DELIVERY IN SCOTLAND

Adam Peters [1], Husam Marashi [1], Lee B. Jordan [2], Laura Hannington [1], Maheva Vallet [3], Douglas Cartwright [1], Feng Yi-Soh [4], Stanislau Makaranka [5], Gordon Urquhart [5], Peter Hall [3], Beatrix Elsberger [5]. [1] *NHS Greater Glasgow and Clyde, Glasgow, United Kingdom;* [2] *NHS Tayside, Dundee, United Kingdom;* [3] *University of Edinburgh, Edinburgh, United Kingdom;* [4] *NHS Highland, Inverness, United Kingdom;* [5] *NHS Grampian, Aberdeen, United Kingdom*

Background: Individualised treatment is at the heart of breast cancer care. Genomic assays are now providing evidence to guide adjuvant systemic therapy decision making. The aim of this Pan-Scotland study was to investigate the clinical uptake of Oncotype DX testing and explore the clinical benefit in certain patient sub-groups.
Methods: Data of all Scottish patients, with RS-score requests between August 2018 and August 2021, were collected from each Scottish Cancer Network audit database with Caldicott approvals in place. Patients' clinicopathological details, treatments received, PREDICT and RS-score were recorded and analysed using descriptive statistics and univariate analysis via R-Studio v1.4.
Results: 696 patients were analysed. 46% of patients had a PREDICT-score 3-5%, 26% PREDICT-score <3%, 28% PREDICT-score >5%. Chemotherapy prescribing was strongly influenced by RS-scores (p <0.001, Wilcoxon-rank test). Only 28% of all patients received chemoendocrine therapy. Their median age was 56 (IQR 48-64), 58% were post-menopausal, median RS-score 33 (IQR 27-42) and PREDICT-score 4.8 (IQR 3.5-6.1). 643 patients were classed as highly ER positive (Allred 7-8). Only 24% were classed as high risk and received chemoendocrine therapy. Whereas patients with only moderate ER positivity (Allred 3-6, n=52), 56% were high risk, increasing to 60% in postmenopausal women. Stratifying by tumour type, 92% of 134 invasive lobular cancers had a low RS-score and avoided chemotherapy.
Conclusions: Patients with moderate ER positivity have a high probability of requiring chemoendocrine therapy with Oncotype DX testing being valuable. Conceivably invasive lobular cancer patients can avoid the expense as limited benefit is present.

P176

LYNCH SYNDROME AND BREAST CANCER

Spyridon Marinopoulos, Eftychia Papachatzopoulou, Dimitrios Maniatis, Ioannis Papapanagiotou, Aris Giannos, Constantine Dimitrakakis. *Alexandra Hospital, Athens, Greece*

Introduction: Lynch Syndrome (LS) is a hereditary cancer predisposition syndrome caused by autosomal dominant mutation in tumour suppressor genes, the DNA mismatch repair proteins (MMR). Alterations in four genes are related to LS: MLH1, MSH2, MSH6 and PMS2. Is associated with a variety of cancers, mostly colorectal and endometrial. We present three cases of breast cancer (BC) associated with LS.
Methods: Three patients with mammographic findings were diagnosed with BC and LS. The first 68-year-old patient with a personal history of thyroid, endometrial and breast cancer was diagnosed with DCIS in the contralateral breast. The second, a 60-year-old woman had a personal history of endometrial cancer, while our third 45-year-old patient had family history of BC. Genetic testing revealed mutations in MSH6 gene in the first two patients and in PMS2 gene in the third one.
Results: Approximately 5% of endometrial and 1% of ovarian cancer occur because of LS. These patients have a lifetime risk of 5-14% for BC, 4-12% for ovarian cancer, 30-70% for colon cancer and 30-60% for endometrial cancer. BC in LS patients seems to be related more often with MSH6 mutations. Risk management guidelines are available, recommending earlier and more frequent gastrointestinal and gynecologic screening. BC screening

depends on the individual risk, resulting from personal and family history. In some cases, hysterectomy with bilateral salpingo-oophorectomy and bilateral mastectomy is necessary.
Conclusions: It is significant to offer genetic consultation and testing in patients with BC and personal/family history of colorectal, ovarian, endometrial and BC.

