



Abstracts for poster presentation at the Association of Breast Surgery Conference, 15th & 16th May 2017, Belfast Waterfront

P001. Teaching intimate examination in breast using Clinical Teaching Associates – Enhancing the learning environment

Joanne Moffatt¹, Anushka Chaudhry^{1,2}, Jessica Taylor¹, Kevin Jones^{1,2}

¹Swindon Academy, University of Bristol, Swindon, UK

²Great Western Hospital NHS Foundation Trust, Swindon, UK

Introduction: Undergraduate experience of breast examination is usually via mannequins or in outpatient clinics. Practical experience is often limited by time or patients declining consent. Swindon Academy's well-established Clinical Teaching Associate (CTA) programme for pelvic examinations is consistently perceived as superior to traditional teaching. Using this model, we have developed a CTA programme for breast examination commencing in July 2016. With 50,000 new cases of breast cancer annually and rising pressure on breast clinics, improved competency in breast examination will become increasingly vital in timely referrals of the symptomatic patient.

Methods: Data was collected prospectively with participants asked to rate their confidence in various aspects of the examination before and after the CTA session using a Likert scale of 1–10. They were also asked to compare CTA training with previous 'traditional' teaching. Statistical analysis was performed using the Mann-Whitney U test.

Results: 37 participants have completed the training programme to date. Our results show that CTA training is superior to traditional teaching in all aspects. Confidence in all aspects of the examination increased from 5.72 to 8.42 ($p < 0.01$). Confidence in performing the examination after CTA training was 9.30 compared to 6.1 following traditional teaching ($p < 0.01$). Qualitative feedback included; 'great to practice on real patients' and 'excellent learning environment'.

Conclusion: This on-going study supports our findings from CTA pelvic examination programme that CTA teaching for intimate examinations is superior to traditional methods. Further exposure and funding of such programmes may also be useful in primary care training.

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P002. Utilisation of adipose derived stem cells from breast cancer patients for breast regeneration post-mastectomy

Niamh O' Halloran¹, Sonja Khan¹, Aoife Lowery², Michael Kerin¹

¹Department of Surgery, National University of Ireland Galway, Galway, Ireland

²Post-Graduate Medical School, University of Limerick, Limerick, Ireland

Introduction: Current breast reconstruction methods, namely implant and autologous reconstruction, are complicated by events such as capsular contracture, donor site morbidity and flap necrosis. Adipose derived stem cells (ADSCs) are becoming the gold standard for adipose regeneration, and may potentially be utilised for breast reconstruction post-mastectomy. Multipotent ADSCs can be isolated from patients' own adipose tissue and

cultured ex vivo for reimplantation. The aim of this study was to analyse the suitability of utilising ADSCs isolated from cancer patients for adipose regeneration.

Methods: ADSCs were harvested from breast cancer patients who have and have not had chemotherapy at the time of tumour excision and from healthy controls and were cultured in vitro. Cell morphology of each group was examined and Oil Red O staining confirmed ADSC adipogenic potential after treatment with induction media.

Results: ADSCs were isolated and cultured from 15 patients: 5 breast cancer patients with neoadjuvant chemotherapy; 5 breast cancer without neoadjuvant chemotherapy; and 5 healthy controls. ADSCs isolated from breast cancer patients possess similar cell surface markers as those from healthy controls by immunophenotyping e.g. CD31, CD34, CD45, CD73, CD90 and CD105. There were no significant differences in cell morphology. Adipose induction was successful in all 3 groups and quantified by photospectrometry.

Conclusion: Adipose tissue from breast cancer patients, irrespective of receipt of neoadjuvant chemotherapy is a potential source of ADSCs for breast regeneration.

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P003. Safety of autologous fat banking – A report on the Regenry's Pilot Study: A pilot study to determine the safety and efficacy of autologous tissue banking in breast reconstruction following cancer excision

Andrew Pieri¹, David Haddow⁵, Elizabeth Baker¹, Venkat Ramakrishnan³, Elaine Sassoon⁴, Eva Weiler-Mithoff², Pud Bhaskar¹

¹University Hospital of North Tees, Stockton on Tees, UK

²Glasgow Royal Infirmary, Glasgow, UK

³Broomfield Hospital, Chelmsford, UK

⁴Norfolk and Norwich University Hospital, Norwich, UK

⁵Regenry's Limited, Sheffield, UK

Introduction: Lipomodelling in breast reconstruction often requires repeat procedures to achieve the required cosmetic outcome. Each procedure requires fat harvesting followed by re-injection into the breast. Associated morbidity is predominantly attributed to the harvesting process, causing pain, bruising, swelling, altered sensation, scarring and risk of damage to deeper structures. If larger fat volumes could be harvested and stored whilst retaining tissue quality, multiple lipomodelling sessions could be performed even under local anaesthetic, without repeated exposure to harvesting and general anaesthetic risks. This study aims to determine the safety and efficacy of storing fat for staged breast lipomodelling.

Methods: Following ethical approval, 31 patients enrolled across four institutions. Fat was harvested, processed and cryopreserved until required, whereupon it was thawed, washed and distributed. Data was collected

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prospectively regarding complications, fat viability and retention. Patients were followed up at six weeks, three months and six months.

Results: The re-injection procedures are summarised below. There were no documented complications at final follow up. Mean fat viabilities were 77% pre-storage and 78% post-storage. On clinical examination, fat retention from immediate and staged injection appeared comparable.

Procedures	Number of Patients
Index Procedure + 1 reinjection	7
Index Procedure + 2 reinjections	20
Index Procedure + 3 reinjections	3
Index Procedure + 4 reinjections	1

Conclusions: Banking of adipose tissue for staged breast lipomodelling is safe, with no increased complication risk. Fat viability is unaffected by storage. This staged fat transfer approach offers reduced patient risk and morbidity with comparable efficacy to traditional multiple harvest techniques.

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P004. Design of mini latissimus dorsi flap based on thoracodorsal vascular patterns

Ehab Elzawawy¹, Melad Kelada¹, Ahmed Alkarmouty²

¹ Faculty of Medicine, University of Alexandria, Alexandria, Egypt

² Medical Research Institute, University of Alexandria, Alexandria, Egypt

Introduction: Latissimus dorsi (LD) flap has long been used for reconstructive purposes especially in oncoplastic breast surgery. Using large part of the muscle as a myocutaneous flap leads to a residual functional loss. Recently, muscle sparing mini LD flap can be used with no functional sequelae. However, the design of such a flap presents a challenge.

Materials and methods: Twenty adult cadavers were dissected on both sides to identify the different vascular patterns of the thoracodorsal (TD) pedicle. The vessels were counted and the following measurements were taken using Vernier caliper: diameter, length and distance from inferior angle of scapula. Data was collected and entered into the personal computer. Statistical analysis was done using Statistical Package for Social Sciences (SPSS/version 20) software.

Results: Five vascular patterns of TD pedicle were found. Type 1: a long vertically descending pedicle giving 3–4 transverse medial branches to LD in 40%. Type 2: a short pedicle terminating into 1–2 serratus anterior collaterals and 1–2 transverse lateral branches to LD in 10%. Type 3: a long vertically descending pedicle giving 2–3 small lateral branches to upper part of LD and terminating into medial and lateral branches in the lower part of LD in 10%. Type 4: a short pedicle that gives 4–5 terminal branches to LD, one of them is a long vertically descending branch to lower part of LD in 20%. Type 5: a short pedicle that terminates into a transverse medial and a long vertical branch to LD in 20%.

Conclusion: The classically described pattern of TD pedicle (type 5) was only found in 20% of cases while the most commonly found pattern was type 1. This means that the pattern of TD branching is unpredictable and a preoperative ultrasound is essential to define the existing pattern and plan the best mini LD flap design for each patient. In types 1 and 5, the flap can be designed using the transverse medial branch or branches. In type 2, one of the lateral transverse branches can be used. In types 3, 4 and 5, the long descending vertical branch can be used. It has a sizeable diameter (1.8 ± 0.23 mm), length (12.3 ± 1.64 cm) and can be located 6.5 ± 0.96 cm below the inferior angle of scapula.

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P005. The introduction of radioactive seed localisation improves the oncological outcome of image guided breast conservation surgery

Andrew Pieri, Robert Milligan, Adam Critchley, Joe O'Donoghue, Nidhi Sibal, Richard Peace, George Petrides, Rachel Howitt, Stewart Nicholson, Henry Cain

Royal Victoria Infirmary, Newcastle Upon Tyne, UK

Introduction: Radioactive seed localisation (RSL) has become increasingly popular for localisation of non-palpable breast tumours. This is largely due to advantages it offers in terms of practicality and convenience when compared to guide wire localisation (WL). This institute switched from using WL to RSL in September 2014. The primary aim was to assess whether this change improved the accuracy of excision with regards to inadequate margin rates and weight of excision specimens. The secondary aim was to establish whether there is a "learning curve" associated with RSL technique.

Methods: Prospective data collection was performed for 333 consecutive cases of unifocal non-palpable invasive breast cancers undergoing excision with WL or RSL. An inadequate margin was defined as tumour < 1 mm from an inked radial margin. Patient demographics, tumour characteristics and clinical outcomes were compared between WL and RSL cases.

Results: 100 WL and 233 RSL cases were included. Patient demographics and tumour characteristics were similar for both groups. Inadequate margin rates were 18% with WL and 8.6% with RSL ($p = 0.013$). Median specimen weights were 33.3g with WL and 28.7g with RSL ($p = 0.014$). Subdividing the RSL group into the first 100 cases performed (RSL1) and the subsequent 133 cases (RSL2), inadequate margin rates were 13.0% and 5.3% respectively ($p = 0.037$). Mean specimen weights were similar.

Conclusion: Switching from WL to RSL results in a significant reduction in both inadequate margin rates and specimen weights. A procedure-specific learning curve is present on first implementation of RSL and following this, inadequate margin rates are further reduced.

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P006. Oncoplastic versus simple breast conservation surgery: Long term oncological follow up

Peter Mallon¹, Fabien Reyat², Marine Sauvan²

¹ Belfast City Hospital Breast Unit, Belfast, UK

² Institut Curie, Paris, France

Introduction: Oncoplastic techniques can help maintain breast shape and position of nipple areolar complex (NAC) in tumours with a higher tumour to breast volume ratio. It is important to ensure long term oncological safety of these techniques. The aim of this study was to determine local recurrence rates and survival of oncoplastic BCS compared to standard operative techniques after long term follow up.

Methods: Between 1998 and 2013 all patients who had BCS at Institut Curie were reviewed. Data on cancer type, size, complications, surgery type, overall survival, local recurrence rates and metastatic incidence were recorded. Statistical analysis was performed using Student's t-test and Wilcoxon for categorical variables, χ^2 and Fisher's exact test was used for continuous variable. Significance was set at P value < 0.05 .

Results: 962 patients had oncoplastic BCS (lateral mastoplasty, omega mastoplasty, superior or inferior pedicle reduction technique). 4371 patients had non-oncoplastic wide local excision. Oncoplastic BCS had loco-regional recurrence rates of 3.5% and 93.3% disease free survival after median follow up of 60 months. There was no difference between groups regarding local recurrence, disease free survival and overall survival at 5 year follow up.

Conclusion: Oncoplastic BCS does not affect local recurrence, disease free survival or overall survival compared to simple wide local excision technique for breast cancer

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P007. Neoadjuvant chemotherapy followed by immediate autologous breast reconstruction: Audit of post-operative outcomes in a tertiary centre

Ciara McGoldrick, Rishi Sharma, Mary Morgan

St. Andrews Centre for Plastic Surgery and Burns, Chelmsford, UK

Introduction: While neoadjuvant systemic therapy facilitates an increased rate of breast conserving surgery, some patients will require mastectomy and immediate autologous free flap reconstruction. Our institution has noted a 10-fold increase in the number of patients undergoing immediate autologous reconstruction following neoadjuvant chemotherapy since 2013.

Aim: To establish standards for post-operative outcomes against 2012 ABS/BAPRAS Oncoplastic Breast Reconstruction: Guidelines for Best Practice. In addition, outcomes for matched patients undergoing immediate reconstruction and standard adjuvant treatment and delayed reconstruction within our institution.

Method: Retrospective single centre audit 01/2013 – 08/2016. Inclusion criteria: Free flap breast reconstruction following neoadjuvant chemotherapy (NIR), standard therapy (IR) (mastectomy, immediate reconstruction and adjuvant chemo/radiotherapy) and delayed reconstruction (DR) (treatment completed 1 year prior). 19% of the neoadjuvant group had also received upfront radiotherapy.

Results: Chi squared $p > 0.05$ No free flap loss in any group

	NMBRA Target	NIR	Actual IR	Actual DR	Actual Totals
RTT	<10%	3 (2.94) [0.00]	6% 2 (3.06) [0.37]	4% 4 (3.00) [0.33]	9
UR	<5%	1 (1.63) [0.24]	2% 2 (1.70) [0.05]	4% 2 (1.67) [0.07]	5
Non-Event		43 (42.43) [0.01]	45 (44.24) [0.01]	42 (43.33) [0.04]	130
Totals		47	49	48	144

Conclusion: Neoadjuvant chemotherapy followed by immediate free flap reconstruction carries acceptable levels of operative risk to both standard immediate and delayed reconstruction, whilst alleviating the time pressure to start adjuvant therapy. Strategies employed to optimise co-ordination of care in neoadjuvant patients in our institution are also discussed.

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P008. Clinical Fine Needle Aspiration cytology and core biopsy in symptomatic patients with normal breast radiological imaging

Sabina Rashid, Morgan O'Flaherty, Gabriela Daconta, Joseph Westaby, Chloe Wright, Kevin Lessey, Rathi Ramakrishnan, Sami Shousha, Ragheed Al-Mufti, Dimitri Hadjiminis, Daniel Leff

Charing Cross Hospital, London, UK

Introduction: Free hand clinical biopsy (FHCB) and FNA aims to avoid missing radiologically occult breast cancers but is associated with laboratory processing. The aim was to assess the diagnostic performance of clinical FHCB/FNA for patients presenting with a palpable abnormality and normal imaging.

Methods: A retrospective review of FHCB/FNA outcomes in symptomatic patients with palpable abnormality and normal or benign imaging at a single Institution (January 2015 – May 2016).

Results: In total, 81 patients (mean age = 47.2 years, StD = 14.6) underwent FHCB or FNA of which 77.8% had a pathological abnormality to account for clinical suspicion, and 6.2% had malignancy (Table 1). Of

patients with normal or benign results, $n = 17$ required further imaging and $n = 11$ returned for clinical review, and the remainder were discharged following MDM discussion. 19 patients had second biopsies performed. No invasive disease was identified upon repeat biopsy, but 3 patients were found to have atypia.

Biopsy Result	Number of patients	%
Non-diagnostic	13	16.0
Normal breast tissue	17	21
Benign changes	42	51.9
B3 (atypia/ISLN)	4	4.9
Invasive/in-situ/B-cell lymphoma	5	6.2

The total laboratory costs of processing specimens were £46,200. The average amount paid in damages to individuals for delayed or failure to diagnose breast cancer is £60758.75 (NHS-LA data).

Conclusion: The majority of patients undergoing FHCB/FNAs were found to have normal or benign changes at substantial unit costs. However, a proportion of patients had disease that required further follow up or treatment after their initial FNA/biopsy. This demonstrates the potential for significant lesions (atypia or malignancy) to be missed or result in delayed diagnosis, and hence costs of processing need to be offset against litigation costs.

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P009. Are we over treating the axilla in patients undergoing neoadjuvant chemotherapy

Natasha Jiwa, Nicola Iannou, Rebecca Lewis, Laura Johnson

St Bartholomew's Hospital, London, UK

Introduction: Axillary lymph node status is an important prognostic factor in breast cancer. Patients with an involved axilla at diagnosis having neoadjuvant chemotherapy (NACT) may have down-staging of both the tumour and the axilla.

Evidence for targeted axillary dissection (TAD) is building. TAD localises involved nodes pre-NACT that are targeted during post-treatment surgery. Such patients may be spared the morbidity of axillary lymph node clearance (ALNC). We review the pathology from patients having ALNC following NACT to assess the feasibility of TAD.

Methods: Patients were identified between January 2010 and November 2016. A positive axilla was defined by aspiration cytology (FNAC), core biopsy (NCB) or up-front sentinel node biopsy (SLNB).

Results: 40 women had NACT followed by ALNC. Axillary disease was identified following FNAC/NCB in 63% (25/40) and 37% (15/40) had up-front SLNB. No disease was identified in 58% of ALNC specimens following NACT. 87% of patients having upfront SLNB had no further axillary disease. Mean tumour size was 47mm, reducing to 27mm following treatment. 15% achieved complete pathological response and all had clear nodes on ALNC.

Discussion: Patients with good response of their tumour to NACT are more likely to achieve down-staging of the axilla and have the possibility of being spared ALNC. Most patients having up-front SLNB have no additional disease on ALNC suggesting that low-volume nodal disease may be best treated with TAD.

Our data suggests we should stratify axillary surgery based on response to treatment, individualise patient care and spare selected women the morbidity of ALNC.

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P010. One stage ADM-assisted breast reconstruction, as safe as two stage submuscular implant breast reconstruction

Rebecca Wilson¹, Cliona Kirwan^{1,2}, Joseph O'Donoghue³, Richard Linforth⁴, Richard Johnson¹, James Harvey^{1,2}

¹ University Hospital of South Manchester, Manchester, UK

² University of Manchester, Manchester, UK

³ Royal Victoria Infirmary, Newcastle, UK

⁴ Bradford Royal Infirmary, Bradford, UK

Introduction: It has been suggested that direct to implant ADM-assisted reconstructions pose a greater risk of post-operative complications than a two-stage procedure but evidence is limited. Our aim was to assess unplanned explantation rates between direct to implant and two-stage procedures in both Strattice™-assisted and submuscular reconstructions.

Methods: Retrospective case note, implant database and theatre log review of consecutive immediate implant-based reconstructions performed from January 2009 to December 2015.

Results: 373 patients underwent 375 Strattice™-assisted and 135 submuscular reconstructions.

Of the Strattice™-assisted reconstructions, 285 (76%) were direct to implant, 72 (19%) were Becker™ implants and 18 (5%) were two-stage procedures. Of the submuscular reconstructions 3 (2%) were direct to implant, 14 (10%) were Becker™ implants and 118 (88%) were two-stage procedures.

Unplanned explantation rates as a complication of the primary surgery were 4.9% in the Strattice™-assisted direct to implant reconstructions compared to 6.8% in the two-stage submuscular reconstructions.

In the Strattice™-assisted group, total unplanned explantation was 6.4%, with 15 due to infection and 9 wound breakdown. Of the Strattice™-assisted explants, 14 (5%) were direct-to-implant, 7 (10%) were Becker™ implants and 3 (17%) were two-stage.

In the submuscular group, total unplanned explantation was 8.9%, with 7 due to infection and 5 wound breakdown. Of the submuscular explants, 1 (33%) was direct to implant, 3 (21%) were Becker™ implants and 8 (7%) were two-stage.

Conclusions: A one stage procedure with ADM appears as safe, with similar proportion of explantations, as a two-stage submuscular procedure, with the benefits of a single operative stay.

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P011. Identification of DAP3 and HSP90 interaction and potential clinical implications in breast cancer

Michal Uhercik¹, Andrew Sanders², Anup Sharma¹, Kefah Mokbel³, Wen Jiang²

¹ St George's Hospital, London, UK

² Cardiff China Medical Research Collaborative, Cardiff, UK

³ The London Breast Institute, The Princess Grace Hospital, London, UK

Introduction: Death associated protein 3 (DAP3) is a relatively novel proapoptotic and antioncogenic protein. HSP90 is a heat shock protein identified as a chaperone protein. We investigated the interaction between HSP90 and DAP3 in breast cancer cell lines and the clinical significance of HSP90.

Methods: Conventional PCR was used to screen DAP3 and HSP90 expression in 8 breast cancer cell lines. To explore potential DAP3 interacting partners, paired normal and cancerous breast tissues were immunoprecipitated with a DAP3 antibody before being probed on a protein microarray and further confirmed using Western Blot co-immunoprecipitation in MCF7 cells. Expression of HSP90a and HSP90b in a breast cancer cohort (n = 143) was explored with regards to incidence of local recurrence and metastasis.

Results: Conventional PCR demonstrated a similar expression pattern of DAP3 and HSP90 in breast cancer cell lines (n = 8). Protein microarray (Kinexus) analysis, following DAP3 immunoprecipitation highlighted an interaction between DAP3 and HSP90. Western Blot co-immunoprecipitation in

MCF7 cells similarly highlighted this interaction. Low expression of HSP90 in breast cancer tissue was linked to local recurrence and metastasis.

Conclusions: HSP90 and DAP3 seem to have similar expression patterns across a range of breast cancer cell lines and in our clinical cohort lower expression levels suggest an association with metastasis and local recurrence. Current data implies that there may be a link between HSP90 and DAP3 and this may have functional significance in breast cancer progression.

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P012. Has the Oncotype DX Breast Cancer Assay influenced the use of chemotherapy? – The Warwick experience

Mashuk Khan, Laura Henderson, Nawaz Walji, Denise Hrouda, Simon Harries, Dayalan Clarke, Lucie Jones

Warwick Breast Unit, Warwick, UK

Introduction: The Oncotype DX (ONDX) Breast Cancer Assay recurrence score provides a marker for risk of distant recurrence and therefore the benefit of chemotherapy in oestrogen receptor positive early breast cancer. A European systematic review suggested a net reduction in chemotherapy usage of 21%. The aim of this study was to determine if since the introduction of ONDX there had been a change in chemotherapy use based on the recurrence risk score (RRS).

Methods: Consecutive patients that had undergone ONDX were reviewed. Chemotherapy recommendations were made in an MDT without RRSs of patients. The same patients were reassessed in the MDT with the RRS treatment recommendations and the differences analysed. Wilcoxon Sign Ranks test was used for analysis

Results: 76 patients were identified from our ONDX database between Feb 2012 and Nov 2016. 9 patients were excluded due to lack of data (n = 67). Median age was 51 (range = 34–71). Without RRSs, 56 patients were recommended for chemotherapy (84%) and 3 did not warrant chemotherapy. The remaining 8 patients did not receive a definitive outcome but were referred for discussion. With RRSs, 34 patients were recommended for chemotherapy (50%). 24/56 patients (43%) were spared chemotherapy (p<0.0005). 1 patient was offered chemotherapy following an unexpectedly high RRS.

Conclusions: There has been a significant reduction in the use of chemotherapy in patients at Warwick since the introduction of ONDX. This reduction is higher than expected, relative to published literature. There is likely to be a significant healthcare cost reduction as a consequence.

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P013. Outcome of 602 cases of sling-assisted implant-based breast reconstruction

Matthew Barber

Edinburgh Breast Unit, Edinburgh, UK

Introduction: The use of extrinsic slings to assist implant-based breast reconstruction offers the possibility of a one-stage procedure and may have cosmetic benefits, however, concerns remain over outcome.

Methods: All cases where an extrinsic sling was used in a breast reconstructive procedure in Edinburgh from initial use on 7/7/2008 to 30/6/2016 were reviewed.

Results: 602 sheets of sling material (220 Strattice®, 213 Veritas®, 76 TiLoop®, 72 Permacol® and 20 with 4 other materials) were used in 576 breasts of 383 patients. 103 reconstructions were lost (17.1%). Loss rate was 9.0% at 3 months and 12.6% at 6 months. 18 of 94 patients (19.1%) requiring adjuvant therapy had this delayed due to complications. 69 of 203 patients (34%) having unilateral surgery have undergone contralateral symmetrisation. Patients underwent a mean of 1.4 further operations (0–9) on the affected breast. Implant loss varied significantly with smoking (33% loss in smokers vs 11.3% in non-smokers, p<0.0001) and with use of radiotherapy (25.9% loss with radiotherapy vs 14.2% without, p = 0.0037). There was no significant variation with operating surgeon,

type of sling used, breast weight, patient weight, nipple preservation or chemotherapy use. Long term loss rate in non-smokers who did not receive radiotherapy was 9.6%. There was limited evidence of an improvement in results over time.

Conclusions: While offering potential cosmetic and financial benefits, sling-assisted implant breast reconstruction has a significant rate of reconstruction loss, need for further surgery and delay in adjuvant therapy. These should be important considerations for patient selection and consent.

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P014. Mucocele-like lesions; is it time to stop routine excision?

Isabella Dash¹, Ben Dessauvague², Christobel Saunders^{3,1}, Liz Wylie^{4,1}

¹Royal Perth Hospital, Perth, Western Australia, Australia

²Pathwest Laboratory Medicine, Perth, Western Australia, Australia

³University of Western Australia, Perth, Western Australia, Australia

⁴Breast Screen Western Australia, Perth, Western Australia, Australia

Introduction: Mucocele like lesions (MLL) are classified as an indeterminate 'B3' lesion, due to difficulties distinguishing them from mucinous carcinoma on percutaneous breast biopsy (PBB). Current guidelines for surgical excision biopsy (EB) are based on small case series with varying rates of upgrade.

Aim: To assess our rates of upgrade in order to identify whether EB is necessary.

Methods: We performed a retrospective review of the Breast Screen Western Australia (BSWA) database from 1995–2014.

Results: Of the 32,400 (9%) women undergoing PBB in the time period, 89 were diagnosed with an MLL (0.4%). The mean age was 51 (40–80 years). The mammographic abnormality for 67 (75%) was 'localised cluster of calcifications'. Stereotactic PBB was performed for 73 (82%). Seventy-six (85%) underwent Hookwire EB. Fifty-seven patients (75%) had a final benign result, 12 (16%) had an indeterminate result and 7 (9%) had a malignant result. This included a grade 1 papillary carcinoma, a mucinous high grade ductal carcinoma in situ (DCIS) and 5 cases of low grade DCIS.

The mean length of follow up was 5 years (1–15 years). Three (3%) further ipsilateral cancers were identified, all in patients who had had previous excision biopsies, 3, 4 and 9 years subsequently.

Conclusion: None of our patients had an upgrade to mucinous carcinoma. The upgrade rate for MLL with atypia is 18%, however MLL without atypia is upgraded in only 7.5%. The increasing use of Vacuum assisted excision biopsy, may allow careful selection of patients with pure MLL who can avoid EB.

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P015. The impact of partial breast reconstruction on postoperative cancer surveillance

Jesse Hu, Alexandra Tenovici, Vaishali Parulekar, Madhu Bhattacharyya, P.G. Roy

Oxford University Hospital, Oxford, UK

Introduction: The advent of oncoplastic surgery, in particular volume replacement with partial breast reconstruction, has extended the indications for breast conserving surgery (BCS) for women diagnosed with breast cancer. However, as this is a relatively new technique, there is paucity of literature reporting the effect of these procedures on the evaluation of subsequent surveillance mammograms.

Method: This is a retrospective analysis of a prospectively maintained database on all patients who underwent partial breast reconstruction (PBR) with chest wall perforator flaps as part of BCS by a single surgeon. Mammograms done after surgery were reviewed and analysed for characteristic qualitative features and the need for additional imaging and/or biopsy.

Result: Fifty-seven women diagnosed with breast cancer underwent volume replacement BCS over the study period (August 2011 – November 2015). All patients (n = 53) who underwent fascio-cutaneous chest wall perforator flaps following wide local excision and had subsequent surveillance mammograms were included. Surveillance mammograms are routinely performed at one-year after surgery and annually thereafter. In total, 114 mammograms were reviewed, of which 5.2% (6/114) required additional imaging and all but 1 required biopsy (4.4%). Post-radiation changes including skin thickening & breast edema were seen in 15.7% (18/114), mainly in first couple of years which resolved by the third surveillance mammogram. Mammographic evidence of fat necrosis was seen in 3.5% (4/114) and 2 required biopsy.

Conclusion: Surveillance mammography after partial breast reconstruction is accurate with low recall & biopsy rates.

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P016. In vitro evidence for the role of procoagulant stromal fibroblasts in the development of breast cancer

Gillian Farnie¹, John Castle¹, Cliona Kirwan^{1,2}

¹Division of Molecular & Clinical Cancer Sciences, Faculty of Biology, Medicine and Health, University of Manchester, Manchester, UK

²University Hospital of South Manchester, Manchester, UK

Introduction: Tumour stroma resembles a non-healing wound, where a procoagulant environment creates a permissive milieu for cancer growth. However we have previously shown that stromal fibroblasts develop a procoagulant phenotype at the preinvasive stage. We aimed to determine whether procoagulant fibroblasts are functional in tumour development.

Methods: MCF10a ('normal') and DCIS.com cells were i)cultured in control (cont) vs TF-conditioned media (TF-CM, from TF-overexpressing fibroblasts [TFOFs] and ii)co-cultured with control fibroblasts and TFOFs, +/- Rivaroxaban (TF-cofactor inhibitor) or Dabigatran (thrombin inhibitor). Acini size was determined.

Results: In all experiments, acini formation increased in the presence of TF-conditioned media and TFOF co-culture, compared to control, with this effect abrogated by Rivaroxaban (R) and Dabigatran (D).

Table 1: Acini size in procoagulant (TF) and anticoagulant (R/D) environments.

Mean acini size(µm) in MCF10a cultured in Conditioned Media (CM)						
Cont-CM	TF-CM	Cont-CM+R	TF-CM+R	Cont-CM+D	TF-CM+D	p (unpaired-T)
88.5*	99.6*#§	82.9	87.7§	86.0	81.7#	*0.0016; #<0.0001; §0.0003
Mean acini size(µm) in MCF10a co-cultured with fibroblasts						
Cont-fib	TFOF	Cont-fib+R	TFOF+R	Cont-fib+D	TFOF+D	
94.1*	99.8*#§	96.6	89.3#	93.8	92.5§	*0.02; #§<0.001
Mean acini size(µm) in DCIS.com co-cultured with fibroblasts						
101.2*¥∞	108.4*#§	89.4¥	92.7#	95.1∞	89.6§	*0.02; #§¥<0.001 ∞0.06

Conclusions: The acini-promoting effects of procoagulant fibroblasts is abrogated by anticoagulants. Coagulation represents a novel therapeutic target in breast cancer development.

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P017. Does the number of abnormal nodes in the axilla correlate with likelihood of response to neoadjuvant chemotherapy?

Aikaterini Michal, Anastasia Peppe, Katherine Krupa, Peter Barry, Jennifer Rusby

Royal Marsden NHS Trust, Sutton, UK

Introduction: Neoadjuvant chemotherapy (NACT) is an established pathway in the management of breast cancer. Axillary clearance is the standard treatment for patients with proven axillary involvement at diagnosis. The rates of pathological complete response (pCR) in the axilla are more than 60% in Her2 positive cancers, hence there is a move to consider axillary conservation in those with a high likelihood of pCR in the axilla. The aim of this study was to examine whether the rate of pCR varies according to the number of radiologically suspicious nodes at diagnosis.

Methods: Electronic patient records from patients with proven axillary involvement treated with NACT between 2007 and 2015 were examined. Data about patient age, tumour type and receptor status, number of radiologically suspicious nodes, treatment regimen, and clinical, radiological and pathological complete response were collected. Results were divided according to the number of suspicious nodes on the baseline ultrasound scan. Chi-squared test was used to compare pCR rates.

Results: A total of 297 patients with proven axillary disease were treated with NACT. 34% were Her2 positive and 66% were Her2 negative. 101 patients had one suspicious lymph node on initial ultrasound scan, 50 had 2 suspicious nodes and 146 patients had more than 2 suspicious nodes. Of those, 41%, 38% and 32% respectively achieved a pCR in the axilla. No association was found between the number of suspicious lymph nodes on baseline ultrasound scan and the rate of pCR in the axilla ($p = 0.381$).

Conclusion: The number of suspicious nodes identified does not seem to affect pCR. It is important not to exclude women with larger numbers of abnormal-looking nodes from a more conservative approach, especially if they have a phenotype, such as Her2 positive, which is likely to attain a good response to NACT.

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P018. Do the same clinicopathological risk factors affect outcome in terms of volume and shape symmetry as affect patient satisfaction after Breast Conserving Therapy?