P177

DO SOCIAL DEPRIVATION, ETHNICITY AND BODY MASS INDEX (BMI) AFFECT BREAST CANCER OUTCOMES AFTER AXILLARY NODE CLEARANCE (ANC) SURGERY?

Hannah Robinson [1], Glen Martin [1], Donna Watterson [2], Sarah Bowers [2], Katie Riches [3], Vaughan Keeley [3], Nigel Bundred [2]. [1] *Faculty of Biology, Medicine and Health, University of Manchester, Manchester, United Kingdom;* [2] *Manchester University NHS Foundation Trust, Manchester, United Kingdom;* [3] *Derby Hospitals NHS Foundation Trust, Derby, United Kingdom*

Introduction: Social deprivation, ethnicity and BMI are risk factors for cancer. We determined whether social deprivation, ethnicity and BMI affect breast cancer outcomes following ANC.
Methods: 1116 women (*mean age 55.8*) undergoing ANC were recruited between 2010 and 2015 to a prospective, multi-centre cohort study. For follow-up, data linkage to National Cancer Registry, UK Index of Multiple Deprivation (IMD) and Hospital Episode Statistics was agreed with Public Health England and National Research Ethics Service Committee. Outcomes were measured as distant disease-free survival (DDFS) in months. Prognostic factors were analysed using logistic regression.
Results: After 7-year follow-up there were 250 breast cancer deaths or distant recurrences. Social deprivation was classified by IMD quintile: IMD1/2 (least deprived) (*n=430*), IMD3 (*n=219*), IMD4/5 (most deprived) (*n=352*). Ethnicity groups were: White (*n=935*), Black African/Caribbean (*n=45*), Asian (*n=34*). BMI groups were: Underweight/healthy (BMI<25) (*n=350*), Overweight (BMI25-29.9) (*n=402*), Obese (BMI>30) (*n=344*). In multivariable regression analysis, DDFS was predicted by: BMI (*HR 1.03, 95%CI 1.00-1.05, P=0.041*); screening detection (*HR 0.34, 95%CI 0.23-0.81, P=0.008*); mixed/other tumour histological type (*HR 1.58, 95%CI 1.08-2.31, P=0.020*); tumour grade (*HR 2.14, 95%CI 1.50-3.08, P<0.001*); positive hormone receptor status (*HR 0.56, 95%CI 0.39-0.81: P=0.002*); number of lymph nodes involved (*HR 1.05, 95%CI 1.03-1.06, P<0.001*), but not by social deprivation, ethnicity, age, postsurgical lymphoedema, tumour size, HER2 status or treatment received.
Conclusions: High BMI predicted worse breast cancer recurrence and mortality, but social deprivation and ethnicity did not. Obese breast cancer patients are at higher risk when undergoing ANC; underlying mechanisms should be identified and targeted to reduce cancer progression and mortality.

P178

SHOULD THE PRESENCE OF DCIS COMPONENT IMPACT SURGICAL DECISION IN BREAST CONSERVING SURGERY FOLLOWING NEOADJUVANT CHEMOTHERAPY?

Mahmoud Soliman [1], John Benson [2], Parto Forouhi [2], Chon Sum Ong [2], Amit Agrawal [2]. [1] *Faculty of Medicine, Mansoura University, Egypt;* [2] *Cambridge University Hospitals NHS Foundation Trust, Cambridge, United Kingdom*

Introduction: Neoadjuvant Chemotherapy (NACT) although can downsize an invasive tumour to allow a successful Breast Conserving Surgery (BCS), non-invasive component of the tumour complex can lead to unclear margins. We present a comparison between invasive tumour with or without Ductal Carcinoma In-Situ (DCIS) in NACT setting.
Methods: We performed retrospective analysis of 137 NACT cases followed by BCS between March 2013 and June 2019. Invasive cancers with associated DCIS component were compared with no DCIS. Statistical tests used were T-test (parametric), Mann-Whitney U test (non-parametric) and Chi-Square test (categorical) data.
Results: No significant difference was found in terms of node positivity, multicentricity, tumour type and molecular subtype, whilst the 'no DCIS' group showed a higher rate of grade 3 tumours. There was 74% reduction in radiological size pre-to-post NACT without DCIS compared to 64% with DCIS. Post-NACT imaging size in the 'no DCIS' group was 38% larger compared to post-operative size; however, with DCIS, tumours were 26% smaller on imaging. Margin positivity, mastectomy and local recurrence were non-significantly higher in the presence of DCIS. See table 1.