Rachel O'Connell, Rosa Di Micco, Dalia Elfadl, Komel Khabra, Nicola Roche, Ozlem Boztepe, Anna Kirby, Nandita deSouza, Peter Barry, Jennifer Rusby

Royal Marsden NHS Foundation Trust, Sutton, UK

Introduction: Patient satisfaction and quality of life after breast-conserving therapy (BCT) are correlated with aesthetic outcome. Identifying clinicopathological risk factors for poor outcome allows surgeons to plan their surgery and manage patient expectations. Volume and shape are important components of appearance and can be measured using 3D-SI.

Methods: Ethical approval was obtained. Women who had unilateral BCT1-6 years ago were recruited. Participants underwent 3D-SI. Volume Symmetry (VS) (smaller breast/larger breastx100), Shape Symmetry (SS) (root mean squared distance between one breast reflected onto the other) were calculated and 'Satisfaction with Breasts' was measured using the BREAST-Q BCT module (score 0-100). Clinical variables with $p < 0.1$ on univariate analysis were entered into a multivariate model with a 5% significance.

Results: 200 women participated. Mean age was 60 years (SD11.1). Mean time from surgery was 35.5 months (SD17.8). Median VS was 87% (IQR78-93) and significant risk factors were specimen weight (g) and experience of operating surgeon. Median SS was 5.87mm (IQR4.23-7.95) and significant risk factors were specimen weight (g), pathological tumour size (mm), and BMI (kg/m^2). Median Satisfaction

with Breasts was 68 (55-80) and significant risk factors were BMI (kg/m^2), delayed wound healing and type of axillary surgery.

Conclusion: This is the first study to identify risk factors for poor volume and shape symmetry after BCT measured by 3D-SI. These were not always the same as those that affecting patient satisfaction. It is important to consider the factors that can affect objective aesthetic outcome as well as patient satisfaction in order to optimise patient care.

<http://dx.doi.org/10.1016/j.ejso.2017.01.071>

P019. An audit of local experience with the Moving Forward Course Hazem Khout, Claire Bill, in conjunction with Breast Cancer Care

Nottingham Breast Institute, Nottingham, UK

Introduction: Breast cancer treatment can result in long-term side effects which can seriously affect quality of life. In our institute, we joined The Moving Forward Course in conjunction with Breast Cancer Care (BCC) in 2015. We have audited our results for the first two years.

Methods: The Moving Forward Course is evaluated by BCC through a pre and post course questionnaire. The questionnaire enables quantitative as well as qualitative measure of enhancing knowledge and awareness. Each questionnaire has nine questions with score ranging from strongly disagree (0) to strongly agree (5) and covers different wellbeing aspect with a space for free text comments.

Results: We had six courses over the last two years with 72 delegates. There was an overall improvement in score for every aspect covered by the course; good understanding of side effects (4.5 vs. 3.3), self-help, living better with and beyond cancer (4.6 vs. 3.1), knowledge about information and support (4.7 vs. 3.2), accessing breast cancer care and local services (4.7 vs. 3.5), keeping breast aware after treatment (4.3 vs. 2.7), confidence to live with and beyond cancer (4.2 vs. 3.2), feeling less isolated (4.4 vs. 3.2) and self-esteem (4.2 vs. 2.9). There was a marginal improvement in ability to talk to family and friends (3.8 vs. 3.3).

Conclusion: There is a need for holistic courses that cover breast cancer survivorship issues. These courses should be considered complimentary to the breast cancer treatment and have to be available to patients following their treatment.

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P020. Surgical management within a tertiary referral service leads to improved disease specific survival of patients with radiation-associated angiosarcoma of the breast

Leo Finberg¹, Ananth Srinivasan¹, Jagdeep Singh¹, Michael Perry², Jonathan Stevenson², Lee Jeys², Francis Peart², Robert Grimer², Robert Warner¹, Samuel Ford¹, Anant Desai¹, David Gourevitch¹, Michael Hallissey¹

¹University Hospitals Birmingham, Birmingham, UK

²Royal Orthopaedic Hospital, Birmingham, UK

Aims: Radiation-induced angiosarcoma (RA) of the breast is a rare complication of radiotherapy following breast conservation and has poor survival. The British Sarcoma Group Guidelines recommended that all angiosarcomas are referred to a sarcoma multidisciplinary team, although there is no recommendation that patients are managed by a specialist sarcoma service. The primary outcome of this study was to compare survival of patients managed surgically within a specialist sarcoma service and those managed locally. Secondary outcomes were to compare complete excision rate, local recurrence (LR) rate, and metastasis free interval (MFI).

Methods: All patients with RA of the Breast referred to the Midland Abdominal and Retroperitoneal Sarcoma Unit (University Hospital Birmingham) and the Royal Orthopaedic Hospital between 1998 and 2016 were identified from a prospective database. Electronic patient records, case notes, pathology records, radiology and operation notes were

ABSTRACTS

reviewed. Resections with excision margins >10mm were considered complete.

Results: Thirty-six patients were operated on with curative intent; 26 were managed by the sarcoma service and ten were managed locally. Median age was 70 years (range 43 to 85). Median follow up was 20.8 months (range 2.5 to 117) by the sarcoma service and 17.8 months (range 5.8 to 117) by local services. Disease specific survival was significantly longer in patients managed by the sarcoma service compared to those managed locally; 91.1 months (range 69.2 to 113) and 48.8 months (range 18.6 to 79.1) respectively, $p = 0.012$. There was no significant difference in overall survival between the two cohorts ($p = 0.112$). LR rate was higher in patients managed locally compared to those managed by the sarcoma service ($p = 0.015$). Complete excision rate was 69% for resections performed by the sarcoma service compared to 50% in those performed locally ($p = 0.456$). MFI was longer for patients managed by the sarcoma service 8.5 months (range 1.4 to 57.8) compared to 0.8 months (range 0.7 to 16.1) for those managed locally.

Conclusions: Disease specific survival is significantly longer in patients with RA of the breast managed within a sarcoma service. Centralisation of care with early referral and surgical management by a dedicated sarcoma-reconstructive team is recommended.

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P021. Triple negative breast cancer: Is chemotherapy always necessary?

Constantine Halkias^{1,2}, Ali Suren¹, Sarandos Kaptanis³, Simon Allan¹, Ash Subramanian¹, Elizabeth Shah¹

¹East Sussex Healthcare NHS Trust, Hastings, UK

²Medway NHS Foundation Trust, Gillingham, UK

³Queen Mary University of London, London, UK

Introduction: Patients presenting with triple negative tumors usually have poor prognosis. Two previous studies from our institution have shown conflicting results; the first recommended chemotherapy in all cases, and a subsequent study indicated it was safe to omit chemotherapy in node negative cases. This study provides an updated analysis of our patient population.

Material and Methods: Retrospective study of patients with triple negative breast cancer who were diagnosed between 2008 and 2015 at Conquest Hospital and Eastbourne DGH. Statistical analysis was performed on SPSS 22.

Results: 105 patients were diagnosed with a mean age of 67.6 years. 82 (78.1%) patients had grade III disease. Mean tumour size was 30mm and 38 patients (36.2%) were node-positive.

104 patients had surgery, of which 67 (64.4%) underwent axillary clearance. 70 patients (66.67%) received adjuvant chemotherapy and 79 (75.2%) radiotherapy.

At mean follow-up of 38 months, 11 (10.5%) patients had local recurrence, 15 (14.3%) distant metastases and 20 (19%) were deceased. Of note, there were only 2 deaths (8.3%) amongst the 24 node negative patients who did not receive chemotherapy. Of the 70 patients who had chemotherapy 19 (27.1%) had disease relapse during the study period.

Tumor size ($P = 0.010$) and Grade ($P = 0.039$) were the only statistically significant factors affecting survival. In 64 patients with node negative disease, multivariate analysis (OR 0.2, $P = 0.630$) and univariate analysis (OR = 1.33, $P = 0.672$) showed no statistically significant difference between chemotherapy or no chemotherapy in terms of overall survival.

Conclusions: Longer follow-up is required in both the chemotherapy and non-chemotherapy groups, but patients with larger tumours and high grade seem to benefit from chemotherapy irrespective of nodal status.

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P022. Surgical staging of the axilla – Is it on its way out?

Ionela Drehuta, Debkumar Chowdhury, Mark Galea, Sanjeet Bhattacharya

University Hospital Ayr, Ayr, UK

Introduction: Sentinel Lymph Node Biopsy (SLNB) is the gold standard for axillary staging in patients with negative axillary ultrasound (AUS) in early breast cancer. Surgical practices are being reviewed over the last decade under the light of ever changing new evidence leading to a more conservative approach to the axilla.

Methods: In this audit, we studied the incidence of axillary disease in patients with an ultrasound negative axilla. The selection criteria are somewhat similar to an ongoing national study – Female patients, age >50 years, primary breast lesion >1.5cm in size, ER positive and HER 2 negative. We retrospectively studied the prospectively collected data of all breast cancer patients from January 2013 to December 2015 in a population of 350,000 within NHS Ayrshire and Arran with an annual incidence of around 400 cancers.

Results: With the above patient subset taken into consideration we studied a total of 261 patients (74 cases in 2015, 118 cases in 2014 and 69 cases in 2013). The average False Negative (FN) rate with AUS per year was noted to be 10.7% over the 3 years (28 patients out 261 patients). This is well comparable to SLNB which has a FN rate of around 10%.

Conclusion: As the False Negative rate of AUS and SLNB are comparable, the former can possibly replace the latter at least in subset of early breast cancer patients. This will have significant impact on patient morbidity, theatre time and operation costs. This study fully supports a randomised trial to find this answer.

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P023. Autologous breast reconstruction using the immediately lipofilled extended latissimus dorsi flap

Neil Johns, Neil Fairbairn, Matthew Trail, Anne Ewing, Li Yong, Cameron Raine, Michael Dixon

Edinburgh Breast Unit, Edinburgh, UK

Background: The latissimus dorsi flap is a popular choice for autologous breast reconstruction. To dramatically improve volume, we have devised a method of using the immediately lipofilled extended latissimus dorsi flap to provide a new option for autologous breast reconstruction.

Methods: Patients undergoing the procedure between December 2013 and June 2016 were included. Demographic, clinical and operative factors were analysed, together with in-hospital morbidity and duration of postoperative hospital stay.

Results: 71 ELD flaps with immediate lipofilling were performed. 45 patients had immediate reconstructions and the remaining 26 patients had a delayed reconstruction. Median (range) volume of autologous fat injected immediately was 171mls (40–630mls). Contralateral reductions were performed in 25 patients with the median reduction volume 185g (89–683g). Median duration of admission was 6.5 (3–18) days and patients were followed up for 12 months (1–37). Three total flap failures occurred and had to be excised (4%). One haematoma occurred requiring drainage (1%). Signs of infection occurred in 11 patients, 5 required IV antibiotics (7%). 5 wound dehiscence occurred, only two of these required resuturing (3%). 10 patients developed signs of fat necrosis (14%). 7 patients developed a seroma requiring repeated drainage (10%). Three reconstructions experienced mild mastectomy flap necrosis with none needing reoperation (4%). BREAST-Q scores fared favourably to other published literature.

Conclusions: Our experience is the largest series to date and shows that the technique is safe, does not compromise flap survival, avoids the requirement for implants, can streamline the reconstructive journey and provides the patient with a high level of satisfaction.

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P024. Acellular dermal matrix assisted subpectoral versus prepectoral implant placement; comparing pain and patient reported outcomes
Benjamin Baker¹, Renu Irri¹, Vivienne MacCallum^{1,2}, Rahul Chattopadhyay¹, John Murphy¹, James Harvey^{1,2}

¹Nightingale Centre, University Hospital South Manchester, Manchester, UK

²University of Manchester, Manchester Academic Health Science Centre, Manchester, UK

Background/Aims: Pre-pectoral implant based acellular dermal matrix (ADM) assisted immediate breast reconstruction (IBR) is gaining popularity, including complete implant coverage with ADM. Perceived benefits are a reduction in postoperative pain and breast animation deformity, with preservation of upper limb mobility. We aimed to compare pain, patient reported outcome measures (PROMs), length of stay (LoS), and safety of prepectoral versus subpectoral Stratattice™ assisted IBR.

Methods: Consecutive patients were recruited prospectively, having either cancer resection or prophylactic mastectomy. There were no exclusion criteria. Patients scored pain contemporaneously three times per day for the first seven post-operative days on a likert scale, and completed the BREAST-Q™ reconstruction module three months post-operatively.

Results: 38 patients were recruited. There was no significant difference in pain scores between groups (prepectoral n = 21, mean 1.45 vs subpectoral 10, 1.51; p = 0.45) during the first seven days. 31 BREAST-Qs™ were returned; Q scores were similar for prepectoral (mean 76) and subpectoral (mean 79) groups, but patients reported significantly more visible implant rippling in the prepectoral versus subpectoral group (7/13 vs 2/17, p = 0.02). There was no significant difference in LoS (prepectoral 2.1 days vs subpectoral 2.3; p = 0.44) or safety profile. 1 patient required re-operation for implant removal secondary to infection in the prepectoral group.

Conclusions: This is the first study to compare pain and PROMs in prepectoral breast reconstruction with subpectoral; these were equivalent between groups. Prepectoral implant placement with complete ADM cover is safe. Prepectoral reconstruction is feasible but further studies are required to compare short and long term outcomes.

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P025. Axillary conservation: Intraoperative one step nucleic acid assay should replace preoperative ultrasound-guided biopsy staging of the axilla in cT1-2 cN0 breast cancer

Bello Inua, Victoria Fung, Stan Kohlhardt, Sarah Howells, Olga Hatsiopoulou, Patricia Vergani

Royal Hallamshire Hospital, Sheffield, UK

Introduction: Conservative management of the low-burden node-positive axilla in early breast cancer is an emerging practice. Preoperative axillary staging with ultrasound (AUS) ± biopsy (AUSB) has only two outcomes, whereas sentinel lymph node biopsy (SLNB) with one-step nucleic acid cytokeratin-19 amplification assay (OSNA) provides intraoperative quantitative assessment of axillary disease burden. We compared these techniques on how well they inform the decision to adopt axillary conservation.

Methods: A retrospective, single-centre, cohort study of 1315 consecutive patients diagnosed with breast cancer (between December 2012 and August 2015) was undertaken. All patients received AUS ± AUSB. Patients with a normal ultrasound (AUS-) or negative biopsy (AUSB-) followed by SLNB with OSNA ± axillary lymph node dissection (ALND), and those with a positive AUSB (AUSB+), were studied. Tests for association were determined using Chi-Square and Fisher's Exact Test.

Results: 266 (20.2%) patients with cT1-3 cN0 staging received 271 AUSBs. 191/257 biopsies were positive (≥ L4), 66 were negative (≤ L3). 683 patients with an AUS-/AUSB- assessment underwent SLNB with OSNA. AUS sensitivity and negative predictive value (NPV) were 57.2 (0.52 – 0.63, 95% CI) and 0.81 (0.79 – 0.82), respectively. Sensitivity

and NPV for OSNA, using a total tumour load (TTL) cut-off of 15000 copies/μL for predicting ≥ 2 macrometastases were 0.82 (0.71 – 0.92) and 0.98 (0.97 – 0.99)(P < 0.0001, OSNA vs AUS).

Conclusions: 50% of cT1-2 AUSB+ patients had ≤ 2 positive nodes and were potentially overtreated with ALND. Unlike AUSB+, SLNB + OSNA using TTL, confidently predicts ≥ 2 nodal macrometastasis, facilitating axillary conservation.

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P026. Contralateral breast cancer in Northern Ireland: A retrospective review from 1993 to 2016

Colin McIlmunn¹, Deirdre Fitzpatrick², Kienan Savage¹, Liam Murray³, Stuart McIntosh¹

¹ Centre for Cancer Research and Cell Biology, Queen's University, Belfast, UK

² Northern Ireland Cancer Registry, Belfast, UK

³ Centre for Public Health, Queen's University, Belfast, UK

Background: The incidence of contralateral breast cancer (CBC), (defined as a second primary breast cancer occurring in the other breast more than six months after an initial index tumour diagnosis) is reported as 0.4–0.7% per year, equating to 11–16% in the 20 years following initial diagnosis. CBC is the most common second malignancy to occur in these women.

Aim: This study aims to identify the incidence and characteristics of CBC in Northern Ireland (NI) over the period 1993–2016. The NI Cancer Registry was searched to identify all women with a CBC diagnosis over this period, and clinico-pathological data obtained for verified cases.

Results: 463 CBC patients were identified. The median age at initial diagnosis was 57 (IQR 47–65). The median period between diagnoses was 7 years (IQR 3.9–10.9). Tumour morphology details were available for 366 (79%) CBC pairs. 262 index tumours were ductal, 15 lobular, 16 mixed and 2 other. 295 (81%) of the tumour pairs shared similar morphology. ER status was available for 273 tumour pairs. Of these, 209 (77%) index tumours were positive and positive ER status was concordant in 157 (75%) cases, ER negativity was concordant in 42% of ER negative index tumour cases.

Conclusion: In conclusion this study provides important data on the incidence of CBC in NI. This patient cohort will provide a valuable resource for further study of the relationships between primary and CBCs, and to identify potential risk factors or predictive biomarkers for CBC to guide appropriate surgical management.

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P027. Nodal response to neoadjuvant chemotherapy – Time to think outside of the box?

Jack Pearce, Farrokh Pakzad

Royal Surrey County Hospital NHS Trust, Guildford, UK

Introduction: In node positive operable breast cancer, debate remains as to whether complete pathological response (cPR) to neoadjuvant chemotherapy (NACT) can be used to surgically spare a down staged axilla.

This retrospective study compares the response rates to NACT in both the index primary tumour and the axillary nodes.

Methods: A retrospective analysis of patient who underwent NACT between 2009 and 2014 was carried out. Patient demographics, tumour characteristics, locoregional nodal status, surgical parameters and final pathology were analysed.

Node positive patients underwent axillary dissection. Surgical management of the index primary tumour was dictated by the response to NACT and followed standard management paradigms.

Results: 219 patients (mean age 46 years, all female) were included. Overall, cPR was seen at the primary and/or the nodal basin(s) in 44% (88/219). 112 (51%) presented with biopsy proven node positive disease. Overall, cPR rate in the axilla was 57% (64/112) and 40% (45/112) in the primary breast site. Breakdown of response rates showed cPR in primary tumour only in 4% (5/112), both the breast and the axilla in 36% (40/112) and the axilla only in 21% (24/112). cPR was highest in the triple negative and Her-2 positive tumours ($p < 0.01$).

Conclusion: Biological response to NACT in the axilla does occur but does not always correlate with the response seen in the breast. While the findings support the argument for sparing the axilla, strategies for assessment and management of axillary nodes post-NACT should be carried out independent to the response seen in the breast.

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P028. Successful introduction of the Vacuum Excision (VACE) pathway for the management of screen detected breast lesions of uncertain malignant potential (B3)

Sarah Tang¹, Rakhee Chauhan¹, Nadine Betambeau¹, Anup Sharma¹, Dibyesh Banerjee¹, Mary Sinclair², Claire Bailey², Charmaine Case², Louise Wilkinson^{1,2}

¹St George's University Hospitals NHS Foundation Trust, London, UK

²South West London Breast Screening Service, London, UK

Introduction: 6.7% of screen-detected lesions are categorised as B3. Until recently, surgical excision was the diagnostic procedure of choice, with the intention of removing lesions for full histological assessment in order to exclude co-existing malignancy (upgrade). Wide bore vacuum-assisted needle biopsy techniques provide an alternative and cost-effective non-surgical method for the provision of greater volumes of tissue. A VACE pathway has been introduced at St George's Hospital and we present the data for the first year in practice.

Results: There were 104 patients in the pathway (3/9/2015 – 22/8/2016). The median age was 57 years (range 41–75). The intervals between the pathway events are presented (Table 1). Seventy patients presented with calcification, 23 with a mass and 7 with distortion. The median lesion size was 8mm (2–105). Following VACE, 17 cases were upgraded (B5a/B5b). Of these, 14 were upgraded to DCIS, 2 were upgraded to IDC and there was one case of pleomorphic LCIS. At surgery, no further upgrades were found. No residual disease was seen in 2 cases. No recurrences were seen at follow-up (mean 196 days, range 72–328).

Conclusion: Over 100 patients were successfully managed in the pathway. 86 patients avoided unnecessary surgery, representing significant direct cost savings as well as indirectly freeing up operating space and reducing 62 day breaches. This is a complex pathway with multiple components. The main delay was identified between core biopsy and VACE. It is anticipated that increasing capacity for VACE procedures will reduce this delay in the future.

Table 1:

VACE pathway data 03/09/2015 to 22/08/2016	
No of patients	104
Age	57 years (range 41–75, med 54)
day 0 to core	11 days (3–45, med 8)
core to VACE	24 days (10–57, med 21)
VACE to surgeon	16 days (5–42, med 15)
day 0 to see surgeon	50 days (27–83, med 48)

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P029. Patient satisfaction and Clinical Nurse Specialist intervention audits 2015

Katie Cheel

Portsmouth Hospitals NHS Trust, Portsmouth, UK

Introduction: The Patient Satisfaction questionnaire was designed by the Breast Care Nurses (BCNs) to provide an insight into the care experienced by patients in the Breast Care department and to identify areas for improvement to ensure we are providing a high quality of care to meet patients' needs. Documenting the range of tasks and how we as BCNs spend our time using the Cassandra Matrix, allows us to show the complexity and specialist nature of our role, helping us to identify if there are tasks which do not need our expertise, making a case for more support with these. (Leary, 2012)

Method: 100 patients diagnosed with breast cancer in 2015 were randomly selected and sent a questionnaire. 58 patients completed and returned the questionnaire. BCNs recorded interventions and contexts for one month using the Cassandra Matrix.

Results: Overall patients felt supported. Patients experienced some difficulties contacting the BCNs. 58% received information about free prescriptions. 57% received a consultation record at diagnosis. 60% think a diagram would help their understanding of surgery. Mean intervention rate of 47 per BCN per day worked.

Conclusion:

- Changes made to improve our practice in response to the audits:
- Allocate a BCN to answer the phones throughout the day.
- BCN present at time of diagnosis.
- Update poster for free prescriptions and display around the department.
- Develop robust treatment summaries.
- Incorporate a diagram into the consultation record.
- Business case submitted for 2 whole time equivalent BCNs.
- Increase hours of administration staff.

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P030. Contrast Enhanced Spectral Mammography – A UK centre experience

Alaaeldin Ginawi, Mohamad Hajaj, Sana Pascaline, Katalin Woodland, Mahmoud Dakka

Kettering General Hospital NHS Foundation Trust, Kettering, UK

Introduction: Contrast enhanced spectral mammography (CESM) is a breast imaging technique combining standard mammogram and the utilisation of intravenous injection of contrast media for better visualisation of lesions. We aim to assess the sensitivity, specificity, positive predictive value (PPV) and negative predictive value (NPV) of CESM. Also, compare CESM and breast MRI to histological size in a subgroup of patients.

Methods: Retrospective analysis of prospectively collected data was performed. CESM was performed in 128 consecutive patients who presented with clinically malignant breast lump (P4/5). CESM and MRI were performed in a subgroup of 29 patients where MRI was indicated by NICE guidelines to allow comparison between both modalities and histological size.

Results: 134 CESMs were performed in 128 patients. The sensitivity, specificity, PPV and NPV of CESM were 98.1%, 66.6%, 98.1% and 66.6% respectively. 29 patients had CESM, MRI and surgery. Comparing CESM to MRI, both were sensitive in 28 patients (96%), One false negative result for both. The average dimension of the largest lesion measured in CESM was 28.91 mm (SD 22.94), 29.51 mm (SD 22.71) in MRI versus 32.37 mm (SD 22.47) in the final histology.

Conclusion: CESM has comparable sensitivity and accuracy to MRI. With added advantages of simple implementation of CESM within one stop clinic, patients' comfort, shallow learning curve for radiologists and

surgeons' friendly images. CESM appear to be a promising modality which could be used in the future on a wider scale.

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P031. Lymphoscintigraphy does not affect localisation rate or yield of positive nodes in sentinel node biopsy – A closed audit loop of quality assurance

Hannah Knight, Catherine Trust, Linda Gregg, Michael Green, Charlotte Ives

Torbay and South Devon NHS Foundation Trust, Torquay, UK

Introduction: Traditionally lymphoscintigrams are taken after injection of peri-areolar Technetium-99 to quantify sentinel nodes before biopsy (SNB). Our aim was to determine the necessity of lymphoscintigraphy.

Methods: 100 consecutive female patients undergoing SNB with lymphoscintigrams reported by consultant radiologists were investigated. Reported node count (RNC) was compared to SNB count using Cohen's kappa statistic. 179 consecutive female patients were then investigated without lymphoscintigrams; node localisation and positivity rates were compared.

Results: Of 100 patients with scans (all unilateral), RNC ranged from 0–5, mean = 1.84, mode = 1. SNB count ranged from 1–4, mean = 1.89, mode = 1. 90% of lymphoscintigraphy performed on the day of surgery. Cohen's Kappa statistic = 0.34: Fair agreement, 95%CI = 0.195 to 0.482. RNC was zero in two cases despite successful SNB.

179 consecutive patients had 180 SNB (one bilateral) with no lymphoscintigram. Excluding 3 failed localisation, SNB count range = 1–4 nodes (mean = 1.84, mode = 1). $P = 0.171$, no difference between lymph node yield without lymphoscintigram*.

Localisation rate with scan was 100%, without scan was 98.33% – above reported rate from ALMANAC trial.

Node positivity rate with lymphoscintigram was 36% (21% macrometastases) and without was 29.38% (14.69% macrometastases). This was not significant**, $p = 0.30$ ($p = 0.225$ macrometastases)

* T test ** Chi-squared test

Conclusions: Lymphoscintigram did not improve localisation. Correlation between RNC and SNB count was only "fair", and negative lymphoscintigrams did not result in failed SNB localisation.

Stopping lymphoscintigraphy did not have a statistically significant detrimental effect on SNB localisation or node positivity rate and has positive financial, time and resource implications.

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P032. Management of invasive operable breast cancer in the older patient – Can we be more objective?

Werbena Hamilton-Burke, Esmee Irvine, Edith Voria, Catherine Eley, Anne Tansley

Royal Liverpool University Hospital, Liverpool, UK

Introduction: In the UK, 31% of breast cancers occur in the over 70 age group. As life expectancy is increasing, this figure will increase. There is a lack of an evidence based approach to the management of early breast cancer in the elderly. The aim of this study was to assess the factors influencing treatment strategies in this group of patients.

Methods: Between 2012 and 2013, 323 patients aged 70 and over were treated for invasive breast cancer. Patient factors including co-morbidities were used to calculate Charlson co-morbidity scores retrospectively; indications for surgery or primary endocrine therapy (PET) were recorded.

Results: Seventy three percent were diagnosed symptomatically. Surgical treatment was undertaken in 72% of patients with 28% having PET. Overall survival rate in the surgical group was 94% at two years and 60% in the PET group. Documented indications for PET included patients deemed unfit for surgery by the surgeon in 22 cases and by anaesthetist in 4 patients. Surgery was declined by 28 patients. The indications for PET

were not clearly documented in 23 cases. Charlson co-morbidity scores were not significantly different between the surgery and the primary endocrine therapy group. In the surgical group 49% had wide local excision but 17% of these did not have radiotherapy.

Conclusion: Our data demonstrates a lack of consistency in the management of breast cancer in the elderly. The use of objective scoring systems will support standardised approaches to care. Bridging the Age Gap study will help develop objective tools for making treatment decisions.

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P033. Fracture risk assessment using FRAX prior to dual energy densitometry (DXA) for patients taking aromatase inhibitor therapies

Jamie Fraser¹, Russell Mullen², Nick Abbott²

¹ Highlands & Islands Osteoporosis Service, Ross Memorial Hospital, Dingwall, UK

² Highland Breast Centre, Raigmore Hospital, Inverness, UK

Introduction: Aromatase inhibitor (AI) therapy is a well-established adjuvant treatment in oestrogen receptor positive breast cancer. It is however associated with an increased risk of osteoporotic fracture, therefore clinicians are recommended to make an assessment of fracture risk at baseline using bone dual energy densitometry (DXA) to estimate Bone Mineral Density (BMD). Recent guidelines recommend fracture risk assessment prior to DXA. Currently all patients started on an AI in our unit receive a DXA. This study aimed to assess if the use of the FRAX scoring system could identify patients who did not require a DXA.

Methods: Retrospective analysis of 100 patients taking AI who had previously undergone DXA was conducted. FRAX score (www.shef.ac.uk/frax) was carried out for all patients. FRAX score of >10% indicated DXA scan. It was assessed if FRAX score correctly identified patient who subsequently requires anti-osteoporosis treatment.

Results: Of the 100 patients 35 had a FRAX score of <10% and would not have received DXA with current guidelines. Of these 35 patients only one had a low bone mineral density suggesting treatment should be started.

Conclusions: FRAX score is an easy and reproducible way to assess the risk of fracture in patients commencing AI therapy. It can accurately identify those who do not require DXA scan and subsequent anti-osteoporosis treatment. As such it has the potential to reduce referrals for DXA scanning and relieve pressure on this resource.

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P035. Does offering immediate breast reconstruction after MRI to women with breast cancer increase the chance of breaching “NHS cancer time-to-treatment targets”?

Muhammad Qutayba Almerie¹, Elizabeth Morgan¹, Eleanor Campbell¹, Nisha Sharma², Shireen McKenzie¹

¹ Department of Breast & Endocrine Surgery, Leeds Teaching Hospitals NHS Trust, Leeds, UK

² Department of Radiology, Leeds Teaching Hospitals NHS Trust, Leeds, UK

Introduction: Within our unit, offering immediate breast reconstruction to breast cancer patients after MRI resulted in an unacceptable level of breaches to target dates. This management audit aimed to determine and then address the rate limiting factors within this treatment pathway to achieve a more streamlined patient service.

Method: The electronic notes of all breast cancer patients with immediate reconstruction after MRI between Jan and Oct 2015 were reviewed. Patients who underwent neo-adjuvant chemotherapy were excluded. The timeline of each patient including the referral route, clinics, investigations, MDT discussions and treatment dates were created to determine the rate limiting factors.

Results: Analysis of phase 1 (Jan–Mar 2015) showed 30% breaches to the 62-day target. Delay in MRIs and second-look biopsies turnaround time was a causative factor (Table 1). Recommendations to tighten-up delays in these two areas were implemented partially over phase-2 (Apr–Jun 2015) and fully over phase-3 (Aug–Oct 2015) and the service was re-audited over these periods.

Turnaround times for MRI and second look biopsies dropped from 20 and 22 days in phase-1 to 9 and 14 days in phase-3 respectively. Breaches also decreased to 21% in phase-2 and further to 0% in phase-3. Symptomatic patients were more likely to breach (35%) in comparison to screening (7%) and surveillance patients (0%).

Conclusion: Offering immediate breast reconstruction following MRI can potentially put pressure on delivering the cancer-treatment targets. However, allowing enough time for patients to decide on the type of reconstruction is invaluable. Refining our pathway significantly reduced MRI turnaround time, thus allowed increased time for adequate patient consideration, without fearing the financial penalties incurred by breaching target dates.

($n = 246$). A further 8% ($n = 38$) did not receive any treatment. PHM was utilised in 43% ($n = 218$). In the PHM group, 19% (41) underwent surgical intervention following progression due to tumour hormonal escape. Mastectomy was performed in 73% ($n = 30$) of these compared with 39% (95) of those treated primarily with surgery.

Conclusions: In managing elderly patients with breast cancer, the high rate of tumour hormonal escape needs to be considered when recommending treatment. The consequence of hormonal escape is more invasive surgery in a subsequently more aged patient with almost double the mastectomy rate compared with those treated primarily with surgery.

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Table 1

	Audited period			Referral route		
	Jan-Mar 2015	Apr-Jul 2015	Aug-Oct 2015	Symptomatic (GP referral)	Screening (NHSBSP)	Surveillance (family history, clinic follow up)
Breaching n (%)	3/10 (30%)	3/14 (21%)	0/7 (0%)	5/14 (35%)	1/14 (7%)	0/3 (0%)
Pathway elements (M±SEM days)						
Referral-to-operation time	57±6	50±8	50±7	64±7	44±5	37±8
Initial triple assessment ¹	12±2	10±1	9±1	8±1	12±1	9±2
MRI ²	20±2	10±2	9	14±2	16±6	N/A
Second biopsy ²	22±2	15±3	14±2	14±3	21±4	18±2
Decision to treat till operation ³	15±5	15±3	14±4	19±4	12±3	13±5

Notes: ¹Time from first imaging/clinic until results of triple assessment are discussed in the MDT. ²Turnaround time from request of MRI/second biopsy until the results are discussed in the MDT. ³Treatment options are offered to patient when all need results are available. The decision to treat is when the patient agrees to treatment plan.

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P036. The incidence and consequences of escape from hormonal manipulation in elderly breast cancer patients

C.K. Baban¹, J. Mc Kiernan¹, L.A. Devane¹, J. Rothwell¹, D. Evoy¹, J. Geraghty¹, A. O'Doherty³, C. Quinn², C. D'Arcy², E.W. McDermott¹, R.S. Prichard¹

¹Department of Surgery, St. Vincent's University Hospital, Dublin, Ireland

²Department of Pathology, St. Vincent's University Hospital, Dublin, Ireland

³Department of Radiology, St. Vincent's University Hospital, Dublin, Ireland

Objective: Surgical resection is the cornerstone for breast cancer treatment. However, due to associated co-morbidities among the elderly breast cancer population (>75 years) primary hormonal manipulation (PHM) is more frequently used. While PHM can be effective for a number of years, treatment following tumour hormonal escape poses a dilemma in a subsequently more aged patient. The aim of this study was to assess primary management and determine the rate and consequences of hormonal escape in patients over 75 diagnosed with breast cancer.

Methods: New diagnoses of breast cancer (2010–2015) among patients aged >75 years were identified from a prospective MDT database. Patient records were reviewed for demographic, tumour and treatment details.

Results: A total of 502 patients were identified with an average age of 81.2 (range 75–99). Surgery was the primary treatment in 49% of patients

P037. Literature review assessing time to adjuvant chemotherapy and long term oncological outcomes between patients undergoing simple mastectomy and immediate reconstruction

Igor Rychlik¹, Fabien Reyat², Peter Mallon¹

¹Belfast City Hospital Breast Unit, Belfast, UK

²Institute Curie, Paris, France

Introduction: Decision making on whether to opt for simple mastectomy or immediate reconstruction for breast cancer can be challenging for patients and clinicians. It is important to inform patients on the incidence of delay to adjuvant treatment and oncological safety. A review of the available evidence was therefore conducted to help clarify these important questions.

Methods: A literature search was carried out using PubMed. MeSH terms used were immediate reconstruction, simple mastectomy, complications, recurrence rates, metastatic disease, disease free and overall survival.

Results: 80 studies were identified (63 retrospective cohorts, 9 matched cohort, 6 prospective matched cohorts, 2 prospective case series). In total, we analysed 47,821 simple mastectomy and 14,684 immediate reconstruction patients. Tumour characteristics were similar between groups (grade, type, nodal metastasis, ER/HER status). Analysis of outcomes from all studies revealed that comparing simple mastectomy to immediate reconstruction the mean time to chemotherapy (days) was 28.6 (6–119) and 38.2 (14–238) respectively. Percentage of patients who had delay to chemotherapy (>3 months) was 5.4% (0–8.4%) and 6.1% (0–20%). Local recurrence rates were 2.5% and 4.5% at a median follow up time of 49.9 and 54.8 months. 5 year disease free survival was 79.4% and 81.8%. 10 year disease free survival was 64% and 61.2%.

Conclusion: Retrospective studies suggest that immediate reconstruction, despite having a wider range of post-operative complications, does not result in delay to adjuvant chemotherapy. Long term follow up suggests that it is oncologically safe compared to simple mastectomy.

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P038. A joint geriatric oncology clinic for the management of elderly women diagnosed with breast cancer: The Brighton experience

Fiammetta Ugolini, Charles Zammit, Juliet Wright, Malcom Reed
Brighton and Sussex University Hospital, Brighton, UK

Introduction: 30% of diagnosis of breast cancer occurs in women aged over 70 years.

The SIOG and EUSOMA task force (2012) recommends primary endocrine therapy (PET) in older women with ER-positive tumours, estimated life expectancy <2–3 years, unfit for, or refusing, surgery. Life expectancy is difficult to estimate and should not be confused with age. Functional and cognitive statuses need to be considered when discussing therapeutic options. Formal geriatric assessment in a joint clinic setting may improve management of these patients and help treatment selection for breast cancer. A dedicated clinic has been established in Brighton in which selected patients are assessed jointly by a geriatrician and a breast surgeon.

Methods: Cohort study.

Aim: Examine the impact of a geriatric-oncology consultation on patients' breast cancer and overall management.

Referral criteria:

- 70 years or older
- Diagnosed with breast cancer, considered unfit for or declining surgery
- Patients on PET who develop disease progression

Results: 74 referrals were seen from June 2015 to October 2016 (age range 70–98 years).

16 patients (21.6 %) subsequently underwent surgical treatment. 7 underwent wide local excision and 9 had mastectomy (1 bilateral). Regarding axillary treatment 9 underwent sentinel node biopsy, 3 had clearance and 4 had no axillary procedure.

Of those not treated surgically 7 (9%) had their endocrine treatment changed and 34 patients (46%) required medical management.

Conclusions: Assessment in the joint clinic resulted in more patients receiving surgical treatment. Our rate of conversion to surgery fits with data reported in literature.

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P039. Are we delivering an effective day case / 23-hour breast surgery service?

Bernadette Pereira, Sanjay Joshi, Wail Al-Sarakbi, Caroline Pogson
Croydon University Hospital NHS Trust, Surrey, UK

Introduction: There is growing body of evidence which suggests that breast cancer surgery (except reconstruction) consists of relatively short operations with low post-operative pain where patients mobilise early. In 2007 the NHS Improvement "Transforming Inpatient Care Programme", as a part of Cancer Reform Strategy, redesigned the breast surgical pathway with the working hypothesis that "streamlining the breast surgical pathway could reduce length of stay (LOS) by 50% and release 25% of unnecessary bed days for 80% of major breast surgery". Our aim was to assess our unit's pathway, implement the necessary changes to bring it up-to-date with the national standards.

Methods: Retrospective data was collected from May 2013 to May 2016 of all the breast cancer operations such as mastectomy, wide local excisions, re-excision and axillary surgery. From Jan 2015, we

implemented new changes of "no drain policy" for all operations (except reconstruction).

Results: From May 2013 to May 2014, 89/123(72.3%) of patients undergoing breast cancer procedures (except reconstruction) were discharged as day case / 23 hours. In Jan 2015 after we changed practice of "no drain policy" we saw a rise in our day case /23 hour discharges to 99/117(84%) from May 2014 to 15, with a continuing increase in our day case /23 hour discharges rising to 127/147 (86.39%) in May 2015–16.

Conclusions: Nationally, good progress has been made with 72% of breast surgery patients benefitting from the pathway. At our DGH we have managed to surpass this target through our "no drain policy", non-opioid analgesia and appropriate aftercare thus conforming to the national standards and reducing length of stay and costs.

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P040. Pre-pectoral implant based breast reconstruction

Lyndsey Highton, John Murphy

Nightingale Breast Centre, University Hospitals of South Manchester NHS Foundation Trust, Manchester, UK

Introduction: The conventional approach to implant-based breast reconstruction is for the implant to be placed behind the pectoralis major (PM) with or without acellular dermal matrices (ADM). Improved upper pole implant coverage with this technique comes with the disadvantages of post-operative pain, animation and PM functional pain. We report a case series of pre-pectoral implant based reconstruction.

Methods: A cohesive gel anatomical implant is placed in the pre-pectoral plane and completely covered with ADM. We use two sheets, which are sutured together and secured to the fascia of the PM, lateral chest wall and inframammary fold to contain the implant. Patients are discharged with drain(s) for 7 days and prescribed prophylactic antibiotics.

Results: To date, 145 breast reconstructions have been performed in 95 patients since January 2014. The indications were: risk-reducing mastectomy (40%), therapeutic mastectomy (25%), revision of previous sub-pectoral reconstruction (32%) and delayed expander reconstruction (3%). Mean age was 46 years (20–78 years), mastectomy weight 475g (73–1679g) and implant volume 432cc (165–620cc). Post-operative inpatient stay was 0.9 days (0–2) with a follow up of 362 days (10–1260). Implant loss occurred in 3%. Minor complications occurred in 11%. Revisional surgery has been required in 4.5%.

Conclusion: Pre-pectoral implant placement with total ADM coverage represents a novel approach to implant-based breast reconstruction. The technique is reliable in delivering excellent cosmetic results and patient satisfaction. Despite concerns, rippling has not been problematic. Patients are counselled on the potential advantages and disadvantages of pre and post pectoral reconstruction to ensure informed decision-making.

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P041. Patient-level re-operative costs for oncological margin control following breast conserving surgery

Yasmin Grant^{1,2}, Edward St John^{1,2}, Alex Carter¹, Rashed Al-Khudairi¹, Deborah Cunningham², Ragheed Al-Mufti², Katy Hogben², Dimitri Hadjiminas², Daniel Leff^{1,2}

¹ Department of Surgery and Cancer, Imperial College London, London, UK

² Department of Breast Surgery, Charing Cross Hospital, London, UK

Introduction: High reoperation rates (20–30%) following breast conserving surgery (BCS) for positive margins are associated with increased physical and psychological morbidity and represents a likely significant and yet unestimated cost burden to the NHS. Our aim was to compare financial costs between patients undergoing successful BCS versus re-operative breast surgery.

Methods: Financial data was retrieved retrospectively from 115 patients receiving BCS +/- re-operation between April to September 2015 using Patient-Level Information and Costing Systems (PLICS). Statistical analysis was conducted using SPSS (v20).

Results: 76 patients underwent definitive BCS and 39 patients underwent re-operative surgery. The total cost of definitive BCS was £232,897 with a median cost of £2,396 (IQR: £2086, range £923 – £8112). The total cost of definitive BCS and one re-operation (n = 35) was £282,768 with a median cost of £3,799 (IQR: £10,761, range £1,498 – £28,705). The total cost of BCS and two re-operations (n = 4) was £40,853 with a median cost of £10,387 (IQR: £6,539, range £5,934 – £14,145). The median cost of BCS and re-operation (n = 39) was observed to be an additional £1,864 per patient compared to definitive BCS (n = 76) (p<0.001).

Discussion: This study is the first cost comparison between definitive BCS and re-operative surgery in the UK, interrogating direct patient level costs including operating theatre time, medical staffing, and laboratory investigations. Re-operation has significant cost implications and implementation of intra-operative margin technologies could result in both quality improvement and substantial savings to the NHS.

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P042. Surgical site infection in breast cancer surgery: a single centre study

Louise Caisley, Kevin Clark

Queen Elizabeth Hospital, Gateshead, UK

Introduction: There are few reports in the literature about surgical site infection (SSI) following breast cancer surgery. The National Mastectomy and Breast Reconstruction Audit reported infection rates of 17% following mastectomy and just over 24% for patients receiving mastectomy with immediate implant reconstruction. We conducted a prospective study of SSI in 383 breast cancer surgery patients during a nine-month period between October 2014 and June 2015.

Method: In 2014 our hospital agreed to participate in Public Health England's Surgical Site Infection Surveillance. An independent observer using OPCS codes identified all patients having breast cancer surgery for inclusion into the study. Each patient completed a 30-day post-discharge questionnaire either by telephone interview or face to face if readmitted. Patients who were identified with a potential SSI had further investigation to ascertain if they met the PHE criteria for SSI.

Results: 383 patients were contacted during the study period: 269 (70.2%) patients had breast conserving surgery (BCS); 67 (17.4%) a mastectomy with or without axillary surgery; and 47 (12.2%) patients had mastectomy with immediate implant reconstruction.

Out of 383 breast cancer surgery patients: 40 patients were further investigated for a SSI; and 5 patients had a confirmed SSI (1.3%). The 5 patients with confirmed SSI comprised: 2 patients who had BCS (0.7%); one patient who had mastectomy with or without axillary surgery (1.4%); and 2 patients who had mastectomy with immediate reconstruction (4.2%). Further analysis of the data revealed that: of the 269 BCS patients 29 (10.7%) received perioperative antibiotics and 4 post discharge antibiotics; of the 67 mastectomy with or without axillary surgery patients 19 (28.3%) received perioperative antibiotics and 5 post discharge antibiotics; of the 47 patients receiving mastectomy with immediate reconstruction 46 (97%) received perioperative antibiotic and 23 post discharge antibiotics.

Conclusion: Our low rates of infection in patients receiving breast conserving surgery or mastectomy suggests that our prophylactic antibiotic policy does not require immediate review but careful audit of outcomes should continue, particularly, in the patients undergoing mastectomy with immediate implant based reconstruction.

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P043. Androgen receptor expression, impact on survival and its correlation to clinico-pathological factors in breast cancer

L. Jalini¹, S. Aspinall¹, R. Kalbassi¹, H. Cain¹, D. Hemming², D.A. Browell², T.W.J. Lennard¹

¹Department of Surgical Sciences, Newcastle University, Newcastle upon Tyne, UK

²Department of Histopathology, Queen Elizabeth Hospital, Gateshead, UK

Introduction: Androgen receptor (AR) is the most common steroid receptor present in normal breast tissue, and is expressed in 70–90% breast tumours. The expression of AR, oestrogen (ER) and progesterone (PR) receptors as detected by Immunohistochemistry (IHC) and its correlation with clinicopathological factors and survival was studied.

Method: 148 cases with 9.5 years follow-up were selected. Case notes were reviewed to determine clinicopathological factors. The Quick and Allred scores were used to assess receptor status. The correlation between the AR and clinicopathological factors were examined using the χ^2 test with P value <0.05 as significant. Disease-free survival (DFS) and overall survival (OS) curves were generated using the Kaplan–Meier method

Results: 69 (46.6%) of samples were positive for AR expression. Within this group, 29 (42%) 18 (26.1%) and 22 (31.9%) were weakly (AR+), moderately (AR2+) and strongly positive (AR3+). ER expression was detected in 100 of sample (67.6%) (ER+); PR expression was seen in 96 of samples (64.9%).

There was a significant correlation between AR expression and tumour size ($\chi^2 = 11.34$, p = 0.0268), AR and ER ($\chi^2 = 15.17$, P<0.0001) and AR and PR expression ($\chi^2 = 8.095$, p<0.0044).

The AR3+ showed better OS than those with weakly positive or negative tumours (p = 0.034, p = 0.04). There was a significant difference in OS and DFS between luminal (ER+AR+), Basal(ER-AR-) and molecular apocrine (ER-AR+) tumours.

Furthermore, these results were sustained in ER+AR3+ group but not in ER+AR2+ or AR1+ subgroups.

Conclusion: AR activity may play different roles in different subtypes of breast cancer, necessitating diverse AR targeting strategies that can suppress or activate AR signalling.

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P044. Evaluating the introduction of the use of multiple iodine-125 seeds in breast conservation surgery

Robert Milligan, Adam Critchley, Stewart Nicholson, Joe O'Donoghue, Henry Cain

Royal Victoria Infirmary, Newcastle upon Tyne, UK

Introduction: Radioactive Seed Localisation (RSL) using single iodine-125 seeds has recently been introduced to the United Kingdom with promising initial results. We have recently introduced the use of multiple iodine-125 seeds in breast conservation surgery in lieu of traditional guidewire localisation. Here we present our initial experience.

Methods: Iodine-125 seeds were inserted into patients with ultrasound or stereotactic guidance 7–14 days preoperatively. All specimens underwent radiographic assessment in theatre and iodine seeds were accounted for at all times as per local protocol. Data were collected retrospectively from the electronic records system at our institution from our first multiple seed insertion in December 2015 until October 2016.

Results: A total of 43 procedures were performed on 33 patients undergoing breast conservation surgery using multiple iodine seeds. Of these, 4 patients had bilateral single seed insertion. One patient had bilateral seeds inserted with 2 in the right breast and 1 in the left breast. 25 patients had 2 seeds inserted unilaterally, and 2 patients had 3 seeds inserted unilaterally. 16 therapeutic mammoplasties were performed in 14 patients (two bilateral). 19 dual seed wide local excisions (WLE) and 4 unilateral double WLE were performed. 4/43 (9.3%) procedures required re-excision surgery, although one of these patients opted for completion mastectomy.

One patient required intravenous antibiotics for post-operative wound infection and 3 had superficial wound breakdown.

Conclusions: The use of multiple iodine seeds in breast conservation surgery is relatively new technique in our institution, but has acceptable rates of re-excision and complications in our experience.

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P045. Vacuum assisted biopsy versus surgical excision for the diagnosis and monitoring of B3 papillary lesions

Quratul Ain, John Canny, Bruce Tanchel, Balapathiran Balasubramanian

Solihull Hospital, Heart of England Foundation Trust, Solihull, Birmingham, UK

Introduction: B3 lesions are defined as those with uncertain malignant potential. Papillary lesions are one of these heterogenous groups of breast lesions. One of challenges of the breast MDT can be identifying which of these need to proceed to surgical excision to ascertain a histological diagnosis. Current practice in this unit tends to air towards excision of these lesions. Recently vacuum assisted biopsy (VAB) has been used to try to gain more tissue sample in order to avoid large numbers of unnecessary surgical excision biopsies.

Methods: Patients who had B3 papillary lesions on core biopsy were identified from histopathology records. Trust medical records were searched to ascertain investigations performed and the results of these. Data was collected in a secure database and analysed statistically.

Results: 125 patients were identified between January 2011 and November 2016 with B3 papillary lesions diagnosed by needle core biopsy. 15 of 125 patients did not have any subsequent procedures and were excluded from the analysis. Of the remaining 111 patients 92 proceeded to surgical excision biopsy without prior vacuum assisted biopsy (VAB). 12 of the 92 patients were diagnosed to have malignancy (in situ or invasive) making the upgrade rate for surgery 13.04%. 11 of 12 (91/67%) upgraded to DCIS and 1 (83.33%) had invasive carcinoma. 18 of 111 patients had VAB. 12 of these 18 patients went on to have subsequent excision biopsies and the other 6 were followed up on the basis of VAB alone. 3 of 18 who had VAB were upgraded to malignancy making the upgrade rate as 16.67% (3/18 DCIS). The patients who had VAB followed by surgery there were no malignancies giving the upgrade rate of 0%.

Conclusion and recommendations: The results of this study show very identical upgrade rate for VAB group (16.67%) and surgical excision group (13.04%). Surgical excision following VAB had no additional yield of malignancy. The study demonstrates that VAB without surgical excision may be sufficient for managing B3 papillary lesions diagnosed with needle core biopsies. However, the numbers in the VAB group were small to reach a definite conclusion based on these figures alone. A more extensive inter-hospital study is to be planned for the future to address this issue.

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P046. TIGR® Matrix Mesh in breast reconstruction – A single unit experience

Gareth Irwin¹, Lynn Darragh², Peter Mallon¹, Stuart McIntosh^{1,3}, Sam Sloan¹, Sigi Refsum¹

¹ Belfast City Hospital, Belfast, UK

² Ulster Hospital, Dundonald, UK

³ Queen's University, Belfast, UK

Introduction: Current guidelines recommend offering immediate reconstruction following mastectomy. Good cosmesis can be achieved with a one-stage submuscular implant based technique, but coverage of the lower pole for support and to maintain the inframammary fold is required. A range is available but these can be expensive and are not

without complications. This unit is amongst the first in the UK to use TIGR® matrix mesh.

Methods: TIGR® matrix is made from synthetic reabsorbable polymers and is intended to provide support for 6–9 month and reabsorb completely by 3 years. TIGR® has been used in this unit over the last two years and follow up data recorded prospectively.

Results: From June 2014 until Dec 2016 TIGR matrix mesh has been used in 63 patients (mean age 45.9 years, 27–73) for 94 breasts. 44 meshes were used for immediate implant reconstruction following therapeutic skin-sparing mastectomy alone. 27 involved an additional axillary procedure (22 SLNB, 5 ANC). 20 were used in immediate reconstruction following risk-reducing mastectomy and 3 in salvage procedures. Implant volume ranged from 140cc to 640cc. Current follow-up data ranges from 30 months to 14 days. Complications at 30 days include one return to theatre for evacuation of haematoma with no long-term consequences. At 90 days 77% of the breasts had settled with no long-term sequelae and good cosmetic outcome. 2 implants were salvaged with no long-term effects. Three wound scars needed revised and the implant was lost from 11 breasts.

Conclusions: TIGR® matrix mesh is a novel product with versatile uses. These longer-term results are favourable in terms of cosmesis and complication rates. Follow up continues and will be updated.

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P047. Salvage of infected breast implants with continuous peri-prosthetic antibiotic irrigation: a retrospective audit

Jennett Kelsall, Eleanor Gutteridge, Lisa Whisker

Nottingham City Hospital, Nottingham, UK

Introduction: Infection in the setting of prosthetic breast reconstruction is a much feared complication as it may result in implant loss; causing psychological distress, poor cosmesis, further surgical procedures, and additional health care costs. Explantation in this setting has traditionally been the standard of care. Our institution has developed a protocol utilising intra-operative lavage, +/- exchange of the prosthesis, followed by continuous peri-prosthetic antibiotic irrigation for at least 48hrs; in order to attempt implant salvage in selected patients. We have audited our results and present our technique and outcomes for discussion.

Methods: A retrospective audit was undertaken of all infected breast prosthesis irrigation cases over the preceding 5 yrs at our institution, including immediate and delayed reconstructions and revision surgery with either implants or tissue expanders. Patient demographics, surgical and perioperative data, and final outcomes following irrigation were collected.

Results: Of 20 cases identified, 15 were successfully salvaged. Irrigation was undertaken for at least 48 hrs (range 2–6 days, median = 3). 14 had undergone immediate reconstruction, 2 delayed, and 4 revision procedures. The most common risk factor was obesity (13/20); others included concurrent fat grafting (4/20), smoking (4/20), previous irradiation (3/20); and diabetes (2/20). 12 had either an acellular dermal matrix or synthetic mesh in situ. 9 grew sensitive *S. aureus*, 2 grew *Propionibacterium*, and in 9 no organism was cultured.

Conclusion: Our protocol utilising intra-operative lavage and post-operative peri-prosthetic antibiotic irrigation is a simple technique. It offers an opportunity to salvage an infected implant reconstruction in selected patients.

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P048. A retrospective study comparing early outcomes of prepectoral and subpectoral implant based breast reconstruction

Kavitha Kanesalingam, Assad Khan, Isabella Karat, George Kousparos, Hisham Osman, Ian J Laidlaw, Raouf Daoud

Frimley Park Hospital, Surrey, UK

Introduction: Immediate implant based reconstruction is an established breast reconstruction technique where full implant coverage is achieved with

the combination of the pectoral muscle and either a dermal sling or mesh. However, prepectoral implant reconstructions have become increasingly popular and have been shown to result in equally good outcomes.

Methods: We performed a retrospective audit comparing the length of hospital stay, use of analgesia and complication rate (delayed healing, infection, implant loss, return to theatre) in patients who had prepectoral and subpectoral implant based reconstruction over the last year.

Results: A total of 44 patients were included in this study with 22 patients in each group. There was no significant difference in the patients' age, smoking history or indication for mastectomy (DCIS or cancer). However, patients who had prepectoral implants had significantly shorter hospital stay ($p = 0.047$). No difference was seen in analgesia requirements. There was also no difference in the rate of complications between the two groups.

Conclusions: Prepectoral implant reconstruction achieves comparable outcomes to the placement of subpectoral implants. With less intraoperative dissection, patients need less time to recover. Further prospective studies are needed to look at the long-term outcomes of prepectoral implant reconstruction.

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P050. BRCA 'variants of unknown significance' need regular review to facilitate optimal patient management

Gareth Irwin¹, Cassandra Freitas², Stuart McIntosh^{1,2}, Kienan Savage²

¹Belfast City Hospital, Belfast, UK

²Queen's University, Belfast, UK

Introduction: Most BRCA1 and 2 mutations are known to either be pathogenic or benign but for some their clinical significance is unknown, leading to uncertainty regarding management. Periodically, these 'variants of unknown significance' are reclassified by ClinVar, IARC or Align-GVGD, gene classification databases, potentially leading to a change in optimal management.

Methods: All VUS of BRCA1 and 2 were identified from the Northern Ireland BRCA database and reanalysed by updated review of ClinVar, IARC, BRCA1 Circos or Align-GVGD to evaluate whether or not they had been reclassified, and if this reclassification may have an impact on clinical management.

Results: 170 VUS were identified: 67 in BRCA1 and 103 in BRCA2. Of these 4 BRCA1 and 5 BRCA2 VUS were reclassified as either definitely or probably pathogenic. 78% of BRCA1 and 71% of BRCA2 VUS were reclassified as either benign, probably benign or of little impact. 21% of all the VUS remained unable to be classified.

Conclusions: As more information is gleaned about VUS the frequency of their reclassification is increasing. This study highlights the need to revisit VUS as their reclassification may have clinical implications, with 5% of patients in this study now being diagnosed as either definitely or probably pathogenic. In addition, up to 78% could be reassured by an unknown variant being reclassified as benign. This has implications for consent to undertake genetic testing and the need to update patients as more information becomes available.

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P051. Exploiting the potential of publically available gene expression repositories to develop a better understanding of differential gene expression in breast cancer tissue

Mary McCumiskey^{1,2}, Conor Judge³, John Hogan⁴, Bridget Anne Merrigan², Shona Tormey², Ashish Lal², Aoife Lowery^{2,5,7}, Calvin Coffey^{2,5,7}, Tara Dalton¹, Patrick Kiely^{5,6,7}

¹Stokes Laboratories, Bernal Institute, University of Limerick, Limerick, Ireland

²Department of Surgery, University Hospital Limerick, Limerick, Ireland

³Department of Medicine, University Hospital Galway, Galway, Ireland

⁴Department of Cardiothoracics, University Hospital Wales, Cardiff, UK

⁵Graduate Entry Medical School (GEMS), University of Limerick, Limerick, Ireland

⁶Health Research Institute, University of Limerick, Limerick, Ireland

⁷4i Centre for interventions in Infection, Inflammation and Immunity, GEMS, University of Limerick, Limerick, Ireland

Introduction: There are large volumes of data available within public gene expression repositories (PGER). However it is not possible to search through these using relevant clinical terms. Previous research at the University of Limerick has led to the development of software tools (Rover) that permit clinically relevant searches, allowing for the analysis of datasets based upon specific clinical parameters. In breast cancer they can be challenged by asking specific questions about how normal tissue compares with cancer tissue and with respect to Oestrogen Receptor status, Progesterone Receptor Status, Lymph node status, HER2 status and reoccurrence compared to non-reoccurring breast cancer. The aim of this study is to exploit the potential of the data available from publicly available gene expression repositories to develop a potential gene expression profile to help differentiate between normal tissue and breast cancer.

Methods: A University of Limerick Breast Cancer Archive was established based on datasets derived from Gene Expression Omnibus (GEO) and ArrayExpress which were searched using the phrase, "breast." The datasets were subsequently reviewed and only those which obtained a 5* in Minimum Information About a Microarray Experiment (MIAME) compliance score within ArrayExpress and imported into Chipster for further analysis.

Results: This search yielded 29 datasets which obtained a 5* MIAME compliance score within ArrayExpress, 6 of these datasets GSE 42568, GSE 42568, GSE 50428, GSE 50567, GSE 57297 and GSE 59246 compared the microarray expression between normal and breast cancer tissue. Further analysis of which further identified the following genes as being the most dysregulated throughout all the datasets: FABP4, MMP1, AdipoQ, C2orf40, CD36, CYP2B6, KRT5 AND S100P.

Conclusions: This demonstrates that it is possible to use the microarray expression data available within public gene expression repositories in relation to breast cancer to generate consensus profiles which can potentially be further assessed to provide diagnostic and prognostic information.

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P052. Can we predict further axillary nodal disease in patients with sentinel node macro metastases by OSNA in early breast cancer?

Uma Sridharan, Anita Hargreaves, Adrian McKenna, Shelley Potter, Hannah Lennon, Catherine Eley, Chris Holcombe, Geraldine Mitchell
Royal Liverpool University Hospital, Liverpool, UK

Introduction: OSNA (One step nucleic Acid Amplification) is an intra-operative assessment which enables axillary node clearance in the presence of macro metastases. More than 50% of women who have axillary clearance do not have any further nodal involvement. We aimed to identify factors which can help to predict further axillary disease in the patients who have macro metastases to avoid unnecessary axillary clearance.

Method: A retrospective analysis of 995 consecutive patients with invasive breast carcinoma in a single centre from November 2012 to October 2016 was performed. All patients were clinically node negative pre-operatively, and underwent OSNA. Demographics, histopathological data and details of axillary management were analysed.

Results: Among 995 patients, 433 (43.5%) patients were node positive. 274 (27.5%) patients had micro metastases and 159 (16%) had macro metastases. In the cohort with macro metastases, 118 (76%) patients proceeded to axillary node clearance. Of these, 58 patients had further axillary disease. Tumour size, presence of LVI, high KI-67 and high CK19 predicted for further axillary disease.

	No further axillary disease N = 60	Further axillary disease N = 58
Age (Median)	60	58
Surgery	Mastectomy	28
	WLE	32
Histology	IDC	56
	ILC	4
Size (Mean)	30.4 mm	47.3 mm
LVI	56.7%	63.7%
Ki 67 > 15%	25%	39.7%
CK 19 copy No. <50,000	58.3 %	29%
>50,000	41.7%	71%

Conclusion: The tumour size, presence of LVI, high KI-67 and high ck19 predict further axillary disease.

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P053. Unplanned revisional surgery for cosmesis following immediate implant based reconstruction

Richard Clough¹, Lynn Darragh², Joe O'Donoghue³

¹Newcastle University, Newcastle Upon Tyne, UK

²General Surgery Department, Ulster Hospital, Dundonald, UK

³Plastic Surgery Department, Royal Victoria Infirmary, Newcastle Upon Tyne, UK

Introduction: Increasingly reconstruction following mastectomy is carried out as an immediate procedure. Reconstruction options are varied and a collaborative approach between clinicians and patients is required. Patients are generally advised that implant based reconstructions may require maintenance surgery in the future. This study aimed to quantify how many patients required unplanned surgery to improve cosmesis, following successful immediate implant based reconstruction in the short term.

Methods: A retrospective audit of patients who had successful (i.e. no implant loss at 3 months) fixed volume implant based reconstruction between June 2012 and June 2013 was carried out. Unplanned procedures to improve cosmesis were recorded. Nipple reconstruction and contralateral procedures were excluded.

Results: 88 implants (69 patients) were included with an average of 38.6 months follow up. 39 implants (44%) required a mean of 1.36 (range 1–5) revisional surgeries. Lipomodelling accounted for 34%, implant exchange 30%, implant removal 21% and other procedures 15%. There was a significantly higher rate of revisional surgery in patients who had an early complication following the initial procedure (14/21 vs 25/67; $p = 0.018$).

Conclusion: The potential requirement for revisional surgery to obtain satisfactory cosmesis in the first 3 years following immediate implant based reconstruction should be communicated to patients in a collaborative decision making process.

<http://dx.doi.org/10.1016/j.ejso.2017.01.106>

P054. What are the experiences and motivating factors of women who choose contralateral prophylactic mastectomy at initial breast cancer diagnosis in the absence of a strong family history?

Rosemary Buck

Portsmouth Hospital NHS Trust, Portsmouth, UK

Introduction: To explore the experience, motivational factors and decision making strategies of women who choose contralateral prophylactic mastectomy (CPM) in the absence of a strong family history of breast cancer at the initial breast cancer diagnosis.

Method: The study used a qualitative phenomenological approach to elicit these experiences, from five women diagnosed with breast cancer who choose to have CPM at their initial breast cancer diagnosis. Data was collected using audio-recorded, semi structured interviews and analysed using Colaizzi's (1978) framework for data analysis.