Table 1

	No DCIS (n=57)	DCIS (n=80)	Significance
Mean age (years)	52.1	53.3	0.536
Mean Pre-NACT tumour size	35	37.4	0.375
Mean Post-NACT radiological size (mm)	9.1	13.4	0.025
Mean post-operative tumour size (mm)	5.6	16.9	<0.0005
pCR	31	26	0.01
Involved margins	4	12	0.152
Mastectomy	0	3	0.266
Local recurrence (median=51 m)	1	7	0.139

Conclusion: Invasive cancers with DCIS component were significantly larger end-of-NACT and post-operatively with under-estimation of tumour size in post-NACT imaging. There was a trend towards higher rate of positive margins, mastectomy and local recurrence in the presence of DCIS that may influence surgical options and outcomes. Oncoplastic surgery may be useful in tumours with DCIS component post-NACT to maintain the utility of NACT as a tool to increase BCS.

P179

TROUBLESHOOTING WITH MAGSEED AND MAGTRACE DURING BREAST CANCER SURGERY

Abeera Abbas, Rebecca Wilson, Alison Darlington, Chloe Wright, Ioannis Ntanos, Nabila Nasir, Mohammed Absar, Kate Williams. *Manchester University NHS Foundation Trust, Manchester, United Kingdom*

Introduction: Magnetic seed (Magseed) is widely used to localise breast cancers and recently superparamagnetic iron oxide nanoparticles (Magtrace) was introduced for sentinel lymph node biopsy (SLNB). Our study describes a case series of challenges encountered since our unit became totally magnetic.
Methods: Retrospective review of consecutive patients who had magseed or magtrace used for surgery from Dec 2018 - Oct 2021. Those resulting in challenges due to the technique employed for localisation were included in the study.
Results: A total of 316 magseed guided surgical excision and 380 Magtrace SLNB were performed. We describe a case series of 6 patients, 5 relating to magseed and one case relating to Magtrace. In two cases we failed to retrieve the magseed from the axilla at first surgery, further localisation and a second surgery was required which resulted in successful outcome. In two cases magseed was deployed at wrong site, it was retrieved but required a separate incision in one case. In another magseed was deployed with an intention for surgery but later patient was treated with primary endocrine treatment. In the final case MRI was needed following initial surgery using Magtrace to detect radio-occult disease, resulting in artefact making MRI challenging to read by radiologist.
Conclusion: The totally magnetic technique is the way forward in breast cancer surgery. However, it can be challenging at times like all new techniques, we learnt from these cases and are better equipped to trouble shoot next time we encounter such situations.

P180

BREAST AUGMENTATION USING AUTOLOGOUS FAT GRATING OPTIMISED BY NEGATIVE PRESSURE WOUND THERAPY

Nicholas Hodgins, John Murphy. *Nightingale Breast Unit, Manchester, United Kingdom*

Introduction: The majority of breast augmentation procedures utilise breast implants to achieve enhancement to shape and volume. However, breast augmentation using autologous fat grafting is gaining popularity. The technique permits volume and shape enhancement whilst avoiding the associated complications of breast implants. However, it can be limited by the degree of achievable volume enhancement, the need for multiple fat transfer procedures and the unpredictable nature of grafted fat take.
Methods: We propose an innovative technique of using PICO negative pressure wound therapy to pre-condition and optimise the breast for large volume fat transfer. PICO dressings are applied two weeks prior to planned augmentation. Donor sites are determined by the patient's body habitus. Suction assisted lipoaspirate is processed using the Puregraft system. Fat is infiltrated in a multilayer trellis pattern followed by reapplication of PICO dressings for a further two weeks.
Results: We have employed our technique now in over ten patients transferring up to 350cc fat per breast in a single sitting dependent on starting breast size. Patients have reported high satisfaction rates and we have not observed any cases of fat necrosis.
Conclusions: Since employing PICO dressings as an adjunct for cosmetic breast augmentation using autologous fat transfer, we have been able to transfer larger volumes of fat during any single stage and have observed higher rates of fat retention with a minimal complication profile. We recommend use of PICO dressings for autologus fat transfer cosmetic breast augmentation in patients who seek a natural contour augmentation with mild to moderate volume enhancement and minimal scarring.