Findings: Three overarching themes emerged:

Theme 1: Factors contributing to constructing the decision

Theme 2: The process of the decision

Theme 3: No regret

Conclusion: There needs to be a balance between speed of treatment and making sure women have sufficient time to think about their decision. Service provision for these women needs to be considered as well as the quality and the way information is delivered and the nature of communication with health care professionals. A decision making support tool generated from this study could be used to facilitate with the decision making process to assist specialist nurses when counselling, this tool could be trialled in clinical practice.

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P055. NHSBSP Guidelines and use of VAE for B3 pathology saves money and reduces patient pathway

Blossom Lake, Susan Williams, Tamoor Usman, Cerys Burrows

Shrewsbury & Telford NHS Trust, Telford, UK

Introduction: B3 or indeterminate breast pathology combines a variety of heterogeneous pathological entities, with varying malignant potential and often cause a treatment dilemma. Recent NHSBSP guidelines help to delineate the treatment pathway following B3 diagnosis. Recommendations include for certain B3 pathology the use of second line Vacuum Assisted Excision (VAE), which decreases the need for open surgical biopsy. The aim of this audit was to assess current practice compared to guidelines and the potential cost saving from implementation.

Method: A 5 year audit of all B3 pathologies at Shrewsbury and Telford NHS Trust was performed from 2010 to 2015. Data was recorded from the Clinical Portal and included initial pathology, subsequent procedures, subsequent pathology, upgrade and downgrade rates. Cost saving analysis was performed to see how much would have been saved if the new NHSBSP guidelines had been followed.

Results: 297 B3 pathologies were identified; repeat B3 biopsy and B4 pathology were excluded. Commonest initial B3 pathology was Papilloma or Papillary lesion without atypia 24%. 140 patients (47%) had excision as second line procedure. Upgrade rate was 22% and downgrade rate was 29%. Cost saving analysis showed that if VAE was available as a second line procedure, 115 patients (39%) could have had this instead of excision saving £80,960. In addition 10% of patients would have had reduced clinical pathway.

Conclusion: New guidelines recommend for selected B3 pathology the use of VAE. This audit demonstrates not only does this save money but also reduces the steps in the patient's pathway.

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P056. Mammographic surveillance in family history patients: Do low cancer detection rates justify the high numbers of breast cancers detected?

Christopher Madden-McKee^{1,2}, Grainne Culleton^{1,2}, Gwyneth Hinds³, Stuart McIntosh^{1,2}

¹Centre for Cancer Research and Cell Biology, Belfast, UK

²Queen's University Belfast, Belfast, UK

³Breast Surgery Department, Belfast City Hospital, Belfast, UK

Introduction: NICE recommends that women at increased risk of breast cancer due to family history (FH) should undergo enhanced mammographic screening. We examined the performance of the Belfast

Trust FH screening programme for women aged 35–70 between January 2010 and June 2016.

Methods: Eligible women were identified from the Belfast Trust FH database. Known risk-predisposition mutation carriers were excluded. Mammogram reports, details of additional investigations and characteristics of tumours detected were obtained using computerised reporting systems.

Recall rates and cancer detection rates were calculated for the overall cohort and by year, and by age and risk groups.

Results: 2384 women were screened between 2010 and 2016 (9108 mammograms) and 40 cancers detected. The overall recall rate was 7.5% (versus 3.7% NHSBSP); the cancer detection rate was 2.5 per 1000 mammograms (versus 6.8 per 1000 NHSBSP). Twenty-three cancers were diagnosed mammographically (57.5%), and 17 (42.5%) interval cancers were detected. Recall rates fell with increasing age (8.3% in the <40 age group to 4.3% in the 60–69 age group). There was a concomitant increase in cancer detection rates (0% to 4.3% per 1000 in these groups). There was no apparent trend in either recall or detection rates by year or by risk group.

Conclusions: FH surveillance resulted in high recall rates, particularly in younger women, although cancer detection rates were low. The interval cancer rate was noted to be high, with 42.5% of cancers presenting clinically, suggesting that clinical assessment remains an important component of FH surveillance.

<http://dx.doi.org/10.1016/j.ejso.2017.01.109>

P057. Can a selective policy after primary chemotherapy (PC) reduce the need for full dissection of the initially positive axilla?

Ben Sluckis, Juan McDonnell, Fawzia Imtiaz-Crosbie, Victor Jaffe
Chase Breast Unit, Enfield, UK

Introduction: We have previously shown that PC converts over 50% of node positive patients to node negativity or single node positivity. In 2013, we switched to a selective policy whereby radiological assessments directed post-chemotherapy axillary surgery. We reviewed the results to assess the practicality and safety of this policy.

Methods: Consecutive biopsy-proven node positive patients were reviewed. Patients with only one positive node had coil insertion and were selected for post-chemotherapy sentinel / coiled node / sample (SCNS) whereas patients with two or more nodes underwent an axillary dissection. We assessed the total and positive node count in each group and compared this to our previous patients who all underwent axillary clearance.

Results: 36 patients were identified. 18 were selected for SCNS (mean 3.2 nodes per patient (2–7)) whereas 18 had a full clearance (13.7 nodes (8–43)). 11 of the SCNS patients had converted to node negativity and the other 7 had only a single positive node. In the entire group of (36), the positive node harvest was a mean of 2.5 per patient (0–29) which is very similar to our previous series where all patients underwent clearance.

Conclusion: By careful selection, 50% of patients avoided a full clearance. However the number of positive nodes per patient did not alter, suggesting that the policy did not compromise safety by leaving undetected positive nodes in-situ.

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P058. Is it the end of the road for OSNA? – Definitely not; await POSNOC

Mashuk Khan, Laura Henderson, Nadia Saffaf, Charlotte Ion, Sarah Weston, Adrian Smith, Lucie Jones, Simon Harries, Dayalan Clarke
The Warwick Breast Unit, Warwick, UK

Introduction: One-step nucleic acid amplification (OSNA) allows intraoperative assessment of the sentinel lymph node (SLN) which can enable an axillary node clearance to be performed in the same operation.

We report our experience of OSNA for the intraoperative assessment of the SLN in our institution.

Methods: All patients with node negative breast cancer (clinically and radiologically) undergoing SLN biopsy between June 2011 and March 2016 were included. Rates of axillary node positivity, specifically macrometastatic and micrometastatic disease, as detected by OSNA were collected. These were compared with a pre-OSNA group of 411 patients who underwent intraoperative assessment by Touch Imprint Cytology. Data was analysed using the Chi-square test.

Results: 807 patients had their SLN assessed by OSNA. The SLN was positive in 292 patients (36.5%). Of these patients, 138 (17.3%) had macrometastatic disease and 154 (19.2%) had micrometastatic disease. The node positivity rate was significantly more when compared to the pre-OSNA group (24.6%; $p = 0.0001$). Whilst there was no significant increase in the rate of macrometastatic disease detected on OSNA (21.15% vs 17.3%; $p = 0.052$), there was a significant increase in micrometastases identified (19.2% vs. 3.5%; $p = 0.0009$).

Conclusion: OSNA is superior at detecting metastases, especially micrometastatic disease, in the SLN. Micrometastatic disease is currently managed as node negative disease by most breast units. We await the results of the POSNOC trial which may further influence practice. OSNA reliably informs the operator of nodal status intraoperatively, allowing for definitive axillary surgery to be performed during the same operation.

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P059. Breast cancer recurrence in patients diagnosed in participating health boards in Scotland in 2007

Glyn Neades^{1,4}, Linda Williams², Wilma Jack¹, Christine Urquhart³, Matthew Barber¹, Christine Dodds⁴

¹Edinburgh Breast Unit, Edinburgh, UK

²University of Edinburgh, Edinburgh, UK

³NOSCAN, Lochgilphead, UK

⁴SCAN, Edinburgh, UK

Introduction: Breast cancer data has been collected in Scotland to support audit of performance against national standards since 1999. There has always been an ambition to collect routine data on recurrence but this remains challenging. In an attempt to progress, health boards were invited to contribute data on those patients diagnosed in 2007.

Methods: 1490 patients diagnosed in 2007 with invasive breast cancer or ductal carcinoma in situ (DCIS) who underwent surgery were identified in Ayrshire & Arran, Borders, Fife, Grampian, Highland, Lothian and Shetland Health Boards. Data relating to cancer and deprivation scores were collected for analysis.

Results: Five year local recurrence rate for those with DCIS was 1.3% after mastectomy and 2.5% for breast conservation.

For invasive cancer, rates were 3.1% after mastectomy and 1.9% for breast conservation. 5 year survival was 86 and 91% respectively.

There was an apparent relationship between deprivation score and outcome for those undergoing breast conservation (but not mastectomy) with the most deprived quintile having 5 year survival of 93.8% while the least deprived had survival of 75.7% ($p < 0.0001$).

Risk of local recurrence varied with age for those undergoing breast conservation (but not mastectomy) with rates of 3.7% for those under 50, 1.3% for 51–65, 3.1% for 66–75 and 6.2% for those over 75 ($p = 0.03$).

Conclusions: Standards measured for those with cancer largely relate to treatment processes and are, at best, obliquely related to outcome. Local recurrence and survival data among those diagnosed with breast cancer are essential to truly assess outcome.

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P060. Review of the experience of Neo-adjuvant Chemotherapy (NACT) practice.

Nazli Muhibullah, Hazem Khout, Eleanor Gutteridge, Tubin Rasheed, Kristjan Asgeirsson, Douglas Macmillan, Steve Chan, Lisa Whisker
Nottingham Breast Institute, Nottingham, UK

Background: Over the last 10 years NACT has emerged as a first choice of treatment in selected groups with breast cancer. We aim to describe the clinical outcome of patients treated with NACT at our centre; including tumour characteristics, staging, final surgical procedure, disease free (DFS) and overall survival (OS).

Methods: Retrospective review of prospectively maintained NACT database. Review of stage at diagnosis, clinical staging after NACT, final surgical procedure (including breast conservation rates), pCR rates, LRR, DFS and OS. Review of surgical procedure includes breast conservation rates and mastectomy rates.

Results: 335 patients underwent NACT and surgical treatment between 2007 and 2015. Mean age of our cohort 50 years (range 23–80). The mean tumour size at diagnosis of all patients having NACT is 48mm. 37% had T4 disease, 54% node positive, 25% triple negative breast cancer and 26% HER2 positive. After NACT mean tumour size in mastectomy group 23mm (53mm pre-NACT) and BCS 14mm (36mm pre-NACT). Overall pCR in our cohort was 18%, more than half with pCR had a mastectomy, 73% had a measurable response to NACT, 7% had disease progression. 52 had wide local excision, 29 mammoplasty, 12 partial reconstructions, 214 simple mastectomies and 28 immediate reconstructions. 5 year OS for those having NACT is 79%, DFS 73%.

Conclusions: There is increasing uptake of NACT in our population with increasing rates of more complex surgery after NACT. Overall 5 year survival rates are approaching 80% at 5 years with disease free survival 73%.

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P062. Prediction of further axillary nodes metastatic load in breast cancer using the Metasin RTqPCR assay for CK19 and Mammaglobin during the intraoperative sentinel node analysis

Sujatha Udayasankar, Priya Sai Giridhar, Asma Munir, Anita Huws, Yousef Sharaiha, Saira Khawaja, Simon Holt
Prince Phillip Hospital, Llanelli, UK

Background: The Metasin assay is currently used in the NHS as an intra-operative test to analyse the sentinel lymph node (SLN) metastasis in breast cancer.

The aim of this study is to evaluate the correlation between cytokeratin (CK19) and mammaglobin (MGB) expression from metastatic axillary SLN using the Metasin assay to the number of additional metastatic nodes found at axillary clearance.

Method: This is a retrospective study, from Oct 2011 – Dec 2014, including all patients positive for metastasis in the sentinel node and then went on to have axillary clearance.

A node is considered positive for macrometastasis if CK19 Cq is less than 25; and MGB < 26. The CK19 and MGB cycle numbers (Cq) were reviewed against the extent of lymph node involvement as assessed following axillary clearance.

Results: During the study, 88 patients' sentinel nodes were found Metasin positive. 37 were CK19 positive, 6 MGB positive and 45 were positive for both. 39 (41.4%) patients were found to have additional nodes positive following axillary clearance.

The median CK19 Cq was 20.8, 18.2 and 17.4 for 1 node positive, 2 nodes positive and >3 nodes positive respectively.

The median MGB Cq was 22.35, 21.9 and 19.9 for 1 node positive, 2 nodes positive and >3 nodes positive respectively.

Conclusion: With further detailed studies, quantitatively reporting the Metasin results with Cq may help to predict a low likelihood of additional axillary node involvement and thus help avoid unnecessary axillary clearances.

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P063. Efficacy of Digital Breast Tomosynthesis (DBT) in preoperative wire localisation of non palpable breast lesions

Sujatha Udayasankar, Asma Munir, Anita Huws, Yousef Sharaiha, Simon Holt, Saira Khawaja
Prince Phillip Hospital, Llanelli, UK

Introduction: Digital breast tomosynthesis (DBT) is a new three dimensional imaging technique for breast mammography. This has shown better accuracy in detection of non palpable lesions and increases cancer detection. We aim to look at its use in preoperative localisation of such lesions.

Method: All patients who had DBT wire localisation for surgery from Jun 2014 to Oct 2016 were included in this retrospective audit. The Royal College of Radiologist guidance and NHSBSP standards state that wire to lesion distance should be within 10mm of the lesion in any plane and the tip should not be more than 20mm beyond the lesion. The proximity of wire localisation to the target lesion and the outcomes of surgery were studied.

Results: Total of 85 patients had DBT wire localisation procedure. Patients who had bracketing and lost to follow up were excluded. Of the 80 patients, 54 presented from screening and 26 were symptomatic. This series included both diagnostic (N = 15, 18.7%) and therapeutic excisions (N = 65, 81.25%). The lesions requiring localisation were either impalpable lesion/distortion in 21 (26.2%), calcification in 46 (57.5%) and marker clips in 13 (16.2%). The final diagnoses following excision were benign -11 (13.8%), radial scar -5 (6.2%), DCIS -26 (32.5%) and invasive cancer -38 (47.5%). The mean distance from wire to lesion was 6.4mm and the wire tip to lesion was 9.7mm.

Conclusions: Preoperative DBT wire localisation allows accurate localisation of impalpable lesions and excision.

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P064. Audit: Annual mammographic surveillance for patients with moderate and high risk of family history of breast cancer. Is there scope for improvement?

Suzannah Fitzgerald¹, Veronika Pronisceva², Anil Poddar^{2,1}, Elizabeth Sharp²

¹ EKHUFT, Canterbury, UK

² EKHUFT, Margate, UK

Introduction: NICE recommendations are to offer annual mammographic surveillance between the ages 40–49 for women with moderate risk and between ages 40 to 59 for women with high risk of developing breast cancer.

Aim: To determine the incidence of early breast cancer in the patients who were recalled from 01/2015 to 12/2015 and the time taken from mammogram to completed assessment.

Standard: NICE CG164 “Familial breast cancer: Mammographic surveillance.”

Method: Retrospective data collection. Patients with BRCA gene defect and PT53 mutation excluded.

Results: Currently we have 596 patients who undergo annual mammographic surveillance. 362 (61%) patients with moderate and 243 (39%) with high risk. 64 (100%) patients from annual mammographic surveillance were recalled for further imaging and examination between 1/2015-12/2015. 34 (53%) patients were high risk and 30 (47%) moderate risk. Of the 64

recalled patients, 6 (9%) resulted in a biopsy, 1 (1.6%) patient had B3 biopsy results, 2 (3%) patients B2 -fibroadenoma, 1 (1.6%) had silicon node, 2 (3%) patients had new diagnosis of early cancer (1 high risk, 1 intermediate risk). Median waiting time from date of original mammogram to completeness of the assessment was 19 days with range 4–44.

Conclusion: In our experience patients with high and moderate risk of breast cancer due to family history have a 9% chance of being offered a biopsy following recall mammogram and 3% chance of a of early breast cancer. Waiting time for final imaging and biopsy results has a large variation due to difference in pathway of recall. It highlighted a need for a streamlined pathway equivalent to NHSBP standards.

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P065. CT coming of age in detecting incidental breast cancer

Kate Bailey^{2,1}, David Gorey¹, Alison Johnston¹, Conall MacAbhair¹, Michael Sugrue¹

¹Breast Centre Northwest, Letterkenny, Co.Donegal, Ireland

²University College Dublin, Dublin, Ireland

Introduction: Despite increasing use of thoraco-abdominal CT where incidental breast cancers could be discovered, few studies report incidental breast cancer detection. This study evaluates the pattern and rate of CT detected breast cancer.

Methods: Ethically approved retrospective review of all breast cancers detected at Letterkenny Hospital between January 2010 and December 2015 was undertaken. Patients having CT scans from outside the area were not included. Patient demographics, reason for CT, technical aspects of the CT were recorded. A GE V-CT64 Slice Scanner, and 2 GE Light Speed16 Slice Scanners were used, a total of 3919 CT scans were analysed by 6 consultant radiologists. Lesions were classified according to their morphology.

Results: Of 483 new cancers 19 were CT detected, all female, mean age 70.2 (± 11.9 ; range 47–87 years). CTs were performed for cancer staging or follow up in 6, GI symptoms in 7, renal 1, spine 1 and respiratory 4. 11 patients had CT abdomen thorax, 6 had thoracic scans, 2 had abdominal CTs. Physical examination revealed a lump in 14/19. 14 patients were found to have invasive ductal carcinomas, 4 invasive lobular carcinomas, 1 invasive tubulolobular carcinoma. CT scan tumour size was 20.44mm ± 12.4 (range 7–48mm). 15/19 were irregular or spiculated on CT. 8/19 patients were node positive.

Conclusion: This study identified 3.9% of breast cancers are now incidentally detected on CT, with typical irregular features on 80%. Protocols should be developed for routine documentation of chest CT for patients aged over 50 to potentially increase detection of breast cancer.

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P066. Duration of breast drain in-situ and the incidence of seroma – Does a drain play a role?

Adriel Ju Wen Kwek¹, Jun Wei Lim², Graeme Guthrie², Douglas Brown², Jane MacAskill²

¹University of Dundee, Dundee, UK

²NHS Tayside, Dundee, UK

Introduction: The use of drains in breast cancer surgery remains a topic of debate. This audit aimed to review the role of maximum 1-day drainage versus maximum 3-day drainage or 5-day protocol in patients undergoing breast cancer surgery.

Method: A prospective audit of all patients undergoing breast cancer surgery with mastectomy and/or axillary clearance was performed over 3 time periods when the local drain removal policy changed from <50ml daily or maximum 5 days (Cycle 1) to <50ml daily or maximum 3-day (Cycle 2) to <50ml daily or maximum 1-day (Cycle 3). Mann-Whitney and Kruskal Wallis tests were performed using SPSS v22.

Results: A total of 183 patients were reviewed (61 patients per cycle). There was no significant difference between the baseline patient, tumour and treatment factors between all 3 groups. There were no significant differences in seroma incidence (5-day vs 1-day 46% vs 58%, $p = NS$; 3-day vs 1-day 52% vs 58%, $p = NS$, number of aspiration (mean 5-day vs 1-day 3 vs 2 $p = NS$; 3-day vs 1-day 2 vs 2 $p = NS$) or volume of aspiration (5-day vs 1-day: 716 vs 467mls $p = NS$; 3-day vs 1-day: 588 vs 467mls $p = NS$). Factors influencing seroma rates are detailed in Table 1.

Conclusion: Removal of drains after one day does not significantly affect seroma incidence, nor number and volume of seroma aspiration. Seroma rates are affected by poor prognostic factors and extent of axillary disease.

Table 1

Factor	No seroma (n = 88)	Seroma (n = 95)	p-value
Drain policy 5-day/ 3-day/ 1-day	33/29/26	28/32/35	= NS
Procedure Mx/ ANC/ both (%)	50/ 28/ 10	39/ 26/ 30	= NS
Grade (1/2/3) (%)	2/ 39/ 38	6/ 32/ 48	= NS
Whole tumour size (mm)	40 (3–130)	43 (5–125)	= NS
NPI	4.59 (0.00–7.20)	5.08 (0.00–8.20)	0.009
Number of positive nodes	2 (0–18)	4 (0–33)	0.013
Neoadjuvant chemotherapy (%)	16	22	= NS
Volume on day of removal (mls)	56 (0–260)	76 (0–280)	0.006
Total drainage volume prior to removal (mls)	239 (0–2280)	317 (0–1840)	0.026

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P067. Patients Nutritional Status: BMI and serum albumin as a predictive indicator of survival in patients with metastatic breast cancer

Donald Courtney, Brian Moloney, Aoife Lowery, Micheal Kerin

The Lambe Institute, Dept of Surgery NUI Galway, Galway, Ireland

Introduction: As many as 20–30% of breast cancer patients develop metastasis. Despite recent treatment advances and earlier detection, median survival approaches 2 years. Nutritional status and serum albumin levels in patients prior to cancer surgery has been investigated with higher levels of serum albumin associated with improved outcome. We investigate how serum albumin levels and patient BMI act a predictor of survival in patients with metastatic breast cancer.

Methods: Data was collected on all breast cancer patients who developed metastases while undergoing treatment or surveillance at tertiary referral breast centre between 2000 and 2016. Clinicopathological details including site of primary and metastatic tumour were recorded. The serum albumin and BMI on the date of diagnosis was recorded and the overall survival of each patient was calculated. A Kaplan Meier and log rank test was performed to assess length of survival.

Results: The age (median (range)) was 55.2 (27.9–87.2). Of the cohort 209 (n = 209) developed metastasis after primary diagnosis with median disease free interval of 30 months. The median length of survival post diagnosis of metastatic disease was 13.7 (0.28–122(months)). Patients who were underweight (BMI < 18.5) with low serum albumin (< 35mg/dl) were shown to impact length of survival (mean (SE)) 11.3 months (7.8) when compared to normal levels (28.8 months (3.3)). This was shown to be statistically significant ($p = 0.01$).

Conclusion: Patient nutritional status has shown to have an impact on the length of patient survival. Accurate recording and interpretation of serum albumin and nutritional assessment at time of diagnosis in those

patients who develop metastatic breast cancer may serve to optimise patient management and survival.

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P068. Patient Reported Outcomes in breast reconstruction – Easy to collect and potentially practice changing

Abhi Yennunandan, Rachel English, Polly King

Royal Cornwall Hospital, Truro, Cornwall, UK

Introduction: Breast Reconstruction continues to develop in popularity and complexity. Routine quantitative data collection is well established. Patient reported outcome measures (PROMs), however, are the only way of subjectively exploring the patient experience of information provision and decision making as per the 2002 NICE guidance. The aim of this study was to determine compliance with PROMs looking for emerging themes to guide our reconstructive counselling.

Method: All patients undergoing breast reconstruction were sent a validated PROM questionnaire. Questionnaires were administered by a clinic based Health Care Assistant.

Results: Data were analysed for 114 (78% return rate) patients at 3 months postoperatively since April 2013. 95% of patients said they received the right amount of information about reconstruction before their surgery (NMBRA rate 90%). Table 1 outlines a more detailed breakdown pulling out some of the components of that information provision.

Table 1

	% Very Satisfied	% Satisfied	% Dissatisfied	% Very dissatisfied
Healing and Recovery time	65	28	4	1
Possible complications	70	21	4	2
How long after reconstruction surgery it would take to feel like yourself/feel normal again?	55	31	11	2
How the surgery could affect future breast cancer screening (e.g. mammograms)?	55	30	8	4
What other women experience with their breast reconstruction surgery?	45	39	8	4

Conclusions: PROM are easy to administer and have good patient engagement. Despite overall high scores for information provision, delving a bit deeper allows us to refine our patient information and guide our reconstruction nurse. We continue to adjust our counselling process according to these themes.

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P069. Routine pre-operative blood cross match in mastectomy: time to cross it off!

Ambreen Zaidi, Muhammad Zulqarnain Choudhry, Amina Iqbal Khan, Muhammad Asad Parvaiz

Shaukat Khanum Memorial Cancer Hospital & Research Centre, Lahore, Pakistan

Introduction: Blood transfusion in breast cancer surgery patients is becoming rare due to meticulous haemostatic surgical techniques. However, all patients undergoing mastectomy in our hospital have preoperative

blood cross match done, at a cost of 10 dollars (USD) per patient. We looked at our mastectomy patients requiring blood transfusion.

Methods: All consecutive mastectomy patients from January to June 2016 were included from a prospectively maintained computerized database. Patient demographics, haemoglobin levels, reasons and timings of blood transfusion were recorded.

Results: 182 patients underwent mastectomy during 6 months. 170 (93.4%) patients had preoperative blood cross match done. 15 patients (8.2%) required blood transfusion preoperatively for building up their haemoglobin levels (range 7.4–9.9 g/dL, median 9.1 g/dL). 9/15 patients had neoadjuvant chemotherapy. Blood transfusion was carried out on the same day of surgery (n = 2), a day before surgery (n = 11) or 2 days before surgery (n = 2). Cost of blood cross match in these 15 patients needing transfusion was 150 USD compared to 1700 USD cost of cross matching 170 patients. None of our patients required transfusion intra or post-operatively. Cost of blood cross match in 155 patients that never required blood transfusion was 1550 USD.

Conclusions: None of our mastectomy patients required blood transfusion in emergency situation warranting preoperative cross match in the whole cohort. 8.2% patients needed transfusion preoperatively, where there was ample time to cross match and arrange blood. We recommend that routine preoperative cross match in mastectomy patients can be safely avoided with an additional benefit of saving cost (1550 USD in 6 months).

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P070. Systematic review of the economic impact of re-operation in breast-conserving surgery: Assessment of quality using the QHES instrument

Rashed Al-Khudairi, Alexander Carter, Yasmin Grant, Edward St John, Daniel Leff

Imperial College London, London, UK

Introduction: Close or positive margins following breast-conserving surgery (BCS) result in an average national reoperative breast surgery rate of 20%. The cost burden associated with re-excision is poorly described, with limited evidence detailing the economic impact of reoperation. The objective of this study was to appraise the quality of evidence on BCS re-excision costs using the Quality of Health Economics Study (QHES) instrument.

Methods: Electronic bibliographic searches of EMBASE, Medline, Scopus and HMIC using all field search terms of “breast cancer” AND “margin” AND “reoperation” AND (“cost” OR “economic”) were performed. Only studies published from 2006–2016 that evaluated costs of reoperation following BCS were included. Using the QHES instrument a panel of reviewers independently determined the quality of studies, assigning weighted scores according to a 0–100 scale.

Results: 129 unique studies revealed 7 studies that fulfilled the inclusion criteria for the qualitative synthesis. There were no studies estimating costs in UK populations. Only direct medical costs were reported, whilst indirect and intangible costs were not estimated. All studies included costs in the peri-operative phase with n = 6 using cost benefit analysis and n = 1 using a cost minimisation approach. The resulting QHES scores ranged from 36 to 95 with a mean of 67.1 (SD = 20.2). Only 3 papers had scores greater than 75.

Conclusion: This review highlights the lack of high-quality evidence on the cost of margin re-excision. A framework for economic evaluations in BCS is required to improve future study designs in this field.

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P071. Pre-operative axillary assessment – How reliable is it?

Fiona Court, Sarah Vestey, Richard Hunt, James Bristol, Asmaa Al-Allak, Clare Fowler, Eleanor Massey

Gloucestershire Hospitals NHS FT, Gloucestershire, UK

Introduction: Pre-operative axillary USS for assessment of axillary disease in breast cancer is routine. USS is a dynamic, user dependent modality of imaging. Reported sensitivity for the detection of axillary metastases ranges from 54.1% to 68.2% and the sensitivity of ultrasound guided FNAC/biopsy ranges from 28.5% to 55.6%. Increased reliance on pre-operative imaging assessment of the axilla and the introduction of trials relying on imaging without surgery have been introduced.

Methods: All symptomatic and screening cancers undergoing ANC (\geq macromets) during a 12 month period in 2015 were audited. The patient notes, radiology and pathology results were used to assess which patients underwent pre-operative axillary USS assessment and/or biopsy/FNAC. An RCR audit template was used stating standards of 50% sensitivity for imaging and 50% sensitivity for biopsy.

Results: 99 patients undergoing ANC were identified (76 symptomatic cancers, 23 screen detected cancers). 49% patients had Gr2 cancer, 32% patients had Gr3 cancer. 13% had invasive lobular cancer (imaging sensitivity = 40%). Imaging sensitivity variability = 45–90%. Biopsy sensitivity variability = 39%–86%. 28% (9/32) patients with \geq 4 positive nodes had a negative USS. Range of positive lymph nodes at ANC = 1–25 (mean 4, median 2). Range of positive lymph nodes at ANC in image negative patients = 1–25 (mean 4, median 2).

Conclusion: Pre-operative axillary assessment with USS and biopsy is user dependent, highly variable and cannot always be relied upon to exclude axillary disease. Even patients with multiple positive lymph nodes may not be identified on USS alone.

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P072. Objective vs subjective assessment of breast aesthetics: A comparison of BCCT.core software with patient satisfaction

Zoe Barber^{1,2}, Kelvin Gomez¹, Eifion Vaughan Williams², Valentina Lefemine¹

¹Nevill Hall Hospital, Abergavenny, UK

²Royal Glamorgan Hospital, Llantrisant, UK

Introduction: Cosmesis following breast cancer treatment is an important consideration for both patients and clinicians. To objectively assess breast cosmesis, BCCT.core software was developed in 2007. It evaluates asymmetry, scar visibility and colour differences and produces a result of either poor, fair, good or excellent. It has been validated against assessment by panels comprising plastic surgeons, breast surgeons and lay-people, but not against patient satisfaction. We therefore aimed to compare patient-reported assessment to BCCT.core's objective assessment of breast cosmesis pre- and post-oncoplastic breast surgery, including flap and implant-based reconstruction, therapeutic mastoplasty and contralateral symmetrisation surgery.

Methods: Photographs were taken pre- and post-operatively for 19 consecutive patients undergoing oncoplastic breast surgery at our Units. These photographs were inputted into the BCCT.core software to generate an objective score of cosmesis pre- and post-operatively (poor – 1, fair – 2, good – 3, excellent – 4). Patients were asked to rate their breasts pre- and post-operatively using the same scale. The results were compared using the Student's t-test. Additionally, the change in score between pre- and post-operative assessment was compared between the BCCT.core software and the patients' assessments of their own breasts.

Results: Pre-operatively, there was no statistical difference between the BCCT.core's assessment (mean 2.60) and patient assessment (mean 2.80). Post-operatively, patients were more impressed (mean 3.40) than the software (mean 2.60), but this was not statistically significant. Only one patient felt that her breast had changed from 'excellent' to 'fair' following surgery.

Conclusions: Patients tended to rate their post-operative breasts more highly than their pre-operative breasts but this was not statistically significant. A larger study would help to confirm or refute this.

This study demonstrates, for the first time, that objective assessment with the BCCT.core software correlates with patients' subjective assessment of their breasts both before and after oncoplastic breast surgery. Therefore, if patients are happy, so is their surgeon!

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P073. Outcomes from the Scottish audit of oncoplastic breast conservations: surgical techniques, incomplete excision rate and complications – Analysis of 498 patients from 11 units

Laszlo Romics^{1,7}, Jane Macaskill², Teresa Fernandez^{3,8}, Louise Simpson⁵, Elizabeth Morrow⁴, Vasileios Pitsinis², Matthew Barber³, Sian Tovey⁶, Yazan Massanat⁵, Oliver Young³, Sheila Stallard⁷, Julie Doughty⁷, Mike Dixon³

¹New Victoria Hospital, Glasgow, UK

²Ninewells Hospital, Dundee, UK

³Western General Hospital, Edinburgh, UK

⁴University of Glasgow, Glasgow, UK

⁵Aberdeen Royal Infirmary, Aberdeen, UK

⁶University Hospital Crosshouse, Ayrshire, UK

⁷Gartnavel General Hospital, Glasgow, UK

⁸New Stobhill Hospital, Glasgow, UK

Introduction: Current evidence for oncoplastic breast conservation (OBC) is based on single institutional series. We studied the overall outcomes of OBC practice in Scotland and compared individual breast units.

Methods: A predefined database of patients treated with OBC was completed retrospectively in 11 breast units in Scotland. Patients who were treated with OBC from 2005 onwards were included. For comparison Z-test and Pearson correlation analysis were used.

Results: Of 498 patients included, 63.3% were symptomatic. Mean whole tumour size was 32mm (3–180). After an initial steady rise, the number of patients treated with OBC plateaued after 2010 (15 (5–35)/year 2005–2010 vs. 67 (50–117/year 2011–2015) $p < 0.008$). Wise pattern (65.5%), round block (7.4%), Grisotti-flap (5.4%) and vertical mastoplasty (4.1%) were most frequently applied, but altogether 16 different techniques were described. Volume replacement was used in 6.3%. Strong positive correlation was found between the number of OBCs per unit and the variety of techniques (>50 cases:8–11 techniques vs. <50 cases:2–6; $R = 0.77$). When OBC was done together with plastic surgeons (64% in total), simultaneous contralateral symmetrisation rate (62.2%) was significantly higher (218/280 vs. 57/136; $p = 0$). There was no correlation found between the use of neoadjuvant treatment (32%; range: 3.3–75%) and incomplete excision rate by units (4.1%; range: 3.8–20%). While the overall complication rate was 31.8%, only 4.4% of the patients required a second operation for complications.

Conclusion: This national audit demonstrated similar outcomes overall compared to relevant published data. Units should be urged to build stronger collaboration in order to reduce variability in OBC practices.

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P074. Outcomes of immediate implant breast reconstruction using wise pattern reduction technique

Clare Hutchinson, Emmett Dorrian, Gareth Irwin, Sigrid Refsum, Samantha Sloan, Stuart McIntosh, Peter Mallon

Belfast City Hospital, Belfast, UK

Aim/Background: Immediate implant reconstruction using the wise pattern reduction technique can be used for patients needing mastectomy with large, ptotic breasts. It has an advantage of using autologous dermal

sling for implant coverage. It is important to evaluate complication rates and long term oncological safety of this relatively new technique.

Methods: We retrospectively collected data from Northern Ireland Electronic Care Record on all patients who underwent this technique at Belfast City and Craigavon Hospital from 2008–2016. Patient demographics, tumour characteristics, complications, local recurrence and survival rates were recorded.

Results: 76 patients were analysed, 65 had bilateral procedures, 46 had mastectomy for malignancy (25 IDC, 14 DCIS, 1 ILC) 32 were prophylactic. Mean age was 48, 10 had a history of smoking, 29 were grade 2–3, 27 were ER/PR+ and 4 HER 2+, 14 had Nodal metastasis. 21 received adjuvant XRT, 1 underwent neo-adjuvant chemotherapy. 15 had skin necrosis, 11 were prescribed antibiotics following discharge, 5 (6.6%) required implant removal <3 months post-op. 8 patients had unscheduled re-admission following discharge. 1 experienced delayed adjuvant treatments > 6 weeks.

After a mean follow up of 71.9 months, 1 patient had local regional recurrence, 2 had metastatic disease and 1 patient died.

Conclusion: Complication rates of immediate implant reconstruction using the reduction technique are comparable to NMBRA. This technique had demonstrated oncological safety after long term follow up.

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P075. Can levels of comorbidity provide an explanation for significant differences in management of breast cancer in the elderly in two neighbouring hospitals?

Elizabeth Morrow¹, Sheila Stallard³, Julie Doughty³, Alison Lannigan⁴, Laszlo Romics²

¹ Glasgow University, Glasgow, UK

² New Victoria Hospital, Glasgow, UK

³ Gartnavel General Hospital, Glasgow, UK

⁴ Wishaw General Hospital, Lanarkshire, UK

Introduction: Previously we compared the management of elderly breast cancer patients in two neighbouring, city hospitals. We found Unit 1 to operate on a significantly higher proportion of patients compared to Unit 2. There was no difference in age, tumour pathology or deprivation scores. We evaluated levels of comorbidity as a possible explanation.

Methods: Breast cancer patients, aged over 70 years, treated at two hospitals between 2009 and 2013 were identified from a prospectively collected database. Charlson Comorbidity Index was calculated from comorbidity data collected from the electronic clinical record. Number of emergency hospital admissions in one year, and number of hospital bed days in two years preceding diagnosis, were obtained from National Services Scotland databases and compared using Chi square test.

Results: 487 elderly breast cancer patients were treated in Unit 1 and 467 in Unit 2. Charlson score 6–9 was found in 15.4% patients treated with surgery at Unit 1, compared to 11.0% at Unit 2, and 0.8% surgical patients at Unit 1 had score of 10+ compared to 0% in Unit 2 ($p = 0.036$). There was no significant difference between the median number of hospital days (range 0–232 Unit 1, 0–327 Unit 2; $p = 0.316$) or emergency admissions (range 0–6 Unit 1; 0–7 Unit 2; $p = 0.679$) between the units.

Conclusions: The difference in Charlson scores suggest that Unit 1 operated on patients with higher levels of comorbidity than Unit 2. Work is ongoing to ascertain multidisciplinary team members' attitudes and preferences, to explain the difference in management in two neighbouring units.

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P076. Breast cancer surgery without suction drainage and impact of mastectomy flap fixation in reducing seroma formation

Syed Zaidi, Christopher Hinton

Princess Royal Hospital, Telford, UK

Background: One of the most invalidating complications after breast cancer surgery is seroma formation. The incidence of seroma formation after breast surgery varies from 3% to 85%. Seroma formation and inadequate drainage of seroma may lead to infections, pain, hospitalization and delay in treatment. Methods employed to prevent seromata include suction drainage, shoulder immobilization, quilting sutures, fibrin sealants.

Aim: To determine the effect of a 'no drains' policy on seroma formation and other complications in women undergoing breast cancer surgery and to evaluate the effect of obliteration of dead space by suture fixation of the mastectomy flaps to the underlying chest wall, on the amount and duration of postoperative fluid drainage and incidence of seroma formation after breast surgery.

Materials and methods: A retrospective analysis was performed on a consecutive series of patients that had been treated with mastectomy with or without axillary surgery for breast cancer for the last 1 year.

Patients divided into Group 1 the wound was closed in the conventional method at the edges and closed suction drains are used. Group 2; after completing the mastectomy procedure, using absorbable sutures (vicryl), continuous stitches 3 cm apart were taken, in rows, between the subcutaneous tissues of the skin flaps and the underlying muscles. Special attention is taken to the obliteration of the largest potential dead space, the empty axillary apex. Closed suction drains are used. Group 3 similar procedure but no drain used.

The patient characteristics collected were: age, type of surgery, side of the affected breast, neoadjuvant chemotherapy, diabetes, body mass index (BMI), smoking, anticoagulants usage and length of hospital stay.

Definitions:

Postoperative haematoma: clear postoperative haematoma formation in the area of the operation, for which intervention is necessary.

Wound infection: clinical signs of infection (pain, swelling, erythema, fever, exudate, delayed wound healing or breakdown), purulent discharge or a positive microbiological culture.

Seroma production: palpable fluid collection, with serous consistency, produced subcutaneous in the area of operation or axilla

Results: 113 women were included in the study. Women underwent modified radical mastectomy (MRM) and ALND, MRM ± sentinel lymph node biopsy (SLNB) /axillary node sampling (ANS) and simple Mx. There was no significant difference between the studied groups concerning the age, type of surgery, side of the affected breast, neoadjuvant chemotherapy, diabetes, body mass index (BMI), smoking, anticoagulants usage.

There were six patients with evacuation of haematoma postoperatively and belong to group 1 and 2 with drains. The number (and percentage) of women with wound infection was none in the group 1, 8 in gp 2 and 2 among gp 3 patients.

Seroma formation was 10 in gp 1, 9 in gp 2 and 4 in gp 3.

The length of hospital stays (days) was 2.7 in gp 1, 2.6 in gp 2 and 1.3 days in gp 3 patients with no drains (ND).

Conclusion: This study investigated that wound drainage following mastectomy could be avoided by suturing flaps to the underlying chest wall, thereby facilitating early discharge with no associated increase in surgical morbidity.

This study suggests that MRM ± ALND/SLNB/ANS can be performed without the use of suction drains without increasing seroma formation and other complication rates. Adopting a 'no-drains' policy may also contribute to earlier hospital discharge.

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P077. A systematic review of the impact of neoadjuvant chemotherapy on early and locally advanced breast cancer on axillary lymph node yield

Sunita Saha¹, Rebecca Lewis², Suzette Samlalsingh², Steven Snooks²

¹Colchester General Hospital, Colchester, Essex, UK

²King George Hospital, Ilford, Essex, UK

Introduction: Current guidelines recommend a minimum of ten axillary nodes are retrieved at axillary node dissection for optimal prognostic staging and loco-regional control. This key quality performance indicator is dependent on the extent of surgical dissection and pathologist diligence. It has been suggested neoadjuvant chemotherapy also affects nodal counts. We aimed to clarify whether neoadjuvant chemotherapy truly impacts nodal yield and if the application of this performance indicator is inappropriate for this subgroup.

Methods: In accordance with PRISMA guidelines a search was undertaken of Cochrane, PubMed, EMBASE and ICTRP databases from January 1980 to October 2015. Studies examining the impact of neoadjuvant chemotherapy on axillary dissection nodal counts as outlined in the PRO-SPORO registered protocol (No. CRD42015025146) were identified. After primary selection, two reviewers independently assessed the content of each eligible study using a standardised extraction form and pre-defined inclusion and exclusion criteria. Revman software with random effects analysis model was used to analyse data.

Results: 3733 patients from ten studies fulfilled the review protocol and quality criteria. Seven of the ten studies reported significantly lower lymph node yields after neoadjuvant chemotherapy. Summary data of studies which dichotomized their results, assessing the proportion in each group where <10 lymph nodes were resected. The resultant forest plot demonstrated that neoadjuvant chemotherapy more frequently led to a less than minimum lymph node yield.

Conclusions: The historical recommendation of a minimum of ten lymph node yield at axillary node dissection should be reconsidered in patients having neoadjuvant chemotherapy for breast cancer.

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P078. Laser therapy does not work for capsular contracture: A randomised controlled trial

Andrew Spillane, Farhad Azimi, Kylie Snook, Kathy Filcroft

Poche Centre, Sydney, NSW, Australia

Introduction: Low level laser (LLL) is a modality that has been widely used to promote tissue healing, reduce scarring and treat inflammatory/circulatory disorders and has been successfully used to treat breast cancer-related lymphoedema. A phase one, non-randomised clinical trial has previously demonstrated efficacy for LLL in treatment of Grade III/IV capsular contracture. The objective of this study was to determine if LLL can improve the signs and symptoms of capsular contracture following expander/implant reconstruction.

Methods: A prospective, double blinded, randomised, placebo controlled trial of 40 women (mean age 50), with Grade I- Grade IV capsular contracture. Twenty women were randomly allocated to either the control arm (treatment with an inactive laser) or to the treatment arm (treatment with an active laser). Treatment occurred weekly over a six week period, with patient and clinician reported outcomes collected at baseline, five weeks, one month post-treatment and six months post-treatment. This project was approved by the Human Research Ethics Committee, St Vincent's Hospital, Sydney, NSW, Australia.

Results: There were no significant differences in treatment outcomes following laser treatment as assessed by both patients and clinicians. While there was non-significant improvement over time for both groups, the inactive laser delivered better outcomes overall and in the majority of domains and time points.

Conclusions: This small RCT demonstrated no significant improvement in women treated with the active laser. This unexpected result

revealed a strong placebo effect where nine of 20 women who did not receive active treatment believed their symptoms had improved.

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P079. Reducing the rate of chronic breast cancer related lymphedema through prospective surveillance monitoring using bioimpedance spectroscopy (BIS)

Pat Whitworth, Andrea Cooper

Nashville Breast Center, Nashville, TN, USA

Introduction: Breast cancer related lymphedema (BCRL) represents a major chronic side effect of breast cancer treatment. Current guidelines support prospective assessment of BC patients for early diagnosis and treatment.

Materials & Methods: From 4-2010 thru 11-2016, 592 patients at high-risk features BCRL (SLNB or ALND, plus RT and/or Taxanes) were evaluated. All were followed prospectively w/L-Dex w/pre-op baseline and minimum of two post-op f/u assessments. Interventions initiated when patient's L-Dex increased by 10+ points in f/u compared to pre-op baseline and consisted of 4-6 weeks of off-the-shelf compression garment. Complete decongestive physiotherapy (CDP) was used as surrogate for development of clinically significant BCRL.

Results: A total of 72 (12.6%) patients w/median f/u of 48 months developed elevated L-Dex scores (>10+) and received treatment. Of these, 39 returned to baseline, while 7 were persistently elevated. These 7 remain subclinical and asymptomatic at last f/u (no progression to chronic/symptomatic BCRL). An additional 22 were diagnosed w/elevated L-Dex scores and currently undergoing treatment (compression garment). 4 were lost to f/u. At last f/u, 18 (3%) had unresolved clinically apparent BCRL requiring CDP.

Conclusions: Results demonstrate prospective monitoring w/intervention triggered by L-Dex elevation using a simple sleeve for 4 weeks resulted in only a 3% rate of chronic, clinically significant BCRL requiring CDP, in a high-risk group of patients. These findings validate recent guidelines supporting prospective screening/intervention for BCRL using BIS for early detection and patient directed interventions for subclinical/early reversible lymphedema to improve patient outcomes and the risk of chronic irreversible lymphedema.

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P080. Accelerated discharges for patients with normal breast examination and concordant imaging in one-stop breast clinics

Fayyaz Mazari^{1,2}, Shireen McKenzie², Nisha Sharma², Raj Achuthan², Kieran Horgan²

¹Nottingham University Hospitals NHS Trust, Nottingham, UK

²Leeds Teaching Hospitals NHS Trust, Leeds, UK

Introduction: This project was designed to assess the impact of introducing radiology-led accelerated discharges for patients with normal breast examination (P1) and concurrent imaging (U1/M1) instead of the usual two-consultations pathway in one-stop breast clinic.

Methods: The project consisted of two phases. Phase 1 was an audit of current practice and Phase 2 was a re-audit after implementation of the new radiology-led discharge pathway. Data collection was performed prospectively over two consecutive weeks in each phase and included demographics, presenting complaints, clinical findings, consultation, imaging and waiting times. Inter-group analysis was performed comparing P1 concordant group to all other groups using non-parametric tests.

Results: 258 patients were included in Phase 1. Breast lump and pain were the most common presentations. 50% (N = 129) had normal clinical examination (P1). Two third of these (N = 85) had concurrent normal imaging. P1 concordant group was younger (median age 39 vs.49 years, Mann-Whitney P = 0.001) with significantly shorter median consultation

times (12 vs.15 minutes, $P = 0.001$) and imaging times (35 vs 60 minutes, $P = 0.001$). Overall duration of the clinic visit (163 vs.175 minutes, $P = 0.338$) was similar.

159 patients were included in Phase 2. 52% ($N = 81$) were concordant P1 who were deemed clinically suitable for accelerated discharge. 82% ($N = 66$) of these had accelerated discharge with a significantly lower overall duration of clinic visit (90 vs.145 minutes, Mann-Whitney $P = 0.001$). Only 1 patient opted to have a second consultation when given the choice.

Conclusions: P1 patients with concordant imaging are a demographically different group. Radiology-led accelerated discharge can reduce their waiting times and potentially improve patient experience and clinical workflow.

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P081. Focusing on surgical site infection care pathways; An international US-UK comparison using The American College of Surgeons National Surgical Quality Improvement Program

Nur Amalina Che Bakri¹, Alice Murray^{1,2}, Colin Bicknell¹

¹Imperial College Healthcare NHS Trust, London, UK

²Columbia Medical School, New York, USA

Background: St Mary's Hospital was one of the first international pilot sites for ACS-NSQIP. A quarterly report showed higher risk-adjusted rates of surgical site infection for general and vascular surgery than those reported in participating US hospitals.

Aim: To examine preventative practices for SSI, post-operative management and diagnosis in patients in a hospital in the UK and US in order to understand the potential gains and pitfalls in using a clinical registry such as NSQIP to evaluate care in two different countries.

Methods: NSQIP data for 100 consecutive patients diagnosed with surgical site infection from one US hospital and 83 from one UK hospital between 2011 and 2013 were retrieved. Additional clinical information from hospital records was collected retrospectively, to include pre-operative, perioperative and post-operative process measures for SSI prevention, as well as differences in post-discharge diagnosis and healthcare utilization.

Results: 98 and 80 correct diagnoses of SSI in the US and UK respectively were reviewed. Significant pre-operative preventative practice differences were observed as well as post-discharge management.

Conclusion: ACS-NSQIP identified St Mary's Hospital in the UK as an outlier for surgical site infection. The reasons for this are multifactorial, including different peri-operative and intra-operative technical processes, which may reflect genuine differences in the quality of care provided, or the quality of the underlying data. The reliability of post-discharge diagnoses is questionable, with more SSIs diagnosed and managed by primary care physicians in the UK and more patients in the US with immediate access to the lead surgical team.

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P082. Contrast Enhanced Spectral Mammography (CESM) – Do they change surgical management?

Natalie Holmes^{1,2}, Salam Musa¹, Mohamad Hajaj¹, Sana Pascaline¹, Katalin Woodland¹, Alexandra Knight¹

¹Kettering General Hospital, Kettering, UK

²University of Leicester, Leicester, UK

Introduction: Quicker and easier to interpret than MRI, CESM is gaining in popularity. As a novel technique, experience is limited and the impact on management is unknown.

Method: Retrospective study comparing pathology, mammogram and CESM findings for selected patients treated at KGH during 2015/16. CESM is usually recommended for dense breasts or discrepancies in initial

assessment. Patients having neoadjuvant chemotherapy were excluded. The surgical management plan before and after CESM was recorded.

Results: Average age was 52.2 years ($n = 41$). 58.5% presented symptomatically, the remainder through screening. The majority had invasive disease with or without DCIS (93.2%). Of the cancers, 88.6% were ductal, 90.9% grade 2 or 3, 81.8% ER positive, 90.9% HER 2 negative and 63.6% NO.

Modality	Average lesion size (mm)
<i>Pathology (actual size)</i>	27.2
Plain MMG	24.4
CESM	26.5

In 70.5%, lesion size measured at CESM was more accurate than plain MMG.

Unexpected multifocality was seen in 7 patients on CESM and 11 patients underwent additional biopsies as a result.

In total, 20 women underwent breast conserving surgery (BCS), 16 unilateral mastectomy and 3 bilateral mastectomy. Pre- and post-CESM surgical plans differed in 16 patients. In 12, this change was deemed surgically necessary (1 unilateral to bilateral mastectomy, 9 BCS to mastectomy and 2 mastectomy to BCS). The remaining 4 were due to patient choice.

Conclusion: CESM more accurately sized a lesion than MMG in over 2/3rds of our patients. The surgical plan was altered appropriately in 34.8% as a consequence. In selected patients, CESM can aid surgical planning.

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P083. Are we overstaging our breast cancer patients? – A lesson from one institution

Rebecca Lewis

North Middlesex University Hospital, London, UK

Introduction: Both NICE and ABS are clear that patients diagnosed with early breast cancer should not be referred routinely for staging investigations. These guidelines are used to prevent unnecessary testing, radiation and anxiety for these patients. There is considerable variability between units regarding which patients are staged. The number of newly diagnosed patients at one centre who had staging were audited, it was determined which of these patients met the guidance.

Methods: The following criteria were used to qualify for staging (i.e. not early stage disease) – recurrence, 4 or more positive lymph nodes in the axilla, and T4 tumours (TNM staging). CT chest abdomen pelvis and bone scan were performed.

Results: In a two year period (2014/2015), 229 patients were diagnosed with breast cancer. 79 of these patients were staged (34.5%), of which 48 patients met the criteria for staging (60.8%). Of the patients who met the guidelines, 31.2% were found to have metastatic disease. Of the 31 patients outside the guidelines, none (0%) were found to have metastasis. This audit was presented within the department in order to highlight the potential benefit in following the guidance. A re-audit of patients for the six months afterwards showed that only 4.5% of patients were staged without meeting the criteria.

Conclusions: There is considerable cost and patient anxiety associated with the staging of patients with early breast cancer. More clarification is needed on what qualifies as an early breast cancer for this purpose. Stricter guidance could prevent unnecessary staging in these patients.

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P084. Promoting supported self-management for breast cancer survivors**Amanda Snippe, Clare Brearley, Imelda Hughes**

Pennine Acute Hospitals NHS Trust, Manchester, UK

It is recognised that cancer survivors can have many unmet needs. There is a high level of demand on the current 'follow-up' clinics due to the number of patients now living with and beyond cancer. In addition the current 'follow-up' model is standard for all cancer patients and disregards individual diagnoses and needs of patients. The clinics can often be over-booked resulting in long delays which can increase anxiety. Importantly patients' perception of the value of attending a 'follow-up' appointment can lead them to a false sense of security. Consequently they can find it difficult when they are discharged from 'follow-up'. Out-patient appointments also have time and cost implications for hospital trusts. It is therefore recognised that this model is not the most effective way to enhance patient care. We have developed a new model of monitoring and aftercare to improve the pathway of care for primary breast cancer patients that should benefit patients and meet their needs more effectively. This work is further supported by the Department of Health's '5 Year Survival Plan' that focuses on addressing any unmet needs and helping patients move forward. Patients are given a treatment summary appointment approximately 4 months after completion of their initial treatment. This appointment lasts 45 minutes and electronic holistic needs assessment (e-HNA) is completed with any needs identified being addressed. From this a careplan is written and an action plan is completed if required. During this appointment the patient's diagnosis, histology and treatment is again explained to them. Patients are also informed about any side-effects from their treatment as well as the signs and symptoms that could indicate a local or distant recurrence. An appointment for the Trust's health and well-being event, 'Looking Forward, Moving On' is also offered to the patient. These patients are assessed to determine whether they will be suitable for supported self-management which would mean that follow-up appointments would cease although they would still be invited for an annual surveillance mammogram for the next 5 years. If the patient develops a concern they are encouraged to contact the Breast Clinical Nurse Specialists who will arrange for them to be seen in a clinic by a Clinician.

Initial patient feedback has been extremely positive and patients appear confident about this new model of care.

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P085. Benign phyllodes tumours of the breast: (Over) Treatment of margins – A literature review**Mohamed Shaaban, Ludger Barthelmes**

North Cumbria University Hospitals NHS Trust, Carlisle, UK

Background: Phyllodes tumours form a small group of fibroepithelial breast lesions (2–3%). They are classified as benign, borderline, or malignant. Benign phyllodes tumours are the largest subgroup of phyllodes tumours (50–80%). A margin of 1 cm has been suggested as standard of care for all groups of phyllodes tumours.

Methods: We performed a literature review from January 2009 to April 2016 including the non-English literature. We compared studies taking a 1 mm margin, 10 mm margin and studies with focal margin involvement.

Results: We included 12 studies with overall 1702 patients. The range of therapeutic margins differed widely between studies. There is no consensus between studies as to what constitutes a clear or involved margin. There was a high percentage of margin involvement for benign phyllodes tumours (7.6 – 43.7%). Despite these inconsistencies, the recurrence rate after excision of benign phyllodes tumours was low in most studies (112 recurrences of 1052 benign phyllodes tumours - 11%; range 0–43%).

There is no difference of the recurrence rate between studies aiming for a 10 mm margin (7.9%) compared to a 1 mm margin (5.7%) (p 0.124). The

recurrence rate increases when there are tumour cells at the margin (12.9%) (p 0.006)

Conclusion: There is no difference in recurrence rates between a 1 and a 10 mm margin. 1 mm is an acceptable margin for benign phyllodes tumours. The recurrence rate increases if there is focal margin involvement.

<http://dx.doi.org/10.1016/j.ejso.2017.01.138>

P086. An audit of compliance with DEXA scanning for breast cancer patients treated with aromatase inhibitors**Callum Robertson, Sameena Rashid, Juliette Murray**

Wishaw General Hospital, Wishaw, UK

Introduction: Aromatase inhibitors increase the risk of osteoporosis. According to SIGN guidelines all postmenopausal women should have a baseline DEXA (dual energy X-ray absorptiometry) scan within 6 months of commencing therapy. If abnormal, scans should be biennial otherwise no follow up is indicated. Our aim was to identify if these guidelines were being followed and therapy initiated at the primary care level.

Method: Electronic records of 150 consecutive patients on aromatase inhibitors across 3 sister hospitals were analyzed. All patients presented to clinic in June-August 2016 over a 3 month period.

Results: Of the 150 cases reviewed, 91% (136 patients) had baseline DEXA scans within 6 months of commencing treatment (site variation 86–98%). In addition, 53% (32/60) of patients requiring 2 yearly DEXA scans had received them in this time frame. However, 73% of patients (27/37) underwent regular scanning despite no requirement for this. All of these were normal. 130 patients (90%) had confirmed evidence on electronic records of communication with the primary care team. Of these, 109 patients (84%) had prescriptions matching treatment recommendations. 2 patients had fractures but were never DEXA scanned.

Conclusion: Despite site variation, we are close to achieving 100% DEXA scanning within the first 6 months of commencing aromatase therapy. However, adherence to guidelines for follow up scanning was poor. Our results suggest that regular scanning in those with normal bone health does not offer any benefit. Bisphosphonate compliance was the main reason for ECS scripts not matching suggested therapy.

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P087. How does the multidisciplinary team use systemic neo-adjuvant chemotherapy & does it facilitate breast conserving surgery in a symptomatic practice?**Matthew Rowland¹, Christine McKenna², Maria Bramley², Grit Dabritz²**¹Royal Liverpool Hospital, Liverpool, UK²Pennine Acute NHS Trust, Manchester, UK

Introduction: The use of Systemic Neo-Adjuvant Chemotherapy (NAC) to facilitate Breast Conserving Surgery (BCS) has evolved in recent years. We aim to show our Multidisciplinary Team (MDT) uses NAC to facilitate all forms of breast resection, including safe breast conservation, in a diverse symptomatic population.

Methods: Retrospective cohort of all our symptomatic breast cancer patients undergoing systemic NAC between 2010 and 2015; Clinical notes and oncology letters were reviewed until last follow-up or death. Chi-Squared and Student T-test statistics were used.

Results: 74 women, mean age of 48 yrs, underwent NAC. 7/74 had Luminal-A phenotype, 31/74 Luminal-B, 21/74 HER2+ & 15/74 Triple-negative. MDT indications for NAC included; 'facilitating BCS' (29/74), 'down-staging Inflammatory cancer' (12/74), 'making the chest wall operable' (14/74), 'general high-risk disease' (12/74) & for 'heavy axillary burden' (7/74). Within the BCS group 21/29 (72%) achieved BCS. 3/21 (14%) patients required a second procedure to achieve clear margins. No patient having BCS had local recurrence,

mean follow-up 27 months. In those with heavy axillary burden, all went on to ANC with no local recurrence, mean follow-up 22 months. Patients needing NAC to make the chest wall operable all underwent resection with clear margins, 4/14 (29%) relapsed within 9 months. NAC for general 'High-risk' disease featured higher proportions of HER2+/Triple-Negative tumour phenotypes, 4/12 (33%) recurred with mean time of 4 months.

Conclusions: Our MDT recommends NAC for varied indications, most commonly to facilitate BCS. A large proportion of patients achieve BCS with low risk of needing further procedures and no local recurrences. Other indications have variable outcomes despite multimodal therapy, due to underlying aggressive tumour biology.

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P088. Breast One-stop Clinic: Concordance between primary and secondary care

Sadaf Jafferbhoy, Sarah Yuzari, Robert Kirby, Sankaran Narayanan, Soni Soumian

University Hospitals of North Midlands, Stoke-on-Trent, UK

Introduction: Best practice guidelines recommend that all patients referred to breast clinics should be seen within two weeks. The objective of this study was to assess referral patterns and compare the clinical findings between primary and secondary care.

Materials: A retrospective study was carried out over a two month period from October 2015. The indications for referral, investigations and outcome data were collected from clinical information system.

Results: Out of 700 patients with breast symptoms, 40% aged 50 or above. Only 31% were referred as suspected cancer. Breast lump was the most common reason for referral (54%), followed by nodularity (26%), breast pain (10%), nipple changes (4%), nipple discharge (3%), suspected infection (2%) and abnormal imaging (1%).

The clinical findings between primary and secondary care were concordant in 48 percent. In the group referred as suspected cancer (31%), 10% had malignant disease. Malignancy was found in 0.8% of the non-urgent referrals.

Eighty five percent patients were discharged, of which 14% did not require any investigations. Five percent needed a follow-up in 6 to 8 weeks. One percent were offered surgery for benign disease and 14% had carcinoma.

Conclusion: The study suggests that although concordance between primary and secondary care is low, the cancer pick up rates from suspected cancer referrals from primary care are significant. New guidelines may be necessary as cancer yield from non-urgent cases is small.

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P089. Multicentre audit of prepectoral implant based immediate breast reconstruction using Braxon

Sadaf Jafferbhoy¹, Maria Houlihan¹, Rishi Parmeshwar², Sankaran Narayanan¹, Soni Soumian¹, Simon Harries³, Lucille Jones³, Dayalan Clarke³

¹ University Hospitals of North Midlands, Stoke-on-Trent, UK

² Royal Lancaster Infirmary, Lancashire, UK

³ South Warwickshire NHS Trust, Warwick, UK

Introduction: Immediate breast reconstruction using subpectoral implant and acellular dermal matrix (ADM) has become standard practice in the UK. Detaching pectoralis major from the chest wall in the subpectoral technique is associated with postoperative pain. Prepectoral implant based reconstruction using a novel preshaped ADM mesh "BRAXON" has recently been introduced in the UK. We report the early experience from 3 Breast Units using this technique in immediate breast reconstruction.

Methods: Patients requiring immediate breast reconstruction suitable for Braxon from December 2015 to October 2016 were included. Information regarding demographics, indication for surgery, operative details, immediate and delayed complications and follow up details were collected and analysed.

Results: A total of 78 cases were identified of which 13 were bilateral procedures. Their BMI ranged from 19-39 kg/m². Four patients were diabetic and 3 were smokers. Implant size used ranged from 200-535cc and the average length of stay in the hospital was 1.6 days. During the median follow up of 28 weeks, 16 patients (20%) had seromas aspirated and 20 patients (25%) required a further course of antibiotics. Seventeen patients (22%) were readmitted within 30 days and 8 implants (10%) were explanted due to infection (2 bilateral procedures).

Conclusion: Our early experience using this novel technique has shown the complication rates comparable to the traditional subpectoral technique. Post-operative recovery is quicker and animation deformity is eliminated as pectoralis muscle is spared. However, long term studies are required to assess rippling and impact from adjuvant treatment.

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P090. 'You saved my life – How could I come back and say you have caused such awful daily pain?'

Rachel Soulsby¹, Kay Hawes², Nina Garner², Amanda Taylor¹, Kian Chin¹, Simon Pilgrim²

¹ Milton Keynes University Hospital, Milton Keynes, UK

² University Hospitals of Leicester, Leicester, UK

Introduction: Chronic pain after breast cancer treatment is a recognised problem, affecting up to 50% patients.

Method: Neuropathic pain was commonest in a pilot of 50 patients. LANS questionnaire has high diagnostic accuracy in assessing neuropathic pain. Scores ≥ 12 indicate likely neuropathic element. Patients pre-operatively scoring zero (n = 75), were reassessed twelve months after the end of their treatment (81% response rate).

Results: At 12 months 23 (38%) scored ≥ 12 , 20 scored zero. Mean age 61 years (39–84years). The type of surgery demonstrated in table 1. Chi-Square Test revealed no difference between WLE and mastectomy (p = 0.36, p = 0.097 excluding reconstruction and TM patients). Contrary to published literature there was no difference between SLNB and ANC patients, (p = 0.95, p = 0.35 excluding the reconstruction and TM patients). This relationship held when the type of breast surgery was controlled for.

Patients scored on questions about increased sensitivity, pain being an unpleasant sensation and coming in bursts. 17% scoring ≥ 12 had discussed/ seen their GP. Despite not specifically being asked to write free text, 58 (95%) did. All welcomed being asked about pain, and frequently wrote extensively, including the title of this abstract.