P181

REVERSE ABDOMINOPLASTY ADVANCEMENT FLAP: AN EFFECTIVE AND LOW MORBIDITY RECONSTRUCTION OPTION FOR THE RADICAL MASTECTOMY PATIENT

Alison Hunter-Smith [1], Kenneth Graham [1], Geraldine Mitchell [2]. [1] *St Helens and Knowsley Teaching Hospitals NHS Trust, Prescott, United Kingdom;* [2] *Royal Liverpool and Broadgreen University Hospitals NHS Trust, Liverpool, United Kingdom*

Introduction: Radical mastectomy (RM) is indicated for patients with locally uncontrolled breast carcinoma or angiosarcoma of the breast, for either local control or with curative intent. Flap coverage is routinely offered using pedicled or free flap reconstruction, committing the patient to a long post-operative recovery and risks significant donor site morbidity long-term. We suggest reverse abdominoplasty advancement (RAA) flap a viable option for these high-risk patients, providing a lower risk intra-operative course, earlier return to normal activities of daily living and preserved oncological outcomes.
Methodology: Retrospective review of patients undergoing RM & RAA flap within a single UK oncoplastic breast surgery unit. Post-operative complications and oncological outcomes examined.
Results: Six patients underwent RM with RAA. Indication for surgery: uncontrolled primary breast carcinoma 50%; secondary angiosarcoma of breast 33%; recurrent breast carcinoma 17%. Two patients had known single site distant metastasis at surgery. All patients were discharged from hospital within 48 hours of surgery. All patients were mobile day 1 post-operatively. Nil Clavien-Dindo Class II-IV post-operative complications were experienced, specifically nil delayed wound healing occurred. Nil loco-regional recurrences reported. One patient had new diagnosis of distant metastasis 6 months post-operatively. Overall survival remains 100% at up to 24 months follow-up.
Discussion: We describe an effective advancement flap technique for patients requiring radical mastectomy, that offers a short hospital stay and expedites post-operative recovery, optimising quality of life for a cohort of women with often limited life expectancy.

P182

INDOCYANINE GREEN IS A SAFE AND EFFECTIVE ALTERNATIVE TO RADIOISOTOPE IN BREAST CANCER SENTINEL NODE BIOPSY REGARDLESS OF PATIENT BODY MASS INDEX

Samantha Ng [1], Vassilis Pitsinis [2], Emad H. Elseedawy [2], Douglas Brown [2], Alessio Vinci [2], E Jane Macaskill [2], Benjamin Jones [3]. [1] *University Hospital Wishaw, NHS Lanarkshire, Wishaw, United Kingdom;* [2] *Ninewells Hospital, NHS Tayside, Dundee, United Kingdom;* [3] *University of Dundee, Dundee, United Kingdom*

Introduction: A recent meta-analysis has confirmed high sensitivity of indocyanine green (ICG) fluorescence mapping for sentinel node detection in early breast cancer. Concerns have previously been raised regarding the efficacy in patients with high body mass index (BMI).
Methods: All consecutive patients undergoing sentinel lymph node biopsies (SLNB) for early breast cancer in NHS Tayside were included in a prospective audit of surgical and pathology findings. All patients included in the study received dual injection of patent blue dye and ICG. Approval was obtained from the local Caldicott guardian for collection and use of personal data.
Results: Of 239 cases, all were female patients of mean age 62 years (range 27-93). In 4.2% (10/239) of cases neither blue dye nor ICG was present in the axilla. Of the remaining 229 SLNB cases in this series, surgeons documented retrieval of 451 nodes, with a mean surgical nodal count per case of 1.97 (range 1-5) and pathology nodal count of 2.15 (range 0-7). 83 cases were performed in patients with BMI 30-39.9 and 21 cases with BMI>40, with nodal detection rates of 96.4% (80/83) and 95.2% (20/21) respectively in these groups of patients. 20% (48/229) of cases had nodal metastases on histopathology.
Conclusions: This large single centre study of combined ICG and blue dye for SLNB for breast cancer demonstrates the safety and accuracy of this technique represented by nodal detection rates and node positivity comparable to previous multicentre studies of standard SLNB regardless of patient BMI.