Table 1: The type of surgery and pain score, numbers in brackets are excluding the therapeutic mammoplasty (TM) procedures (5) in the WLE group and reconstruction patients in the mastectomy group (3 implant based, 2 latissimus dorsi flaps).

Breast Surgery	Axillary surgery	<12	≥ 12	Total
Breast conserving surgery	None	0	2	2
	SLNB	15 (13)	9 (7)	24
	ANC	4 (3)	4	8
				34
Mastectomy	None	2	0	2
	SLNB	7	4 (1)	11 (8)
	ANC	10 (8)	4	14 (12)
				27 (22)

Conclusion: All who scored <12, have been written to with information and contact details. Those scoring ≥ 12 , have been offered review with the breast and the chronic pain team. Written and verbal information is now provided at all patient appointments, and at discharge. All GPs have received an information leaflet on managing neuropathic pain in the community drawn up with the chronic pain team.

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P091. Bilateral versus unilateral autologous free flap reconstruction in unilateral breast cancers: Impact of comparisons between PREDICT and BODICEA scores

V. Russell, F. Henry, P. Thiruchelvam, D.J. Hadjiminias, R. Al-Mufti, K. Hogben, J. Hunter, S. Wood, N. Jalalli, D. Leff
Imperial NHS, London, UK

Introduction: For patients with sporadic breast cancer, rates of contralateral cancer are low (0.7%/annum) and there is no evidence to suggest contralateral prophylactic mastectomy (CPM) offers survival advantage. However, CPM with autologous reconstruction has major resource implications. The aim was to review the implications of bilateral reconstructive surgery in patients with unilateral breast cancer.

Methods: Based on age, diagnostic mode and histopathological factors PREDICT scores were retrospectively calculated for $n = 73$ consecutive patients undergoing mastectomy and autologous reconstruction. Based on family history data, BODICEA contralateral breast cancer risk was also calculated. Data was analysed using SPSS (v20) to correlate PREDICT versus BODICEA scores to identify the proportion of patients with a contralateral risk of $>30\%$ (NICE criteria for CPM).

Results: Of 73 consecutive patients, 62 had unilateral mastectomy and autologous reconstruction and 11 had bilateral surgery. Of the total, $n = 10$ patients had a contralateral risk score of $>30\%$ and of those who underwent unilateral surgery only ($n = 62$), $n = 4$ patients had a contralateral score of $>30\%$ and would have fulfilled NICE criteria for CPM (5-year survival $>80\%$). There was no correlation between BODICEA and PREDICT scores (5/10 years $p = 0.735$). Interestingly, of patients undergoing bilateral surgery ($n = 11$), $n = 4$ were for patient requests [mean BODICEA score = 20.0%, range 12.5–23.5%] and the remainder were for confirmed BRCA1/2 mutations.

Conclusion: In the absence of prospective scoring of contralateral risk certain patients undergoing bilateral mastectomy and reconstruction without significant benefit, and a proportion of patients with good prognosis and substantial contralateral risk are not undergoing immediate bilateral surgery.

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P092. Effect of ADM-assisted breast reconstruction on reducing the need for long-term (five year) revisional surgery compared to a submuscular technique

Rebecca L. Wilson¹, Cliona C. Kirwan^{1,2}, Joseph M. O'Donoghue³, Richard A. Linforth⁴, Richard K. Johnson¹, James R. Harvey^{1,2}

¹University Hospital of South Manchester, Manchester, UK

²University of Manchester, Manchester, UK

³Royal Victoria Infirmary, Newcastle, UK

⁴Bradford Royal Infirmary, Bradford, UK

Introduction: Core studies reported a five-year revision rate of 35–40% in implant-based reconstruction. There is little evidence to demonstrate the impact ADMs have on revision rates. Our aim was to compare the five-year revision rates between Strattice™-assisted reconstruction and a submuscular technique.

Methods: Retrospective case note, implant database and theatre log review of consecutive implant-based reconstructions performed from January 2009–November 2011 with a minimum of five-years follow-up.

Results: 117 patients underwent immediate implant-based reconstruction. 88 Strattice™-assisted (62 patients) and 49 submuscular (42 patients) reconstructions were included. Median follow-up was 5.7 years in the Strattice™-assisted group and 6.1 years in the submuscular. There was no significant difference in preoperative risk factors between groups.

The five-year revision rate, per patient, is 52% in both the Strattice™-assisted and submuscular group ($p = 0.9$). In total, 45 (51%) Strattice™ reconstructions required revisional surgery compared to 26 (53%) submuscular ($p = 0.8$).

There was no difference in the median time to first revisional surgery of 18 months (Strattice) versus 20 months (submuscular) ($p = 0.4$).

Revision rates in those having prior or adjuvant radiotherapy are 53% in the Strattice™-assisted group ($n = 8$) and 100% in the submuscular ($n = 5$) ($p = 0.1$).

There was a significant reduction in the need for revisional surgery for capsular contracture in the Strattice™ group (Strattice™ $n = 7$, submuscular $n = 15$, $p = 0.02$).

Conclusions: Revision rates at five-years are equivalent between the Strattice™-assisted and submuscular reconstructions. Strattice™ may have particular benefit in preventing revisional surgery in those receiving chest wall radiotherapy and in reducing capsular contracture.

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P093. Is frozen section margin assessment during oncoplastic breast procedures worthwhile?

Bashar Zeidan^{1,2}, Balvinder Shoker³, Nirmala Paramanathan¹, Lashan Peiris¹, Siobhan Laws¹, Richard Rainsbury¹

¹Breast Unit, Royal Hampshire County Hospital, Winchester, UK

²Cancer Sciences Unit, University of Southampton, Winchester, UK

³Pathology Department, Hampshire Hospitals NHS Foundation Trust, Winchester, UK

Background: Mastectomy rates for positive margins are higher following oncoplastic breast conserving surgery (OPBCS) than BCS. Intraoperative frozen section (IOFS) margin assessment reduces positive final margin rates (PFM), but organizational issues and cost limit its use in the UK.

Aims and methods: A prospectively collected database of OPCS procedures (1991–2013) was interrogated to establish the utility and cost of IOFS. Correlation between IOFS, final margin status, further surgery and cost was investigated. The Mann-Whitney U test was used to calculate significance.

Results: Of 313 procedures (225 LD miniflaps [LDmi] and 88 therapeutic mammoplasties [TM]), 67% had IOFS (LDmi 76%, TM 44%). IOFS false positive and negative rates were 3.5% and 10% respectively. IOFS halved overall PFM rates (9% no IOFS v 4% IOFS, $p = 0.02$), with similar reductions following both LDmi and TM procedures (LDmi 7% v 4%, $p < 0.05$; TM 12% v 3%, $p < 0.01$). Seventeen percent required further surgery (14% re-excision, 3% mastectomy). Mastectomy for PFM was carried out in 2% TM and 1% LDmi patients. Median IOFS time was 54 (42–151) minutes, with an additional pathology cost of £74 (£59–148) per patient.

Conclusion: IOFS during OPBCS significantly lowers FPMs, avoiding subsequent re-excision and mastectomy, for a small increase in pathology costs.

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P094. Patients perception of expected benign breast biopsy results communicated over the telephone

Ingrid Fuchs, Caroline Radford, Miranda Cooper
Avon Breast Screening, Bristol, UK

Introduction: In most breast screening centres there is no capacity to bring all patients back for face-to-face result by a radiologist or surgeon, even though this is regarded as best practise according to the NHS breast screening programme.

We want to reduce travel-and waiting time for women and offer a high quality nurse led clinic instead. We present a telephone results audit and an evaluation of this service.

Methods: Over a period of one year, women undergoing a biopsy after assessment, were given the option to receive their results over the telephone by a Clinical Nurse Specialist. During the assessment pathway appropriate counseling was provided. Very anxious patients and suspected cancer patients were referred to a surgeon for results. A specific protocol designed for this clinic was followed and the service was evaluated using a patient satisfaction survey.

Results: Over a period of one year, 653 women received telephone results. The main results revealed: 379 benign outcomes, 97 malignancies, 53 B3 outcomes and 24 (re)biopsies.

In two satisfaction surveys performed over this period, we asked women about their experience. 199 women responded to the survey and provided positive feedback about receiving telephone results. 135 women supplied additional comments about the good service delivered.

Conclusion: Women are very happy to receive biopsy results over the phone even if the occasional results are malignant, as long as they are adequately supported during the assessment process and informed about the possible outcomes after a biopsy.

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P095. Local anaesthetic wound catheter use after implant based breast reconstruction – Towards enhanced recovery

Kate Harvey, Lance Holman, Thomas Layton, Asha Adwani, Alexandra Tenovici, Gael Maclean, Pankaj Roy
Oxford University Hospitals NHS Foundation Trust, Oxford, UK

Introduction: After implant-based breast reconstruction (IBBR) pain and nausea can contribute to reduced mobility and extended hospital stay. Use of local anaesthetic (LA) catheters to bathe the operative site has become routine following IBBR in our unit. The aim of this retrospective cohort study was to compare outcomes between two patient groups, one with and one without LA catheters.

Primary Outcome: Reduced post-operative pain (using surrogates including pain-scores and opiate use)

Secondary outcomes: PONV, antiemetic use, LOS and complications rates.

Methods: Electronic and paper records were used to identify groups with and without LA catheters and compare the two groups.

Results: 20 patients underwent IBBR with LA catheters between February 2014 and May 2016 (catheter group) and 15 patients without LA catheters between September 2011 and February 2014 (control group). 10% of patients in the catheter group required additional opioids in recovery compared with 40% in the control group ($p = 0.03$) The catheter group also used relatively less NSAIDs, codeine and oro-morph in the first 48 hours post-op. 95% of patients in the catheter group were discharged by the end of day 3, compared to 74% of the controls. Complication rates were similar between the groups.

Conclusions: LA wound catheters are not associated with increased complications and can be used safely in IBBR. Post-operative opioid use was significantly reduced in the catheter group. There has been a move towards shorter LOS; good post-operative analgesia has contributed to this.

Routine use of LA wound catheters will form part of our unit's future enhanced recovery plan following IBBR.

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P096. FNAC: A predictor of final number of involved nodes at axillary clearance

Ayesha Khan, Nadia Hussain, Kavitha Kanesalingam, Tracey Irvine
Royal Surrey County Hospital, Surrey, UK

Background: Fine needle aspiration cytology (FNAC) is performed on clinically or radiologically positive axillary nodes in breast cancer. Our study looks at the sensitivity of performing FNAC in these patients and whether positive FNAC of axillary nodes can predict the final number of involved nodes on axillary clearance (ANC).

Method: All primary breast cancer patients undergoing FNAC between Oct 2009 and Oct 2010 were identified from computer records. Data was collected on FNAC positivity, whether sentinel lymph node biopsy (SLNB) was performed, total number of nodes harvested and involved at ANC.

Results: Of the 120 patients who underwent FNAC, 72 were positive (60%). Of those who had a negative FNAC, 29% had a positive SLNB. We compared the ANC results of those who were FNAC positive with those who were FNAC negative but SLNB positive. There was no significant difference in the mean number of harvested nodes at ANC between the two groups (mean = 17, $p < 0.05$). There was a significant difference in the number of involved nodes in those who were FNAC positive (mean = 8 nodes) compared with those who were FNAC negative but SLNB positive (mean = 2 nodes). In those who were FNAC positive, 60% had $4 \geq$ involved nodes. Patients with positive FNAC were more likely to have mastectomy over breast conservation ($p = 0.49$). The sensitivity of performing a FNAC was 84%.

Conclusion: Our study provides a predictor of the number of involved axillary nodes in those with positive FNAC preoperatively. This can help to guide pre-operative discussions on the likely disease burden and need for adjuvant therapies such as chemo and radiotherapy.

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P097. Ethnicity, mastectomy and breast reconstruction

Ayesha Khan, Jessica Tan, George Hicks, Wail Al Sarakbi, Caroline Pogson
Croydon University Hospital, London, UK

Introduction: Ethnicity associated variation in primary cancer biology has been documented. However, despite adjusting for covariates such as age and disease stage, ethnicity is hypothesised to play a role in mastectomy and reconstruction rates. In this study we look at how ethnicity affects these rates as well as requests for contralateral surgery.

Methods: All patients who underwent mastectomy between November 2014 to March 2016 were identified from electronic computer records. Ethnicity as entered by the patient at time of admission was recorded. Individual patient records were reviewed to document whether patients were suitable for breast conserving surgery but had undergone mastectomy out of choice. Suitability for reconstruction was documented and if suitable, what type of reconstruction they had chosen if any. Contralateral mastectomy rates out of patient choice was also documented.

Results: In the study period 99 patients had a mastectomy. The cohort comprised of 60% Caucasian, 17% Black, 8% Asian and 15% who had not stated an ethnicity. There was no significant difference in the number of patients suitable for reconstruction in each group ($P < 0.05$). Caucasian women had the highest reconstruction rates (74%) followed by Black (61.5%) with Asian women having the lowest rates (50%). Contralateral mastectomy rates out of patient choice was highest in the black population (23.5%) compared with 15% in the Caucasian and nil in the Asian population.

Conclusions: The ethnic disparity in mastectomy and breast reconstruction is complicated. The decision making process is affected by multiple factors including cultural and religious values as well as language skills. Understanding these factors will aid trusts with high ethnic populations to address the disparities in uptake of breast reconstruction whilst respecting patient values.

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P098. GP Communication: What do they know? What do they want?
William Zammit², Charles Zammit¹

¹Brighton and Sussex NHS Trust, East Sussex, UK

²Portsmouth University, Portsmouth, UK

Introduction: We wanted to assess the acquaintance of GPs with the terminology used in the letters sent from breast outpatient consultations and the letter format they prefer. The aim is to improve communication between primary and tertiary care.

Method: Two samples of breast cancer outpatient letters were handed to GPs attending post-graduate educational events. One letter had a systemic summary highlighting the diagnosis and management plan, followed by a short descriptive paragraph of the consultation (Format 1). The other letter had the same information but was much longer with a narrative description of events (Format 2). A questionnaire was then handed to the GPs to assess their preference of the style of correspondence and knowledge of terminology used in breast cancer care.

Results: 54 GPs answered the questionnaire: 39% said they had enough time to fully read correspondence. 87% preferred the shorter letter version (Format 1). 73% preferred the letter to be addressed to the referring GP. While the majority (>70%) understood basic biological information, including ER, HER2, mastoplasmy and sentinel node, less than 17% understood the acronyms DIEP, TRAM or implant with ADM reconstruction.

Conclusion: A descriptive summary at the beginning of correspondence in outpatient letters was the preferred option particularly with the limited administration time available. Acronyms need to be explained particularly when they involve specialised treatment options. Further research on communication between primary and tertiary care needs to be addressed to optimise patient care.

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P099. DCIS: Who gets radiotherapy?

Jessamy Bagenal, Gargi Kothari, Nicola Roche

The Royal Marsden, London, UK

Introduction: Most patients with ductal carcinoma in situ (DCIS) are treated with breast conserving surgery (BCS) and adjuvant radiotherapy (RT). The absolute benefit of RT on subgroups of DCIS may be small. The Van Nuys Prognostic Index (VNPI) is a tool designed to predict local recurrence (LR) and guide decisions regarding radiotherapy. Our aim was to examine the relationship between VNPI score and radiotherapy decision.

Methods: Retrospective review of 408 patient records with a coding diagnosis of DCIS from 2013–2015 was performed; 63 met our inclusion criteria.

Statistical analysis was performed using the two sample T test with unequal variances.

Results: In 20% (13/63), the MDT recommended ‘not for RT’ (VNPI 5-8). In 37% (23/63), the MDT recommended ‘discuss RT’ (VNPI 4-10). Of these 23 patients, 61% (n = 14) decided to have radiotherapy and the range of VNPI in this group was 7–10. The remaining 43% (n = 27) received a ‘recommend RT’ from the MDT (VNPI 5-10). Of these, 24 patients proceeded to RT.

Overall, 37 patients received RT (VNPI 6-10), 26 patients did not (VNPI 4-9). Mean VNPI scores were also significantly different

(p = 0.0001) between MDT decision groups, with ‘discuss RT’ or ‘recommend RT’ both higher than deciding not to give RT.

Conclusion: Most patients with DCIS are offered adjuvant radiotherapy. The VNPI, whilst only validated in one centre appears to influence the decision to recommend and give RT in our centre.

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P100. Can surgeons choose breast implants in advance? An audit of implant use in a busy breast unit

Kerrin Vijaysurej, Mohamed Hashem, Ritchie Chalmers, Haresh Devalia, Mohsin Dani, Deepika Akolekar, Sarah Horn, Karina Cox
Maidstone and Tunbridge Wells NHS Trust, Kent, UK

Introduction: At Maidstone and Tunbridge Wells NHS Trust (MTW), breast prostheses are ordered for individual patients in advance of the procedure. A bank of frequently used implants is also maintained in Maidstone Main Theatre Complex. We aimed to investigate whether the pre-ordered implants were used in the scheduled operation.

Methods: Retrospective data was collected on patients who had a breast implant procedure in Maidstone Hospital between January and December 2015. Information was retrieved from the MTW Breast Unit implant request forms and Maidstone Theatres Implant Registry and operative ledger.

Results: A total of 130 patients were identified and 97 had complete data. Four experienced consultant breast surgeons pre-ordered the implants and performed the operations. Of the 97 patients, 53 had primary reconstructions, 10 had primary reconstructions and contralateral augmentation, 25 had revision surgery, 8 had second stage implant exchange and 1 had a salvage procedure. The mean number of implants pre-ordered for a unilateral procedure was 4.16. In total, implants were correctly pre-ordered for 56 (58%) patients but in 41 (42%) cases, bank stock implants were used. The pre-ordering accuracy of the 4 surgeons ranged from 50–75%.

Conclusion: For units regularly undertaking implant reconstructions, it may be more efficient to maintain a comprehensive bank stock of breast prostheses as pre-ordering has limited accuracy. The process of ordering and returning implants also increases the workload on theatre staff and may have a financial penalty. Intraoperative sizing appears to be important and revision surgery makes up a significant proportion of implant-based procedures.

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P101. Mammographic estimates of tumour to breast volume to improve oncoplastic decision-making

Arany Soosainathan¹, Su-Lin Lee², Chen Yang², Tran Seaton¹, Stephanie Rimmer¹, Ara Askari¹, Deborah Cunningham¹, Pauline Fitzgerald¹, Fiona MacNeill³, Daniel Leff^{2,1}

¹Breast Unit, Imperial Healthcare NHS Trust, London, UK

²Imperial College Hamlyn Centre, London, UK

³Royal Marsden Foundation NHS Trust, London, UK

Introduction: Decisions regarding breast conserving surgery (BCS), oncoplastic surgery (OPS), or mastectomy involve balancing many clinical and radiological factors to achieve complete resection and optimise cosmesis. Regarding BCS, cosmetic satisfaction decreases with volume of resection, yet surgeons have no objective methods to estimate breast tumour to volume ratios (TVR). Algorithmic predictions of TVR using mammographic imaging may provide additional information critical for oncoplastic decision-making.

Methods: Conventional CC and MLO mammographic images were obtained from n = 100 patients. Machine learning algorithms (Partial Least Squares Regression and Primary Component Regression) were applied, calculating breast volume, tumour volume, and TVR. Based on these estimates, comparisons were made between predicted and real operative decisions.

Results: In $n = 57$ patients, the surgical plan was concordant with algorithmic predictions. Of discordant decisions, $n = 5$ patients had less extensive procedures than predicted [$n = 2$ downstaged with neoadjuvant chemotherapy, $n = 2$ required re-operative interventions for positive margins, $n = 1$ refused surgery]. In $n = 38$ patients, more extensive procedures were performed than predicted [$n = 10$ patient choice, $n = 6$ tumours found to be radio-occult/multifocal on further imaging, $n = 3$ tumours in 'unfavourable' sites for BCS, $n = 5$ had OPS rather than BCS for better cosmesis, $n = 1$ had risk-reducing surgery for BRCA]. In $n = 13$ cases, discordant decisions were unclear.

Conclusions: Software offering TVR estimates provides further objective and useful information for surgical decision-making. While decisions regarding BCS versus mastectomy are complex and multifactorial, information on the percentage predicted resection volume may alter decision-making to minimise re-operative surgeries and optimise aesthetic outcomes.

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P102. Breast conserving surgery for invasive lobular carcinoma as a continuing challenge: A comparison to other tumour subtypes

Jie Lim, Sheila Stallard, Julie Doughty, Laszlo Romics

NHS Greater Glasgow & Clyde, Glasgow, UK

Introduction: Invasive lobular carcinoma (ILC) with its peculiar growth pattern poses a challenge to breast conservation surgery (BCS). We compared initial surgical intervention and re-resection rates of ILC to other tumour subtypes.

Methods: 4476 consecutive patients who underwent surgery in two breast units in Glasgow for breast cancer from 2008 to 2014 were analysed. Statistical significance was calculated using Mann-Whitney test and Chi-square tests, with significance of <0.05 .

Results: ILC exhibited the lowest BCS success rate of all tumour subtypes (ILC: 50.34%; IDC (invasive ductal carcinoma): 65.77%, relative risk (RR): 1.3066; LMP (low malignant potential: tubular and mucoid carcinoma): 79.89%, RR:1.5871; DCIS (ductal carcinoma *in situ*): 64.74%, RR:1.2861 [all p values <0.0001]). A higher incomplete excision rate after initial conservation was also seen in ILC (ILC: 25.27%; IDC: 15.26%, RR:0.6038; LMP: 8.84%, RR:0.3499; DCIS: 18.56%, RR:0.7343 [all p values <0.05]).

Mean whole tumour size of ILC was larger compared to other subtypes (ILC: 27.21mm; IDC: 21.82mm, $P = 0.01805$; LMP: 18.65mm, $P = 0.015419$; DCIS: 23.98mm, $P = 0.138351$). In all tumour subtypes, increasing tumour size correlates with fall in BCS and higher mastectomy rates (all p values <0.0001). In all tumour sizes ≤ 50 mm, ILC has the lowest BCS rates as well. [≤ 10 mm: ILC-86.27%, IDC-88.77% ($p = 0.0532$), LMP-93.94% ($p < 0.0001$), DCIS-92.97% ($p < 0.0001$); 10 to 20mm : ILC-74.44%, IDC-80.95% ($p < 0.0001$), LMP-93.55% ($p = 0.0054$), DCIS:82.80% ($p = 0.3827$), 20 to 50mm: ILC-39.8%, IDC-46.15% ($p = 0.3752$).

Conclusions: We observed higher BCS success rates in other tumour subtypes compared to ILC. Lobular histology and increasing tumour size are predictive of BCS failure.

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P103. Is benign phyllodes truly benign?

Anita Sharma, Charlotte Ives, Claire Murray, Douglas Ferguson

Royal Devon & Exeter Hospital, Exeter, Devon, UK

Introduction: Phyllodes tumours of the breast are uncommon fibroepithelial neoplasms usually managed with surgical excision. They are classified as benign, borderline or malignant but all carry a risk of local recurrence. The value of clinical follow-up for excised benign and borderline lesions remains unclear. This study assesses ten years of experience in our unit.

Methods: Retrospective analysis using the pathology SNOMED database identified 126 Phyllodes lesions. Clinical data on those with benign and borderline lesions was reviewed to identify follow-up regimes and outcomes.

Results: After excluding repeat patient entries ($N = 24$) and histopathology not related to our unit ($N = 3$), 99 patients were analysed. 15 had Phyllodes at biopsy but non-Phyllodes lesions following excision. 61 (median age 34 years) had benign Phyllodes, 19 (median age 47) were borderline and four (median age 73) had malignant Phyllodes tumours. Benign recurrence occurred in six patients with benign tumours (9.8%), with no recurrence in the borderline group and no malignancies identified. Excluding those lost to follow-up (11.5% benign and 10.5% borderline), most had a five-year follow-up plan (52%; 53% respectively) but a proportion were not clinically followed up (11.5%; 5% respectively). The rest (25%; 31.5% respectively) were followed up for less than 5 years. Two patients with recurrent benign Phyllodes tumours sought risk-reducing mastectomies.

Conclusions: In our series, benign and borderline Phyllodes, though sometimes recurrent, did not result in malignancy. Consensus regarding follow-up should be reached. Follow-up may be associated with increased biopsy rates and resultant patient anxiety for benign disease.

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P104. Are indeterminate-risk ER positive, HER2 negative breast cancer patients disadvantaged by having OSNA?

Hannah Lennox, Uma Sridharan, Christopher Holcombe

Royal Liverpool and Broadgreen University Hospital Trust, Liverpool, UK

Introduction: One-Step nucleic acid amplification (OSNA) provides intra-operative assessment of the sentinel node, but has a higher detection rate of micrometastases compared to standard histology. We investigated whether this higher detection of micrometastases affected the number of patients eligible for Oncotype Dx, and therefore the rate of chemotherapy.

Methods: Retrospective analysis of case records was performed for all patients undergoing OSNA between October 2015 and April 2016 at our breast centre. Receptor status, node status and NPI were collected along with subsequent MDT outcomes and treatment.

Results: 187 patients were analysed, 146 (78.1%) were ER+ve and HER2-ve. Of these, 80 (54.8%) had no metastases, 39 (26.7%) had micrometastases and 27 (18.5%) macrometastases. Of those with micrometastases, 20 (51%) had $NPI \geq 3.4$ and would therefore otherwise have been eligible for Oncotype Dx, of these 5 had Oncotype Dx via a physician access programme and 1 had chemotherapy. Of the remaining 15, 5 (33%) had chemotherapy.

Conclusions: OSNA identified micrometastases in 27% of ER+ve, Her2-ve patients. Previous work in our unit has shown that only 25 of 105 (24%) patients who had Oncotype Dx received chemotherapy suggesting that 9% of patients in this series may have undergone 'unnecessary chemotherapy'.

We believe that ER+ve, Her 2-ve tumours of indeterminate prognosis and with micrometastases should be eligible for Oncotype Dx.

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P105. Safety of radiotherapy in older women with good prognosis breast cancer following breast conserving surgery

Sameena Rashid, Tarek Katbeh, Qun Yao Yeong, Juliette Murray

Wishaw General Hospital, Lanarkshire, UK

Introduction: The benefit of radiotherapy in older women with good prognosis breast cancer treated with breast-conserving surgery has been controversial. SIGN guidelines recommend it be considered in all patients undergoing breast-conserving surgery. However, there

ABSTRACTS

are studies supporting treatment of low-risk older patients with surgery and hormone therapy alone. In the PRIME II trial, a low local relapse rate at 5 years was reported. Within our practice we have identified a cohort of patients in which radiotherapy was omitted and our aim was to evaluate the effect of this on recurrence and mortality rates.

Methods: Electronic records of patients who underwent breast-conserving surgery and did not receive radiotherapy were reviewed.

Results: 493 patients underwent breast-conserving surgery. 52 (10.5%) had no radiotherapy. Average age was 71 (range 26–91). Average follow up was 32 months (range 17–51). 22 (42.3%) had a recorded MDT discussion. 14 (27%) were omitted due to age and good prognosis, 26 (50%) were unfit, 11 (21%) declined and 1 (1.9%) had previous radiotherapy. Recurrence rate was 17% (n = 9) with ipsilateral local recurrence 8% (n = 4), regional recurrence 4% (n = 2), distant metastasis in 6% (n = 3). 18 patients (35%) died, 3 (19%) with metastatic breast cancer. 26 patients (50%) met PRIME II criteria of which 3 (0.1%) had local recurrence.

Conclusions: Omitting adjuvant radiotherapy in elderly women with good prognosis cancer can be justified on the basis of the low risk of loco-regional recurrence.

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P106. Muscle-sparing Latissimus Dorsi Reconstruction – Should this be an index procedure for the modern breast surgeon? A comparative study of standard versus muscle sparing technique

Sonia Bathla, Lucy Homer, Joanne Seward, Claudia Harding-Mackean
Countess of Chester Hospital, Chester, UK

Introduction: Standard Latissimus Dorsi (SLD) flap breast reconstruction is declining in popularity due to its risks of shoulder dysfunction and donor site morbidity. A muscle sparing (MSLD) technique harvests only a segment of muscle on the anterior thoracodorsal branch, giving potential advantage of less donor site morbidity and less functional disturbance. Data supporting this is limited.

Methods: A retrospective audit was undertaken of all LD reconstructions in a single unit from 2012–2016, including SLD and MSLD. Data was collected pertaining to demographics, hand dominance, side of surgery, length of surgery, and post-operative complications. Patients completed a Quick DASH questionnaire to assess upper limb dysfunction post reconstruction. Mann-Whitney U and Fishers exact tests were used to compare the 2 groups.

Results: 34 reconstructions were reviewed, 7 SLD and 27 MSLD. There was no significant difference in median length of surgery between the 2 groups (299 (126–450) SLD, 300 (126–343) MSLD; $p = 0.75$), or complications of seroma, infection and skin necrosis. Quick DASH scores were complete on 70.5% of patients, and were significantly lower in the MSLD compared to SLD group (3.4 (0–11.4) vs 12.5 (0–72.7) ($p = 0.03$)).

Conclusions: MSLD is a good reconstructive option as an autologous flap that has complications similar to SLD, and does not take longer to perform. It appears to have a significant functional advantage over SLD. In an era where resources are limited, it can be used safely and time efficiently in a DGH, especially where microvascular flaps are not suitable or available.

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P107. Day Case Mastectomy: A teaching hospital experience of introducing a change in practice

Conrad Harrison¹, Dionysios Dennis Remoundos², Kate Harvey², Gill Stoker², Alexandra Tenovici², Gael MacLean², Toral Gathani², Asha Adwani², Pankaj G. Roy²

¹Medical Sciences Office, University of Oxford, Oxford, UK

²Department of Breast Surgery, Churchill Hospital, Oxford University Hospitals, Oxford, UK

Introduction: 20–28% of women with breast cancer in UK undergo simple mastectomy. The majority of the patients undergo mastectomy with an overnight hospital stay. Day-Case surgery has improved outcomes for patients while reducing associated costs. The British Association of Day Surgery (BADS) recommends a day-case target of 30% for mastectomies. The key barriers are concerns regarding postoperative bleeding and whether routine use of drains can be omitted. ARTISS® is a fibrin sealant that promotes skin flap adherence, potentially reducing postoperative haematomas and facilitating drain-free, Day-Case mastectomy.

Aim: To increase Day-Case rates to the level recommended by BADS.

Methods: We proposed a gradual change in practice, introducing the ARTISS tissue glue to achieve drain-less day-case surgery between November 2015 and August 2016. All patients undergoing mastectomy (Mx) +/- axillary surgery and axillary node clearance (ALNC) +/- breast conserving surgery (BCS) were included. Where suitable, the drain was omitted. The day surgery rates, the impact on post-operative seromas and the complication rates were monitored and recorded prospectively.

Results: 133 patients were eligible: 93 Mx +/- sentinel node (SLNB), 20 ALNC +/- BCS, 30 Mx+ALNC. The average patient BMI was 27kg/m². The average breast weight was 780g. Day-Case rates increased from 5% in the first trimester to 38% in the final one. 19% of Mx/SLNB and 50% of Mx/ALNC required seroma aspiration. The complication rate was unchanged.

Conclusions: An effective increase in day-case rates was achieved for women undergoing mastectomy and axillary clearance. The process was cost-effective with no observed increase in morbidity.

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P108. Impact of staging computerised tomography scan in the management of loco-regional recurrence of breast cancer

James Ball², Sreedevi Kumar¹, Rajagopal Achuthan¹, Bhavani Rengabashyam¹

¹Leeds Teaching Hospitals NHS Trust, Leeds, UK

²University of Leeds, Leeds, UK

Aims: To determine the impact of staging computerised tomography (CT scan) in the management of loco regional breast cancer recurrences.