P183

MARGEX (MARGIN RE-EXCISION EXPERIENCE): THE IMPACT OF MARGIN RE-EXCISION. STUDY PROTOCOL

Alicia Skervin [1], Alicja Rudnicka [2], Anup Sharma [1], Sarah Tang [1]. [1] *St George's Hospital, London, United Kingdom;* [2] *St George's University of London, London, United Kingdom*

Background: Breast conserving surgery provides equivalent oncologic outcomes to mastectomy for early breast cancer. In 2016, the National Margins Audit prospectively audited margin re-excision rates in 2858 patients undergoing breast conservation in the UK and Ireland. The margin re-excision rate was 17.2%. Minimalising adverse outcomes, their sequela of events and subsequent negative patient experience is paramount. The NHS Cancer Strategy has emphasised the need to equally prioritise improving cancer patient experience with improving clinical outcomes.
Objectives: To explore the physical, social and psychological experiences of women undergoing reoperation to achieve margin clearance after breast conserving surgery.
Study design: A qualitative single centre prospective study using a phenomenological approach through semi-structured interviews.
Methods: Research and ethical approval has been sought from the Health Research Authority and local research ethics committee (IRAS registration number: 307324). Twenty patients with primary breast cancer will be included. Eligible patients, identified through our multidisciplinary meeting, will receive an information leaflet prior to providing written consent. Semi-structured interviews will be conducted. Ten questions,

devised through a Delphi consensus, will be asked to stimulate a 30-minute dialogue. The audiotaped interviews will be transcribed verbatim into manuscripts. Thematic analysis of the data will identify themes. Hermeneutic phenomenology will be used to mitigate against researcher's bias. The data will be formulated into clusters of emerging themes to facilitate understanding patient experiences. Mays and Pope's checklist and respondent validation will provide quality assurance.
Discussion: This study is foreseen to improve patient experience and empower patients following margins re-excision.

P184

REFLECTOR-GUIDED LOCALISATION OF OCCULT BREAST LESIONS: A PROSPECTIVE EVALUATION OF THE SAVI SCOUT® SYSTEM

Umar Wazir, Neill Patani, Iham Kasem, Michael J. Michell, David Evans, Tamara Suaris, Anmol Malhotra, Kefah Mokbel. *London Breast Institute, London, United Kingdom*

Introduction: Wire-guided localisation (WGL) has been the mainstay for localising non-palpable breast lesions before excision. Due to its limitations, various wireless alternatives have been developed.
Methods: In this prospective study, we evaluate the role of radiation-free wireless localisation using the SAVI SCOUT® system at The London Breast Institute. 72 reflectors were deployed in 67 consecutive patients undergoing breast conserving surgery for non-palpable breast lesions.
Results: Mean interval between deployment and surgery for the therapeutic cases was 18.8 days (range: 0-210). Median deployment duration was 5 minutes (range: 1-15 minutes). Mean distance from the lesion of 1.1 mm (median distance: 0; range: 0-20 mm). Rate of surgical localization and retrieval of the reflector was 98.6% and 100% respectively. Median operating time was 28 min (range: 15-55 minutes) for therapeutic excision of malignancy and 17 min (range: 15-24) for diagnostic excision. Incidence of reflector migration was 0%. Radial margin positivity in malignant cases was 7%. Median weight for malignant lesions was 19.6 g (range: 3.5-70g). Radiologists and surgeons rated the system higher than WGL (93.7% & 98.6% respectively; 60/64 & 70/71). Patient mean satisfaction score was 9.7/10 (n=47, median=10; range: 7-10). One instance of signal failure was reported. In patients who had breast MRI after deployment of reflector the MRI void signal was <5 mm (n=6). There was no specific technique-related surgical complication.
Conclusions: Our study demonstrates that wire-free localisation using SAVI SCOUT® is an effective and time-efficient alternative to WGL with excellent physician and patient acceptance.