Method: Patients presenting to Leeds Hospitals Trust with loco-regional breast cancer recurrence between January 2010 and December 2014 were identified using electronic patient records. Those with complete clinico-pathological details and staging CT at the time of recurrence (breast, chest wall or ipsilateral axilla to primary site) were included. Cases were stratified as true positive (TP) if there was unequivocal metastases on CT report, histopathological confirmation of metastases had been obtained or increase in size on interval (3 month) scan was demonstrated, true negative (TN) = metastases free at 6 months. False positive (FP) = spontaneous resolution of abnormality on 3 month interval scan, false negative (FN) = detection of lesions on interval scans within 6 months.

Results: 81 patients were included. The average time between primary diagnoses to recurrence was 4.91 years (0–42). Most cases were grade 3 cancers (n = 38) and node positive (n = 65). 37 chest wall, 31 breast and 13 axillary recurrences were identified. 36/43 TN cases and 5/28 TP cases had surgery. 5 TP cases had small volume disease only. 6/7 false negative cases (8.64%) had surgery inappropriately. There was no adverse impact in the 3 false positive cases. The sensitivity, specificity, positive and negative predictive values for staging CT were 80.00%, 93.48%, 90.32% and 86.00% respectively.

Conclusion: This study suggests that staging CT is a valuable stratifying tool that enables appropriate management in the vast majority of loco regional recurrences.

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P109. Drainless reconstruction with ADM: A Case series**Kali Potiszil, Sheikh Ahmad**

Royal Cornwall Hospital, Truro, UK

Introduction: A commonly reported side effects of acellular dermal matrix (ADM) use in breast reconstruction is seroma. Traditionally drains have been used post-operatively to reduce this. However, there are studies showing no increased rate of seroma with ADM use, no increased risk of infection with seroma and an increased risk of infection with drain use. This led us to believe there may be unnecessary drain use occurring in breast reconstructions.

Methods: A prospective study over 2 years of immediate breast reconstructions with implants and ADM by one surgeon in a single institution. Inclusion guidelines involved: 1) BMI < 35/low breast volume 2) Non-smoking status 3) No high risk co-morbidities.

Results: 44 patients were included. Clinical but asymptomatic seromas were seen in 6 cases (14%). None of these cases led to infection or implant loss, with 1 case needing a minor wound re-suture. Explantation occurred in 2 cases, with one being due to infection with USS confirming no seroma present at any point and one being due to wound necrosis that led to infection. The re-operation rate was 7% (3 patients).

Conclusion: In our experience, drain use is not always necessary after implant/ADM based reconstruction. In a specific set of patients, not using drains in breast reconstructions with ADM appears safe and causes no permanent complications. Although clinical seromas may be seen, these have been small, asymptomatic and needed no intervention. This is a small set of patients and further investigation with larger numbers and longer follow up is needed.

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P110. Breast screening for women with a higher risk of breast cancer – Are we following the NICE guidelines?**Habib Tafazal, George Jacob, Rachel Bright-Thomas**

Worcester Royal Hospital, Worcester, UK

Introduction: NICE recommend that when setting up surveillance for women with a family history (FH) but no personal history of breast cancer we should “ensure that individual strategies are applied for women having mammographic surveillance”, that “surveillance is to NHSBS standards” and “only undertaken after written information is given about risks and benefits”.

Methods: We retrospectively analysed prospectively collected data from all patients with a higher risk of breast cancer attending screening in our Trust (which operates over 3 sites), between 1st May 2014 and 27th May 2015. In particular we looked to see if we were adhering to the NICE guidelines outlined above. The audit standard was 100% compliance with each recommendation.

Results: We identified 447 patients attending for FH breast screening over the 13 month study period. 320 (72%) patients had a genetic assessment and an individually tailored screening plan. Screening was carried out according to NHSBS standards on all 3 sites. However, we were disappointed but not surprised to see that no patients were given any written information regarding the specific risks and benefits of this screening programme.

Conclusion: With the continual expansion of genetic referrals, we are likely to see more young women at increased risk of breast cancer entering a prolonged breast screening programme. It is vital that these women are appropriately advised of the risks and benefits of this. We have designed a new patient information leaflet for these women, which we believe will be of value to other Trusts in a similar position.

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P111. Horizontal breast reduction – Technical refinements and patient selection**Christopher Davis¹, Robert Manton¹, Damien Grinsell², Judith Hunter¹**¹ Charing Cross Hospital, London, UK² St Vincent's Hospital, Melbourne, Australia

Introduction: Breast reduction techniques differ according to skin incision and pedicle. Lower pole scarring is reduced through vertical or horizontal scars only. Vertical techniques are popular, but the scar may be less aesthetic and take time to settle, parenchymal excision is limited, and dog-ears may occur. Horizontal techniques were highlighted to the senior author in her Australian fellowship. When presented with a 19 year old with gigantomastia, grade 3 ptosis, Fitzpatrick type 6 skin and sternal notch to nipple distance of 50cm, rather than a Wise pattern with free nipple grafts, horizontal reduction was performed on an inferior pedicle. Following this success, other select patients have benefitted from the technique.

Methods: All patients undergoing horizontal breast reduction by a single surgeon (JH) were included. Patients all had ptosis and >6cm between new nipple position and upper resection margin. Demographics, breast measurements, resection weights, complications and peri-operative imaging were recorded. Steps to avoid devascularisation and improve breast aesthetics are outlined.

Results: Six cases are presented, each with excellent aesthetic outcomes. Demographics and clinical data (mean; range) of the cohort are: Age (40 years; 19–54 years); sternal notch to nipple distance (42cm; 35–50cm); Tissue Excised (988g; 510–2120g).

Conclusion: Horizontal breast reduction is advantageous in ptotic patients due to:

1. *Scars:* Minimally visible (useful in keloid susceptible)
2. *Complications:* No T-junction breakdown
3. *Breast:* Limited bottoming out (cf weak vertical scar)
4. *Nipple:* Avoids free nipple grafts and tear-drop nipple shape
5. *Symmetry:* Accurately match contralateral breast reconstruction

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P112. The provision of Tamoxifen as chemoprevention in a family history clinic**Kate Foster, Ashraf Patel**

Princess Alexandra Hospitals NHS Trust, Harlow, UK

Background: NICE Guidance issued in 2004 (updated 2006 and 2013) for the management of women with a family history of breast cancer led to the establishment of a breast cancer family history clinic at Princess Alexandra Hospitals NHS Trust. Following the guidance update in 2013, we began offering our patients Tamoxifen as a risk-reducing measure.

Materials & Methods: The clinic was set up in 2006 with a research grant from the QUEST cancer research charity. Women with a family history of breast cancer are referred to this clinic for assessment. Using the NICE guidance the patients are categorised into population, moderate and high risk groups. From July 2014, women in the increased risk groups were considered for suitability for Tamoxifen as a risk-reducing measure. They were given verbal and written information (provided by Cancer Genetics Group)

Results: Between 1/7/2014 – 31/10/16 153 women were offered Tamoxifen as a risk-reducing measure. 42% were assessed as moderate risk and 58% high risk.

Of the 153 offered Tamoxifen, 16% went onto commence chemoprevention. 84% of these patients continue to take Tamoxifen. 4 women stopped taking the drug at periods varying between 1.5 and 7.5 months. All did so because of side effects. All these women were in the high risk category.

Conclusion: We continue to provide chemoprevention information and prescribe Tamoxifen. We are also taking part in The ENGAGE study.

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P113. Can a pathological-Complete Response to systemic neo-adjuvant chemotherapy be predicted & does it predict outcomes in symptomatic breast cancer?

Matthew Rowland¹, Christine McKenna², Maria Bramley², Grit Dabritz²

¹North West Deanery, Manchester, UK

²Pennine Acute NHS Trust, Manchester, UK

Introduction: Systemic Neo-Adjuvant Chemotherapy (NAC) is increasingly used in symptomatic disease. There remains variation in opinion on who should undergo NAC and for which indications. We aimed to assess who achieves a pathological-Complete Response (pCR) & if this influences long-term outcomes.

Methods: Retrospective cohort of all our breast cancer patients undergoing systemic NAC between 2010–2015; Clinical notes and oncology letters were reviewed until last follow-up or death. Chi-Squared and Student-T-test statistics were used.

Results: 74 patients underwent NAC followed by surgery; mean age 48 years. 65/74 had IDCs often Grade-III (52/74). Phenotypically 21/74 tumours were HER2+ and 15/74 were Triple-negative, the remainder (38/74) Luminal A/B. 4/74 had NAC aborted but went onto surgery, none died. 25/74 had a pCR in the breast and 15/50 a pCR in axilla; 3/50 had a dual pCR. Mean Ki67% was not different between those achieving pCR, 62% vs. 52% (p.0.16). HER2+ and Triple-Negative tumours were more likely to achieve pCR in the breast (48% & 40%), HER2+ tumours achieving the highest rates of pCR in the Axilla (48%). HER2+ tumours with pCR tend towards lower recurrence rates (p.07) and Triple-Negative phenotype may experience higher loco-regional recurrence. In those who relapse the mean time to relapse does not appear to be influenced by the pCR.

Conclusions: Tumour phenotype can help predict the likelihood of pCR but Ki67% does not. HER2+ tumours with pCR may have lower recurrence, although the time to recurrence seems unaffected. Triple-negative tumours may experience more loco-regional recurrence even with multi-modal therapy.

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P114. Improvements in SF-36 emotional health-related quality of life scores after Trans Male chest-contouring surgery are unrelated to the weight of breast tissue excised

Chloe Wright, Janet Walls, Grit Dabritz

Department of Surgery, Pennine Acute Hospitals NHS Trust, Manchester, UK

Introduction: Our previous study has demonstrated chest contouring surgery (CCS) in Trans Male individuals to be associated with a significant improvement in emotional health-related quality of life (HRQoL) in the early post-operative period, as measured by the Short Form 36 (SF-36). SF-36 measures HRQoL in eight domains and calculates summary scores for physical (PCS) and emotional (MCS) health. We hypothesised that due to the more dramatic difference in appearance after surgery, increased weight of breast tissue excised would be associated with greater improvements in SF-36 scores.

Methods: A prospective longitudinal cohort study of consecutive Trans Male patients having CCS over a six-month period was performed. NRES ethical approval was obtained. The SF-36v2 acute recall survey was administered pre-operatively and at 2–4 weeks post-operatively. Data was collected on age, body mass index (BMI) and weight of breast tissue excised. Correlation between changes in SF-36 domain and summary scores, and mean weight of breast tissue excised, was assessed with Pearson's correlation and with significance at p<0.05.

Results: 30 individuals consented to study-participation. The mean age and BMI were 23 years (SD:0.78) and 24 kg/m² (SD: 0.65) respectively. The median unilateral weight of breast tissue excised was 280g (IQR: 142–346). The statistically significant mean improvement in MCS of 16.2 points (scale 0–100, SE: 1.9, p<0.000) showed no correlation with weight of breast tissue excised (p = 0.1).

Conclusions: CCS is associated with equally positive improvements in emotional HRQoL scores in the early post-operative period irrespective of the original breast size.

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P115. The use of PICO negative pressure wound therapy system for a patient following incision and drainage of breast abscess: A case study that shows the cost benefit of the PICO system for this patient and a Breast Care Nurse Specialist perspective

Eimer Mcgeown

Southern Health and Social Care Trust, Northern Ireland, UK

As a breast care nurse specialist (BCN) keeping up with modern advances in wound care is essential and one must ensure that a deep understanding of best practice in wound management and healing is maintained. Breast care nurse specialists are responsible for improving wound outcomes for their patient group while at the same time conserving resources within the healthcare environment. Antony (2015) concluded, following a review of the literature on the use of negative pressure wound therapy (NPWT), that the nurse's perception of caring for patients with this form of wound dressing was not taken into account. Guest et al (2016) noted in his 2012/2013 study that annual NHS cost for abscess wound care was £274.26 million. Having been recently introduced to the PICO NPWT system the BCN was keen to see how this advanced dressing could be used within her clinical setting. PICO is operated by a small battery pack which provides NPWT at 80mmHg. It is a single use device which is fully disposable.

Method: The surgeon asked the BCN advice re dressing a wound of a 34yr old lady who had had 71 days of standard daily dressings following day 4 dehiscence of a post-op breast abscess wound. With the patient's informed consent the BCN applied a PICO dressing. The wound was fully healed within 21 days.

Standard dressing costings	PICO dressing costings
Standard dressingsx62@£15 = £930	PICO dressings x3@£120 = £360
Practice nurse x 62 visits @ £25 = £1,550	Breast Care Nurse Specialist x 3 visits @ £25 = £75
Review visits x5@£100 = £500	Review visits x1@£100 = £100
Total = £2980	Total = £535

Conclusion: The BCN found this high quality dressing easy to apply and was delighted with the speed of wound healing and reduction of pain due to fewer dressing changes. The patient's quality of life was greatly improved as was her mood and satisfaction with breast care service. Potential savings were £2,445 if PICO system had been applied post-op Day 4 when dehiscence occurred.

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P116. Response to primary systemic treatment and its influence on the extent of subsequent axillary surgery – Single center experience

Iskra Daskalova

European Medical Center, Moscow, Russia

Introduction: Primary systemic treatment (PST) in selected breast cancer (BC) patients has become more common in the last decade. We evaluated the influence of PST on the extent of subsequent axillary surgery.

Methods: Between September 2014 and November 2016 34 BC patients (stage II–III) underwent PST followed by surgery in our institution. One was treated with primary endocrine therapy (5 months), the other 33 received chemotherapy. Nineteen patients were biopsy-confirmed node positive before PST- 13 of them luminal type, 2 triple positive, 1 Her2 type, and 3 triple negative.

Results: Of 19 N(+) patients initially considered for axillary clearance (AC), 13 underwent SNB after PST due to axillary image downstaging. Five of these 13 had positive SNB on frozen section and underwent AC. Seven of these 13 after negative frozen section on final histology had either isolated tumor cells (ITC) only (4 patients) or macrometastasis in a single SLN (3 patients) with at least 1 more negative SLN. None of these 7 patients chose to have further AC, but they all underwent axillary radiotherapy. One patient had axillary pCR based on SNB. In total 5 patients (26%) were ypN0_{sn} (including 1 pCR and 4 ITC+) and avoided AC. Three out of 13 (23%) primary N(+) patients with luminal type and 2 out of 3 triple negative (67%) avoided AC.

Conclusion: After PST of primary N(+) patients less extensive axillary surgery could be sufficient in approximately 25% of patients. A higher axillary response is found in triple negative patients.

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P117. Audit on sentinel node positivity following diagnosis of incidental invasive breast cancer on wide local excision (WLE) for ductal carcinoma in situ (DCIS)

Abeera Abbas, Omar Mahmoud, Chandeen Roshanlall
East Cheshire NHS Trust, Macclesfield, UK

Introduction: DCIS comprises of 20% of all new cases of breast cancer. DCIS does not metastasize, therefore axillary exploration is not recommended. Sentinel lymph node (SLN) biopsy omission had no adverse effect on survival or recurrence.

The risk of incidental invasive cancer in patients with DCIS ranges from 5%–44%. Axillary node metastasis is 1–2 % in large DCIS (>4cm). SLN biopsy is suited for such “high-risk” cases.

Association of Breast Surgery (ABS) guidelines state surgical excision for DCIS. If invasive cancer is found, axillary staging is required. Positive SLN mandates axillary treatment.

Our aim was to identify the incidental cancers in patients having WLE only for DCIS and find proportion of patients with positive SLN or recurrence.

Methods: A retrospective audit of patients having WLE only for DCIS between 2010 and 2015. Case notes were reviewed to find the incidence and management of incidental invasive cancers detected following WLE.

Results: All patients (n = 154) with DCIS were treated as per ABS guidelines including those diagnosed with incidental cancer (DCIS confirmed n = 120 (78%); incidental invasive cancer, SLN performed n = 34 (22 %)). SLN positive n = 2 (6%) had further axillary treatment. However, all patients with incidental cancer < 5mm had negative SLN (41%). Recurrence was seen in one patient and this patient had only DCIS.

Conclusion: Incidental invasive cancer (<5mm) is less likely to metastasize and omitting SLN biopsy can be a safe option. Alternatively a low recurrence score on Oncotype Dx assay could be used for incidental small invasive focus (ER+) rather than a second surgery for SLN.

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P118. The benign multidisciplinary meeting (MDM) – A new way to manage benign breast disease

Rebecca Lewis, Natasha Jiva, Anthony Peel, Jennifer Hu
St Bartholomew's Hospital, London, UK

Introduction: This study aims to assess the benefits of separating benign cases (P3, U3, M3) from the main breast cancer MDT.

Methods: Each week, a separate benign MDT is held before the main breast MDT. Patients from all four hospitals in the Trust are included. There is multidisciplinary attendance – a consultant surgeon, a consultant radiologist, a breast cancer clinical nurse practitioner and the MDT co-ordinator. All suspected benign disease cases are assessed.

The outcomes are:

1. Discharge
2. Further tests
3. A clinic appointment

This is communicated to the patient via a phone call from the clinical nurse practitioner, followed by a letter to the patient and the patient's GP.

Results: This approach has improved the care of benign patients and led to a reduction in the number of clinic appointments for benign disease (approximately 2,100 patients discussed in the 18 months since this started, with the saving of around 1,500 appointments).

General improvements due to this system –

1. Compliance with commissioners regarding a reduction in clinic appointments
2. NHS commissioning money is saved
3. Rapid results to the patient (one week)
4. Rapid resolution if further diagnostics or intervention required
5. The opportunity for general advice by the nurse practitioner during the phone call
6. Increased time available in both main MDT and clinic to discuss complicated and malignant cases

Conclusions: This is a model of care that could be rolled out to other trusts and improve overall efficiency and patient care.

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P119. Oncoplastic volume replacement using local perforator flaps **Lyndsey Highton¹, Damian McCartan¹, Siobhan O'Ceallaigh², John Murphy¹**

¹ Nightingale Breast Centre, University Hospital of South Manchester NHS Foundation Trust, Manchester, UK

² Department of Plastic Surgery, University Hospital of South Manchester NHS Foundation Trust, Manchester, UK

Introduction: Patients undergoing breast-conserving surgery require closure of the excisional defect to ensure a good aesthetic outcome. Volume replacement may not be possible by local mobilisation or mastopexy in small non-ptotic breasts. This can be addressed by importing tissue and we describe our unit experience using local perforator flaps.

Methods: We report a consecutive series of lateral chest wall and thoracodorsal artery perforator flaps for partial breast reconstruction.

Results: Since January 2014, 40 patients have had reconstruction with local perforator flaps, at a mean age of 52 years (26–75 years). This includes 34 cases of immediate reconstruction following tumour excision and 6 revisional cases to correct existing defects. The flaps used were based on the LICAP (18), LICAP & LTAP (18), LTA (2) and TDAP (2) vessels. A two-stage approach was used for almost all primary cancer cases (33). Mean WLE weight was 66g (24–137g). Pathology included IDC (26), ILC (3) and DCIS (5) and radial margins were involved following initial excision in 26%, requiring margin excision at the second stage. The cosmetic outcomes have been good with a low rate of complications, including an infected seroma (1) and delayed wound healing (1). There have been no issues with surveillance mammograms post-operatively.

Conclusion: The use of local perforator flaps is a reliable technique to avoid and correct breast defects, with minimal donor morbidity. These techniques allow a good aesthetic outcomes to be achieved, extending breast-

ABSTRACTS

conserving surgery to patients with a high tumour to breast size ratio.

<http://dx.doi.org/10.1016/j.ejso.2017.01.172>

P120. Does the 45:55 measurement of the ‘ideal breast’ have a potential role as an objective measure of aesthetic outcome after breast conserving therapy?

Rachel O’Connell, Olivier Branford, Rosa Di Micco, Conor Reid, Jennifer Rusby

Royal Marsden NHS Foundation Trust, Sutton, UK

Introduction: The so called ‘ideal breast’ has been based on an analysis of breast profiles of a series of 100 topless models. Key parameters were identified as: an upper-to-lower pole ratio of 45:55 percent (slightly fuller lower than upper pole), and upward pointing nipple (20° angle).

The primary aim was to investigate these parameters in women who have undergone breast conserving therapy (BCT). The secondary aims were to investigate whether the difference in 45:55 ratio between the treated and untreated breast correlated with patient satisfaction or panel assessment.

Methods: Ethical approval was obtained. Women who had unilateral BCT 1–6 years ago were recruited. Participants underwent medical photography and completed the BREAST-Q. Panel assessment used the Harvard 4-point score.

45:55 and nipple measurements were undertaken using Photoshop. Spearman’s correlation coefficients were calculated to measure associations.

Results: 180 women participated. Mean age was 60 years (SD = 11.1). Time from surgery was 35.5 months (SD = 17.8). Median ‘Satisfaction with breasts’ was 68 (IQR = 55–80). Median panel score was 3 (IQR = 2–4). The median ratios were 76:24 and 73.6:26.4 for the untreated and treated sides respectively. The median nipple angles -0.6 and +3.3 respectively. Median difference between the untreated and treated breast ratio was 4.9 (2.1–10.1). There was a negative correlation between the difference in ratio with ‘Satisfaction with breasts’ (-0.219, $p = 0.003$) and panel assessment (-0.363, $p < 0.001$).

Conclusion: The upper-to-lower pole ratio for the BCT population is very different from the models used in the ‘ideal breasts’ study. However the significant correlations indicate that these measurements may be useful in assessing the aesthetic outcome after surgery.

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P121. Should we stage all breast cancer patients before neoadjuvant chemotherapy?

Sadaf Jafferbhoy, Chen Teng, Raluca Belchita, Robert Kirby, Sankaran Narayanan, Soni Soumian

University Hospitals of North Midlands, Stoke-on-Trent, UK

Background: Neoadjuvant chemotherapy is usually offered to patients with locally advanced breast cancer, for downsizing lesions, triple negative or HER-2 positive cancers. Staging investigations are recommended for locally advanced cancers but there are no clear guidelines for staging before neoadjuvant treatment. In our unit, computerized tomography of thorax, abdomen and pelvis and bone scan is carried out before commencing neoadjuvant chemotherapy. The aim of this study was to assess the impact of staging investigations on treatment plan.

Methods: Retrospective data regarding staging investigations for neoadjuvant chemotherapy patients between January 2014 and December 2015 was collected and analyzed.

Results: Out of 46 patients, 22 (48%) had locally advanced disease, 17 (37%) were HER-2 positive and 7 (15%) were triple negative cancers. Seven patients (15%) had metastatic disease on imaging. In the sub-group with locally advanced disease, the yield was 23% (5/22) whereas in early stage HER-2 positive or triple negative cases the yield was 8% (2/24).

Conclusion: Staging investigations altered the management plan in a significant number of patients and should routinely be carried out when considering neoadjuvant chemotherapy for breast cancer.

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P122. Surgical outcome measures (SOMs) in a cohort of patients at high risk of breast cancer treated by bilateral risk reducing mastectomy (BRRM) and breast reconstruction

Paula Duxbury¹, Fiona Lalloo^{2,3}, Rajiv Dave¹, Julie Wisely^{4,1}, Gareth Evans^{2,3}, Tony Howell^{2,5}, Ashu Gandhi^{1,2}

¹University Hospital of South Manchester, Manchester, UK

²Manchester Academic Health Sciences Centre, Manchester, UK

³Manchester Centre for Genomic Medicine, Manchester, UK

⁴Manchester Health & Social Care Trust, Manchester, UK

⁵Institute of Cancer Sciences, University of Manchester, Manchester, UK

Background: BRRM is one method of breast cancer risk reduction in women identified as being at high lifetime risk due to gene mutations (eg BRCA) or strong family history. Little has been published on surgical outcomes in this group of patients. We examined SOMs in 349 patients undergoing BRRM.

Methods: All women attending the Manchester Family History clinic have been prospectively entered onto a database. Those undergoing BRRM were identified and case notes interrogated to obtain SOMs data.

Results: 349 patients were identified of whom 312 (89%) had no cancer diagnosis (benign group, BG) and 37 (11%) were diagnosed with breast cancer (cancer group, CG). Mean age was similar (BG 40y, CG 42y). More women underwent immediate reconstruction in the BG (94%) than the CG (76%). Implant reconstruction was the commonest technique in BG and CG (81% v 70% respectively), followed by autologous (8% v 11% respectively) and LD flap (6% and 19% respectively). A majority of patients in both groups needed 3 operations to complete their reconstruction process (99% and 75% in BG and CG respectively). 25% of CG patients needed >3 operations. 44% and 49% of BG and CG patients respectively had >1 unplanned surgical procedures. Emergency procedures were necessary in 10% and 6% of BG and CG patients respectively. Cumulative inpatient length of stay was similar across both groups correcting for reconstruction type.

Conclusion: BRRM, even in a specialised unit with a small cohort of surgeons, is a significant undertaking for patients and the health service. This should be relayed to patients as part of informed consent.

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P123. Improved immediate breast reconstruction as a result of oncoplastic multidisciplinary meeting

Maria Lim, Mohsen El Gammal

Parapet Breast Unit, King Edward VII Hospital, Frimley Health Foundation Trust, Windsor, UK

Introduction: NICE guidelines recommend that breast reconstruction should be available to all women undergoing mastectomy and discussed at the initial surgical consultation. The National Mastectomy Audit showed that 21% of mastectomy patients underwent immediate reconstruction and 11% had delayed reconstruction. Breast reconstruction has also been shown to have a positive effect on quality of life post mastectomy.

This audit was done to investigate the impact of the introduction of a dedicated oncoplastic multidisciplinary meeting (OP MDT) on our breast reconstruction rate at the Parapet, Windsor.

Methods: A retrospective analysis of all mastectomies and breast reconstruction between April 2014 and March 2016 was performed. Data analysis was made before and after introduction of OP MDT.

Results: Between April 2015 and March 2016, 41% of patients underwent breast reconstruction, with the majority (78%) having this immediately. Between April 2014 and March 2015, 28% of patients underwent breast reconstruction leaving 72% of patients having mastectomy alone.

45% of mastectomy alone patients were not suitable for breast reconstruction or had declined it.

Conclusions: There has been an increased uptake of breast reconstruction surgery, especially the immediate option. OP MDT has significantly contributed to this increase rate of reconstruction.

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P124. Paediatric referrals to the one stop breast clinic: which patients benefit the most and proposal of guidelines

Eleftheria Kleidi¹, Vanessa Pope²

¹Royal Liverpool University Hospital, Liverpool, UK

²Leighton Hospital, Crewe, Cheshire, UK

Introduction: Most Breast Units offer a One Stop Breast Clinic (OSBC) for new referrals; however this is predominantly for adult patients. Paediatric patients with breast symptoms are either referred to paediatrics or to the OSBC. There are no national guidelines about which service to refer children to.

Methods: Patients <18 years old presenting at the OSBC of a single breast unit were retrospectively identified over a 3-year period. Data were collected on patient demographics, presenting complaint, investigations, diagnosis and outcome. Data analysis was performed using the SPSS 19.0 tool.

Results: A total of 61 patients were analysed with a mean age of 15.7 years. 80% were female. 60% of females presented with a lump. All of those under 13 were discharged with no intervention. Females aged 16 and 17 years old were most likely to have an ultrasound showing pathology (36 patients; 2 cysts, 8 fibroadenomata, 1 abscess). 92% of male patients were diagnosed with gynaecomastia. All those under 16 were discharged with no intervention. The benefit of OSBC was greater for all patients 16–17 years old versus younger patients (Pearson correlation, $p = 0.048$).

Conclusions: It is reasonable to assess older children in an OSBC, as ultrasound is available straight away and the findings are similar to those seen in young adults. Females under 13 years old and males under 16 years old benefitted less. Patients in these age groups, unless presenting with an abscess or infection, could be seen in a clinic without ultrasound facilities or seen by paediatricians.

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P125. MRI accuracy for predicting complete pathological response after neoadjuvant chemotherapy in breast cancer

Nazli Muhibullah, Lisa Whisker, Eleanor Gutteridge, Tubin Rasheed, Kristjan Asgeirsson, Douglas Macmillan, Steve Chan, Hazem Khout
Nottingham Breast Institute, Nottingham, UK

Introduction: Magnetic resonance imaging (MRI) has been used to evaluate the response to neoadjuvant chemotherapy (NACT) and plan for surgery in breast cancer treatment. For surgical planning, defining the extent of residual disease is the most important step. We reviewed our NACT data including the overall sensitivity, specificity, positive predictive value, negative predictive value and accuracy of MRI in predicting response.

Material and Method: 197 patients underwent NACT from January 2010 till August 2016. All patients had MRI before and at completion of NACT. Chemotherapeutic efficacy was analysed using international response evaluation criteria for solid tumours (RECIST). Correlation of pathological response on surgical specimen with response on MRI was evaluated. We analysed the overall sensitivity, specificity, positive predictive value and negative predictive value of MRI. Complete radiological response (iCR) was defined as no detectable tumour on all serial images of MRI. Non iCR included partial response, stable disease and progressive disease.

Results: Of 197 patients, 64 and 46 had iCR and pCR respectively. 133 patients had non iCR and 151 patients had non pCR. There was 65% concordance between MRI and final pathology in assessing complete

response. The overall sensitivity, specificity, and accuracy were 58%, 53%, and 54% respectively. On the other hand the positive predictive value, negative predictive values were 32% and 76.6% respectively.

Conclusions: MRI is a good tool in predicting complete pathological response post neoadjuvant chemotherapy in breast cancer. Our study showed a high negative predictive value of MRI scan in evaluating a non-response to chemotherapy.

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P126. ‘Extreme Oncoplasty’ in place of mastectomy: Surgical, oncological and patient-reported outcomes

Rosa Di Micco^{1,2}, Rachel O’Connell¹, Peter Barry¹, Nicky Roche³, Fiona MacNeill³, Jennifer Rusby¹

¹Royal Marsden Hospital, Sutton, London, UK

²University of Naples Federico II, Naples, Italy

³Royal Marsden Hospital, Chelsea, London, UK

Introduction: “Extreme oncoplasty” refers to reduction mammoplasty with immediate contralateral symmetrisation for women with multicentric or large tumours (>5cm) who would otherwise require mastectomy.

Methods: Retrospective review of women who underwent extreme oncoplasty at our institution from 01/06/2009 to 1/11/2014.

Results: 51 patients were eligible. 48 had unilateral therapeutic mammoplasty with immediate symmetrisation and 3 had bilateral cancer. Median follow-up was 36 months (IQR:27–52). All had grade ≥ 2 ptosis and cup size $\geq C$. Mean age was 54.9 years (SD:9.1), median BMI was 29.9kg/m² (IQR:25.5–34.9) and 22 (43%) patients had a smoking history. Median tumour size was 60mm (IQR:54.5–70) on imaging and 38.5mm (IQR:30–50) at final pathology. 12 had multicentric disease. 24 (47%) patients received neoadjuvant treatment; none achieved a complete clinical response. Median resection specimen weight was 267g (IQR:183–412). Six patients needed margin re-excision, two went on to mastectomy. 21 (41.2%) women experienced ≥ 1 complication, 18 (35.3%) were Clavien Dindo grade 1 (7 women), or grade 2 (11), all treated non-operatively. Grade 3a complications were rare (3) and significantly more likely to be on the therapeutic side ($p < 0.05$). Complications were associated with higher BMI, specimen weight and longer time to radiotherapy ($p < 0.05$). Local recurrence occurred in 1 (2%) patient, distant metastases in 3 (5.9%) and 1 has died. Response rate to the BREAST-Q was 48.8%. Median score for the ‘satisfaction with the breast’ was 75.5 (IQR:56–91).

Conclusion: These data provide evidence that extreme oncoplasty can provide good local control with a low rate of complications and high patient satisfaction, perhaps reflecting patients’ awareness that mastectomy was the only alternative, or new-found satisfaction with an improved breast appearance.

Operation	April 2014 – March 2015	April 2015 – March 2016
Mastectomy only	72.1% (80)	59.3% (73)
Immediate Implant Reconstruction	12.6% (14)	22.8% (28)
Immediate Autologous Reconstruction	5.4% (6)	8.9% (11)
Delayed Implant Reconstruction	1.8% (2)	0.8% (1)
Delayed Autologous Reconstruction	8.1% (9)	8.1% (10)
Total	111	123

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P127. A comparative study of titanium-coated propylene mesh with acellular dermal matrix in implant based breast reconstruction

Adrian McKenna, Werbena Hamilton-Burke, Sonia Bathla, Nicholas Bird, Anu Shrotri, Lee Martin

Aintree University Hospital, Liverpool, UK

Background: Breast cancer is the most common cancer affecting women in the Western world. Reconstructive surgery following mastectomy has been shown to improve self-esteem and quality of life. Implant based breast reconstruction (IBBR) is the most common approach used. Biological and synthetic meshes are utilised as adjuncts to reconstruction to improve aesthetic outcomes. The objective of this study was to evaluate the short and medium-term outcomes for patients undergoing IBBR utilising these adjuncts following mastectomy.

Methods: A retrospective review of a single centre experience with implant based breast reconstruction was undertaken. Comparison of 2 consecutive cohorts of patients using either biological porcine acellular dermal matrix -Strattice™ (May 2010 to September 2013) or synthetic titanized TiLOOP®Bra mesh (Jan 2013 to August 2015) was undertaken. Patient demographics, complications, and outcomes were analysed.

Results: One hundred and fourteen cases of implant based breast reconstructions were performed between 2010 and 2015 at a regional tertiary referral centre. Seventy-nine patients had TiLOOP®Bra based breast reconstructions and 35 had Strattice™ ADM breast reconstructions. Median follow up was 37 months in the Strattice™ ADM cohort and 18 months in the TiLOOP®Bra cohort. Implant explantation rate was 6% in both cohorts. Complication rates in the Strattice™ ADM cohort was 22% and 18% in the TiLOOP®Bra cohort. There was no significant difference in post-operative complication rates between the 2 groups ($p = 0.608$).

Conclusion: This study suggests that there is no significant difference in post-operative outcome when using a synthetic TiLOOP®Bra mesh compared to a biological ADM mesh.

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P128. Prospective surveillance with bioimpedance spectroscopy to guide early treatment of breast cancer related lymphoedema.

Etain McGuinness, Lynn Darragh, Stephen Kirk

Ulster Hospital, Belfast, UK

Introduction: Patients undergoing axillary surgery for breast cancer treatment are at risk of developing upper limb lymphoedema. Early detection and initiation of treatment can reduce the incidence of clinically significant disease. Bioimpedance spectroscopy (BIS) measures opposition to flow of electrical current in the upper limb, an indicator of increased extracellular fluid volume. The aim of this study was to determine the rates of lymphoedema identified by BIS using a prospective surveillance model and the effects of early treatment on patient outcomes.

Methods: Retrospective review of prospectively collected data was performed. Patients undergoing axillary surgery for breast cancer, from 2008–2013 were included. BIS measurements were recorded pre-operatively and at 3 monthly intervals for one year. An abnormal reading instigated treatment with a compression sleeve, massage and exercise, regardless of clinical signs. Patients with continual abnormal BIS readings or development of clinical signs were referred to lymphoedema services.

Results: 354 patients were included in the final analysis. 10.7% ($n = 38$) of patients had an abnormal BIS reading indicating early lymphoedema whilst 6.5% ($n = 23$) of patients required referral to specialist lymphoedema services. 75% ($n = 18$) of patients referred to lymphoedema services had been initially identified by BIS. 58.8% ($n = 20$) of patients who underwent early treatment did not require any long term management for lymphoedema.

Conclusions: Abnormal BIS is a significant predictor for development of subsequent lymphoedema. This can be utilised in a prospective

surveillance model, to direct early therapy. Whilst this does not completely negate the incidence of lymphoedema requiring specialist treatment, it can potentially be reduced.

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P129. Patient selection and outcome in one stage dermal sling assisted immediate breast reconstruction

Ayesha Khan, George Hicks, Caroline Pogson, Wail Al-Sarakbi

Croydon University Hospital, London, UK

Background: One stage breast reconstruction with autologous inferior dermal flap has traditionally only been considered in women with high BMIs and macromastia. This study reports the use of this technique for large as well as smaller sized breasts in slimmer patients that traditionally would not be considered for this technique. We look at the complication rate post procedure, in particular implant loss rate and also patient satisfaction.

Methods: A retrospective review of electronic medical records was used to identify all patients who had undergone skin sparing mastectomy and immediate reconstruction with a dermal sling and implant between Feb 2015 to Oct 2016. Patient demographics, intraoperative details, post-operative complications and patient satisfaction were all recorded.

Results: In the defined study period, 49 dermal sling procedures were carried out on 45 patients. The mean patient age was 47 (range 35–68). The median patient BMI was 31 (range 19.9 to 47) with a median breast weight of 860g (range 372–2100g). Post operatively there were 3 cases of wound infections requiring antibiotics. Two cases of post-operative haematomas required a washout and only one patient lost their implant.

Conclusions: Immediate breast reconstruction with inferior dermal sling and implant is a safe technique with low complication rates. Our unit has demonstrated that this technique can be used in patients with an array of BMIs and breast sizes with good outcomes. In the current economic climate this technique should be considered in a wider range of patients as it avoids the cost and also potential morbidity of acellular dermal matrices. In addition patients wishing to avoid the use of animal material or free flaps benefit from this technique.

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P130. Surgeon delivered intra-operative ultrasound: a safe and effective technique to enhance service delivery

Pippa Leighton, Nikki Green, Sarah Vestey

Gloucestershire Hospitals NHS Foundation Trust, Gloucestershire, UK

Introduction: Wire-guided localisation (WGL) is standard for impalpable breast cancers. Surgeon delivered intra-operative USS (IOUS) is an alternative. WGL is resource intensive and uncomfortable. Locally a single imager has four localisation slots per session. With IOUS the surgeon may better appreciate tumour location, but there is no check mammogram. We asked, is it equivalent in terms of safety and quality?

Methods: A 2-year retrospective review (single surgeon) was performed (October 2014–16), comparing outcomes of IOUS to WGL and standard palpable excision (WLE). Surgery took place at two hospital sites (WGL facilities at a third site). IOUS included insertion of Hawkins III wires. We measured tumour characteristics, re-excision rates, pre-operative radiological size, and specimen weight. Complete radiological excision was confirmed by specimen x-ray in all cases.

Results: There were 117 invasive cancers localised, 56 by IOUS, 24 WGL, 83 WLE. Baseline characteristics, specimen weight and pre-operative radiological size were similar between IOUS and WGL groups. Re-excision rates were 21% (12/56) IOUS, 29% (7/24) WGL, 23% (19/83) WLE. A further 6 non-invasive lesions were also successfully localised by IOUS. No additional operating time was required. 15.5 outpatient

sessions were freed up for imagers to assess urgent 2WW referrals, equivalent to over 200 outpatient appointments saved.

Conclusions: IOUS was safe. This data suggests a lower re-excision rate for IOUS versus WGL with no excess in specimen size. As well as service delivery and cost advantages, patients were spared a 30-minute journey from the localisation site as well as an improved perioperative journey.

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P131. Are patients eligible for breast conserving surgery in early and locally-advanced breast cancer choosing mastectomy?

Sina Hossaini, Eleanore Massey, Asma Al-Allak, Richard Hunt, Fiona Court, Claire Fowler, James Bristol, Sarah Vestey

Department of Breast Surgery, Gloucester Royal Hospital, Gloucestershire, UK

Introduction: Latest research suggests breast conserving surgery (BCS) with radiotherapy is as safe as mastectomy, with cosmetic and psychological advantages. Patient preference is sometimes the reason given for variability in mastectomy rates; we wanted to review regionally how many patients eligible for BCS were choosing mastectomy.

Methods: A retrospective electronic hospital records review of all mastectomy procedures performed in Gloucestershire from October 2015 to March 2016 was undertaken. The unit manages circa 650 cancers per year, offering reconstructive and oncoplastic surgery. Demographics and indication for proceeding with mastectomy were identified.

Results: 80 patients underwent mastectomy in six months: 26 for proportionality of disease relative to breast-size (Within this group: 2 males (BCS unfeasible), 11 downsizing of DCIS / diffuse nodular invasive lobular carcinoma not possible, 6 inadequate response to neoadjuvant chemotherapy / hormone therapy for BCS); 7 completion after failed BCS (4 patients had ≥ 2 re-excisions); 13 for recurrent disease in an irradiated breast; 19 for multicentric disease; 8 for risk-reduction; 1 where radiotherapy following BCS contraindicated due to pulmonary fibrosis; 6 for patient preference (1 had a previous contralateral mastectomy, 2 chose mastectomy despite successful neoadjuvant downstaging chemotherapy, 1 to simplify treatment due to co-morbidities).

Conclusions: Mastectomy was chosen for non-medical reasons by six patients; few patients eligible for BCS opt for mastectomy. The message that BCS is as safe as mastectomy may be getting through; efforts to further reduce mastectomy rates may be limited by the current available treatments for early and locally advanced breast cancer.

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P132. Prospective study of surgical site infections in breast cancer surgery – Does wire localisation increase infection risk?

Roisin Corcoran, Conor Toale, Brian O'Connell, Anna Heeney, Terence Boyle, Dhafir Al-Azawi, Elizabeth Connolly

St James Hospital, Dublin, Ireland

Introduction: Post-operative surgical site infections (SSIs) are a common complication in breast surgery, and can lead to increased morbidity, patient distress, longer in-hospital stay, and delay of adjuvant therapies. In this study, a prospective database was compiled of all patients undergoing breast cancer surgery in St James' Hospital over a 6-year period from 2010–2016. We sought to identify risk factors for infection in our cohort of patients, which may highlight areas of practice that can be improved in order to minimise the risk of SSI.

Methods: There were a total of 1,450 patients included. Patients were subdivided based on operation type. A total of 968 patients (68%) underwent breast conserving surgery. Within the BCS group, 591 patients (61%) had wire localisation and 377 patients (39%) had non wire guided

procedures. There were 450 patients (31%) in the mastectomy group, 99 of these operations included reconstruction (22% of mastectomy patients).

Results: There were a total of 77 (5.4%) surgical site infections. Of the 967 BCS patients, 34 had SSIs (4%). Within the BCS group SSIs, 16 were post wire guided BCS (3%) and 15 were post non wire guided procedures (4%). There were 39 SSIs after mastectomy without reconstruction (11%). Post reconstructive surgery there were 5 infections (5%).

Conclusion: On univariate analysis guide-wire use was not associated with post-operative infection ($p = 0.3636$). On comparison of SSI in BCS vs mastectomy, on univariate analysis mastectomy was associated with a significantly higher risk of post operative infection ($p = <0.0001$).

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P133. Factors affecting positive excision margins

Nikki Green, Darren Scroggie, Pippa Leighton, Asmaa Al-Allak, James Bristol, Clare Fowler, Richard Hunt, Eleanore Massey, Sarah Vestey, Fiona Court

Breast Surgery Department, Gloucestershire Hospitals NHS Foundation Trust, UK

Introduction: The majority of patients presenting with a breast cancer undergo breast conserving surgery. Literature reports of re-excision rates vary although are often reported up to 20–25%. There are multiple factors affecting re-excision rates. Our aim was to investigate the re-excision rates in our breast unit and the factors accounting for this.

Methods: All patients undergoing breast conserving surgery in a 1 year period (2015–16) in a single breast unit were included (symptomatic and screen detected). Data was collected in a database including number of re-excisions, number of positive margins ($<1\text{mm}$), size on palpation, disease at the margin, pre-invasive and invasive imaging and pathology size and pathology of re-excisions.

Results: Over a 1 year period 454 patients underwent breast conserving operations with 99 (21.8%) requiring at least 1 re-excision. The second and third re-excision rates were 17.2% and 11.8%. The mean difference between imaging and pathology size was 10.1mm (range – 48 to 92mm). 70 out of 99 specimens were larger on pathology than expected. 46 specimens were $\geq 50\%$ larger than expected on imaging, 31 of these were $\geq 100\%$ larger than expected. In patients with palpable disease the mean difference in size (where documented) from pathology was 18.8mm, including non-invasive disease. The re-excision specimens were clear of disease in 56.1% of patients.

Conclusions: This study demonstrates that there are multiple factors involved in the increased risk of positive excision margins, including underestimation on imaging size and palpation size. Palpation size is often unreliable.

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P134. Case vignettes on primary management of breast cancer in older patients: results of a national survey

Yasmin Jauhari¹, Carmen Tsang¹, Jibby Medina¹, David Dodwell², Kieran Horgan², David Cromwell¹

¹Clinical Effectiveness Unit, London, UK

²Leeds Teaching Hospital NHS Trust, Leeds, UK

Introduction: Older patients with breast cancer (BC) present clinicians with challenging management decisions. As part of the National Audit of Breast Cancer in Older Patients (NABCOP), we explored key patient factors in clinical decision making for primary management of early invasive BC in patients aged >75 years.

Table 1

Pt. Age	Tumour	Axillary LN	Comorbidities (ASA)	Performance Status score	Cognitive impairment	Most frequent advice	Life expectancy, median (range)
75	18mm,G2	-ve	Mild COPD (II)	0	Mild	b = 52%	120 (60–240)
85	18mm,G2	-ve	AS, CHF, OA (III)	3	Mild	d = 48%	24 (12–96)
75	35mm,G2	+ve	Obese, HTN, smoker (II)	1	Mild	b = 59%	60 (36–120)
80	18mm,G2	+ve	Osteoporosis (II)	2	Severe	d = 38%	48 (16–90)
75	35mm,G2	-ve	CABG, PPM, HTN, DM (III)	1	none	c = 43%	54 (24–120)

Methods: An online survey of 5 case vignettes of older patients with breast cancer was distributed to breast cancer MDT leads in NHS Trusts in England and Wales (n = 150). Outcomes were:

1. The clinical decision for primary treatment:

a) Advised to have surgery, b) Offered a choice but strongly favouring a surgery, c) Offered an equal choice of surgery and primary endocrine therapy (PET), d) Offered a choice but strongly favouring PET, e) Advised to have PET.

2. The patient's predicted life expectancy in months.

Results: The survey remains active until mid-Dec 2016. Early results highlight a range of therapeutic approaches and estimations of life expectancy for similar patients (n = 29) (see Table 1).

Conclusion: The appropriate input of non-cancer patient factors in primary treatment decision making should be agreed on to allow revision of guidelines on managing BC in older patients. BC clinicians require education in estimating life expectancies of older patients.

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P135. Total duct excision through a linear radial areola incision

Benjamin Baker¹, Vinod Mathen¹, James Harvey^{1,2}

¹Nightingale Centre, University Hospital South Manchester, Manchester, UK

²University of Manchester, Manchester Academic Health Science Centre, Manchester, UK

Excision of the major duct system of the breast was first described by Adair and Urban, and the operative technique was subsequently reported in detail by Hadfield in 1960. He described complete major duct excision through a skin incision following the lower half of the edge of the areola and reflection of the nipple-areola complex from the underlying breast tissue. This has the potential to result in nipple-areola complex necrosis, and loss of nipple sensation.

We describe a previously unreported linear radial incision within the areola for diagnostic complete major duct excision. This is orientated at the lower outer (5 o'clock left side, 7 o'clock right side) position, and extends from the base of the nipple to the areola border. Ducts can be accessed under direct vision at the medial end of the incision.

This technique does not require skin flaps to be raised or undermining of the nipple-areola complex, provides rapid access to the ducts, and ease of tissue approximation with a favourable cosmetic result. Because the incision is directly over the operative site, haemostasis is simpler and the operation can be performed under direct vision in good light. Furthermore, the orientation of the incision as described ensures that the scar is at an angle not easily visible to the patient because the nipple obscures their gaze. Nipple sensation is preserved.

This technique is utilised routinely at our institution without complication, and is reported with photographic illustration. Surgeons may wish to adopt this technique in their practice.

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P136. Can a 'direct to mammogram' clinic provide a safe pathway for patients with mastalgia?

Shruti Ayyar, Saadat Ahmed, Angela Volleamere, Clare Garnsey

Royal Bolton Hospital, Farnworth, Greater Manchester, UK

Introduction: As presented at the ABS Conference 2016, demand is outstripping capacity in breast one-stop clinics (Bramley, 2016). A "direct to mammogram" clinic has been proposed at the Royal Bolton Hospital for patients older than 40 years with mastalgia only. A pilot study was performed to compare cancer detection rates in this population to that of the screening population (8.5/1000, NHSBSP Audit 2015) to validate the safety of the proposal.

Methods: Patients referred in a 4-week period to Bolton Breast Unit with mastalgia as the primary symptom were prospectively identified from GP referral letters and further data was collected from clinic notes.

Results: 108 patients were referred with mastalgia as a primary symptom (40% of referrals). 49 patients (18%) were at least 40 years old and referred with mastalgia only. Mammogram, ultrasound, and core biopsy were performed in 46, 21, and 6 cases respectively – with outcomes graded as below.

	Grading (M, U, B)					Total
	1	2	3	4	5	
Mammogram	36	6	4	0	0	46
Ultrasound	13	4	4	0	0	21
Core Biopsy	1	4	1	0	0	6

No patients were found to have breast cancer in this sample; however, 25% of referrals did not show concordance between the findings of the GP and the breast specialist. 16% of patients who were referred with mastalgia only were found to have other symptoms/signs in breast clinic.

Conclusion: In a 4-week period, the cancer detection rate was 0% in all patients over 40 referred with mastalgia only; however, there was discordance between GP and specialist findings. This discordance has raised concerns about the safety of the proposed 'direct to mammogram' referral pathway and a larger study would be required before considering any change to practice.

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P137. Preoperative axillary ultrasound is less sensitive in invasive lobular breast cancer than in invasive ductal breast cancer

Elizabeth Morrow¹, Alison Lannigan³, Julie Doughty⁴, Laszlo Romics²

¹Glasgow University, Glasgow, UK

²New Victoria Hospital, Glasgow, UK

³Wishaw General Hospital, Lanarkshire, UK

⁴Gartnavel General Hospital, Glasgow, UK

Introduction: Accurate preoperative axillary staging in breast cancer patients is important to allow decisions regarding neoadjuvant treatment, and to avoid sentinel node biopsy. A few studies have suggested reduced sensitivity of ultrasound in preoperative axillary staging in lobular cancer compared to ductal. We evaluated the accuracy of preoperative axillary

staging for lobular cancer in comparison to ductal cancer in the West of Scotland.

Methods: Patients with invasive lobular or ductal breast cancer, diagnosed in all breast units of the West of Scotland between 2012 and 2014, who underwent axillary surgery, were identified from the prospectively maintained Managed Clinical Network database. Data including clinicopathological characteristics, preoperative axillary ultrasound, core biopsy and FNA results, and final operative pathology were collated from the same database. Sensitivity of preoperative axillary ultrasound in the lobular and ductal cohorts was calculated. Statistical significance was calculated using Chi square test.

Results: 602 patients with invasive lobular and 4199 patients with invasive ductal cancer, who underwent axillary surgery, were identified. 211 (35%) lobular patients ultimately had positive axillary pathology, of which 67 had an abnormal (U3-5) preoperative axillary ultrasound. Ultrasound sensitivity for nodal disease was 32.1% in the lobular cohort (Negative Predictive Value:71.6%) compared to 50.1% in the ductal cohort (NPV:77.3%) ($p < 0.001$). For high-burden axillary disease (3+ positive nodes) sensitivity was 49.4% and 68.1% respectively ($p = 0.001$).

Conclusions: Sensitivity of axillary ultrasound is significantly reduced in lobular breast cancer. We suggest considering biopsy of ultrasonographically normal nodes when the clinical suspicion for axillary involvement is relatively high in lobular cancer.

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P138. ADM assisted immediate breast reconstruction with a vertical incision and horizontal dermal flap

Sarah Powell-Brett, Geeta Shetty

The Breast Unit, Peterborough City Hospital, Peterborough, UK

There are several areas of contention with the use of acellular dermal matrix (ADM) including scar placement; this has traditionally been horizontal, over the pectoralis to protect the implant and ADM. This can present an aesthetic challenge, producing a boxy shape with less natural projection in large and ptotic breasts. Our series uses a vertical incision with horizontal skin reduction and dermal flap to improve aesthetic outcome with minimal complications.

All patients who underwent immediate implant-based, subpectoral, ADM assisted, single stage breast reconstruction following a vertical incision skin sparing mastectomy with a horizontal dermal flap between June 2014 and January 2016 were included. Data collected prospectively included demographics, adjuvant therapy and post-operative complications. A single, oncological trained consultant performed all operations.

24 patients (30 breasts) were identified; average age 47, Mean BMI 25.2, cup size range C to F. Four significant post-operative complications arose, one implant loss, one seroma requiring drainage, one case of C-diff and one case of prolonged erythema and blistering along the wound line (possible infection).

	Results	NMBRA outcome	NMBRA target
Infection	6.7%	25%	<10%
Implant loss	3.3%	25%	<10%

In our series we believe we have a practical, reproducible, single-stage method that has excellent outcomes with minimal complications and improved cosmetic result. We therefore recommend the vertical incision with horizontal skin reduction and dermal flap as a valuable addition to reconstructive techniques, especially in larger and more ptotic breasts.

<http://dx.doi.org/10.1016/j.ejso.2017.01.191>

P139. Is it time to relook at management of axilla in post neoadjuvant breast cancer cases in re-evolving era of current axillary management?

Shaukat M. Mirza¹, Liaqat Ali¹, Jane Aitken²

¹Hinchingsbrooke Hospital, Huntingdon, Cambridgeshire, UK

²West Suffolk Hospital, Bury St Edmund, UK

Introduction: Axillary Node Dissection (AND) has been an established practice for more than a century for its role in staging and adjuvant treatment decisions; as are its accompanying serious complications. In spite of landmark, Z0011 and AMAROS trials, we are reluctant to pass this benefit to neoadjuvant cases, although the above cited reasons of AND are changing too.

Methods: A prospective study of 100 cases of neoadjuvant chemotherapy.

Results: Sixty-six patients have axillary core positive nodes which after NAC had AND, 25 (38%) showed complete pathological (pCR) response in axillary nodes, while 41 (62%) have residual disease. Among the 25 patients with complete axillary response, 17 have pCR in the breast too, and of these, 9/17 would have been eligible for Z0011 criteria without NAC. While 34 have normal axillary US or core negative nodes, 5 had up-front SLNB and were excluded from analysis. The remaining 29 cases had SLNB after NAC with 24 (83%) node negative, 4 (14%) positive and one showing pCR with fibrosis in two SLNB nodes; these 5 went on to have AND. In this group, 8 patients have pCR both in breast and axilla, 5/8 were eligible for Z0011 criteria without NAC. These results provide a convincing argument to avoid AND in complete responders; a similar wish is expressed by the Dutch survey.

Conclusion: Therefore, we conclude it is time to relook and produce new guideline for axillary management in post NAC cases with cPR and possibly avoiding AND in nearly 30–40% core positive axillary nodes.

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P140. Why aren't women in 30% of Australia's capital city hospitals having breast reconstruction following mastectomy for breast cancer? The role of the surgeon

Kathy Flitcroft^{1,2}, Andrew Spillane^{1,2,3}, Meagan Brennan^{1,2}

¹Breast & Surgical Oncology at The Poche Centre, NSW, Australia

²Northern Clinical School, The University of Sydney, NSW, Australia

³The Mater Hospital, Sydney, NSW, Australia

Aim: Provision of post-mastectomy breast reconstruction (BR) in Australia has been associated with a range of factors, and the 'true' BR rate is uncertain. This article aims to clarify variation in BR rates between and within regions according to age, public/private hospital status and distance to travel for surgery.

Materials and methods: Data from the BreastSurgANZ Quality Audit (BQA) database and geospatial software were used to model the distribution of BR procedures performed on patients of BreastSurgANZ members in Australia in 2013. Geospatial mapping identified the distribution of procedures across states and their relationship to the Greater Capital City Statistical Areas (GCCSA) of the five largest states. Data were analysed using chi-squared tests of independence.

Results: De-identified data on 3,786 women was available. BR rates differed significantly ($p < .001$) between jurisdictions [$\chi^2 = 164.90$], being significantly higher in the GCCSA than non-GCCSA regions [$\chi^2 = 144.60$], and significantly higher for private hospitals than for public [$\chi^2 = 50.72$]. BR was not reported in 44% of hospitals where mastectomy was conducted by members of BreastSurgANZ, including 30% of hospitals within GCCSAs.

Conclusions: These data suggest significant variation in BR rates between hospitals in comparable location indicating variation is unlikely to be solely resource-driven. We hypothesise that surgeons' attitudes towards performing, or facilitating BR through referrals to experienced breast, plastic or oncological surgeons may also play an important role in explaining

variation within GCCSAs. Improved access to more comprehensive quantitative hospital-level data and stakeholder input is required to further explore the reasons behind such regional variation in BR services.

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P141. To examine the clinico-pathological and oncological outcomes of patients who underwent mastectomy following ipsilateral therapeutic mammoplasty

Natalie To, Dalia Elfadl, Jennifer Rusby, Peter Barry
Royal Marsden Hospital, Sutton, UK

Introduction: Patients with therapeutic mammoplasty (TM) may require further surgery for residual disease (involved margins) or recurrence. We aim to evaluate the pathological and technical, as well as oncological outcomes of patients who required a mastectomy having previously had ipsilateral TM.

Methods: A retrospective record review identified patients who had mastectomy after ipsilateral TM between 2005 and 2016. We recorded information including age, reasons for mastectomy, tumour characteristics, margin involvement, re-excision and adjuvant treatment.

Results: Of 1270 who had TM, 66 patients required post-TM mastectomy. They formed 3 groups: 43 (65%) patients with involved margins, 16 (24%) with disease recurrence and 7 for other reasons BRCA carrier. Ten (23%) patients with involved margins had re-excision prior to mastectomy. Reconstruction was carried out on 28 (65%) patients with involved margins of whom 21 (75%) were immediate, whereas all 12 (75%) patients had immediate reconstruction for recurrence. A minority (14%) underwent implant based reconstruction. Qualitative analysis suggests that mastectomy and reconstruction planning was influenced by previous TM incisions. 36 patients (83%) with involved margins were in remission from their disease, compared to only 10 patients (62.5%) in the recurrence group, the most common cause of death in both groups being metastatic breast cancer.

Conclusion: We found that the majority of patients who had post-TM mastectomy for positive margins, did so without re-excision of margins. A large proportion of patients in both groups had immediate reconstruction, permitting non-standard mastectomy following TM.

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P142. Bilateral synchronous breast cancer: Histological concordance and surgical management

Gary Dobson¹, Colin McIlmunn¹, Kienan Savage^{1,2}, Stuart McIntosh¹

¹Belfast City Hospital, Belfast, UK

²Centre for Cancer Research & Cell Biology, Belfast, UK

Introduction: Synchronous breast cancers (SBC) account for up to 3% of breast cancer diagnoses, and are often managed with bilateral mastectomy, although the optimal treatment strategy is unclear. We present initial findings of tumour morphology and surgical management of a cohort of SBC patients in Northern Ireland (NI).

Methods: Women with SBC diagnosed between 1992 and 2015 were identified from NI Cancer Registry data. Histopathology reports have been reviewed; pathological features of tumours and biomarker expression were collated. Data was collected on initial surgical treatment, and follow-up data was recorded where available.

Results: Data was available on 60 SBC cases between 1992 & 2015. Mean age at diagnosis was 59 years (range 32–91)

Fifty-two patients underwent surgical treatment: 35 patients had bilateral mastectomies, 12 underwent bilateral breast conserving surgery and the remainder a combination.

Right	Left
IDC 31	IDC 28 ILC 11 Other 1
ILC 9	ILC 4 IDC 3 Other 2
Other 5	Other 2 IDC 3 ILC 0

Right	Left
ER + 42	ER + 34 ER – 2
ER – 4	ER – 3 ER + 1
PR+ 34	PR + 26 PR – 3
PR – 7	PR – 4 PR + 2
Her 2+ 5	Her 2+ 1 Her – 3
Her 2 – 40	Her 2 – 35 Her 2+ 1

Conclusion: Bilateral mastectomy was confirmed to be the most common surgical treatment for SBCs. Half the tumours shared identical clinico-pathological features, suggesting either that SBC patients may have a propensity to develop tumours of a particular type, or that SBCs may be related. Genomic studies will be required to more clearly define these relationships. Comparison with matched controls will be necessary to determine whether SBCs have a worse prognosis than unilateral breast cancer, as suggested in the literature.

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P143. Addressing younger patient's fertility concerns after a breast cancer diagnosis

Cathy McDaid

Belfast Health and Social Care Trust, Belfast, UK

Introduction: Every year in the UK, 5,000 women under 45 years are diagnosed with breast cancer. Some of the breast cancer treatments can affect fertility. I wished to assess if we are addressing these issues.

Methods: A retrospective audit was conducted of women diagnosed under the age of 45, in Belfast Trust, between January and June 2015. Based on change in practice, a re-audit of women diagnosed between September and November 2016. Data was collected from the Breast Care Nursing notes. The standards used are the NICE guidelines for people with cancer who wish to preserve their fertility. Also those set out by BCC; patients under 45 years will be given a full explanation during initial treatment discussions about the possible impact of treatment on fertility.

Results: In the initial audit 26 women were diagnosed. One was pregnant at the time of diagnosis (PBC) and one was metastatic. 3 women (14%) had a record of a fertility being discussed.

The audit highlighted inaccurate recording of discussions about fertility therefore nursing paperwork was updated. In the re-audit period 17 women were diagnosed with breast cancer. 15 (88%) women had a

record of a discussion about fertility. 2 (12%) did not (one PBC and one woman with learning difficulties).

Conclusions: We are discussing fertility with most patients at an early stage unless there is a good reason not to. We are now accurately recording when these conversations happen.

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P144. An audit of staging investigations for breast cancer

Duncan Simpson, Victoria Graham, Clare Shute

Antrim Area Hospital, Northern Ireland, UK

Introduction: Our protocol for staging in breast cancer is US abdomen and CXR in patients if clinically node negative, and CT and bone scan if clinically node positive. ABS guidelines suggest that US and bone scan are not useful unless symptomatic, part of a trial, or to undergo neoadjuvant treatment. We wanted to assess our protocol against this standard.

Methods: All patients diagnosed with breast cancer in 2015 were identified. Demographics; decision to operate; pre-operative node status; staging investigations and subsequent changes to management were recorded.

Results: 258 patients were diagnosed with breast cancer in 2015. 2 male, age range 30–86 (median 62). In 29 patients no surgery was planned. 33 patients had in-situ disease only and had no staging. The remaining 196 patients were planned for surgery. All had staging.

160 were clinically node negative:

149 had US, 150 had CXR, 21 had CT, 5 had bone scan

No patient in this group had metastases detected.

36 were clinically node positive:

36 had CT, 35 had bone scan

5 of these patients had metastases on CT. 4 had metastases on bone scan (all also on CT). 2 of these 5 patients had their management changed from operative to non-operative.

Conclusions: No clinically node negative patient had metastases diagnosed. No patient had metastases on US. No patient had metastases on bone scan that were not on CT.

We recommend no staging if clinically node negative and no routine use of US, CXR or bone scan. We estimate savings around £60,000/year.

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P145. Monitoring response to primary hormonal treatment (PHM) in older women with oestrogen responsive (ER+ve) breast cancer. Are we giving the best to these patients?

Rachel King, Rachel Bright-Thomas

Worcestershire Royal Hospital, Worcester, UK

Introduction: The proportion of the population over age 80 is increasing nationally. By 2050 it will be 1 in 10, 2/3 being women. Breast cancer is common in this group (1 in 14) and is predominantly ER +ve (90%). Many affected women have other co-morbidities and prefer to avoid surgical treatment if possible. One common treatment option is to commence primary hormonal manipulation (PHM) and to monitor response sequentially until this treatment fails. This has resource implications as the patients require frequent follow up and, with a good response, may need to return for focused USS assessment. Hearing and mobility issues can also prolong the appointment time required.

Methods: Since 2014 we have collated a prospective record of >50 patients over age 80 treated with PHM. After receiving initial written information about treatment options, those choosing PMH are followed up in a dedicated nurse led clinic with, telephone reminders of clinic appointments, simultaneous USS available, more clinic time for assessment of cancer response and holistic assessment of needs, and open access back into the main clinic if the drug response is poor or if the patient wishes to try an alternative treatment path.

Results: Patients, carers and our support group have rated the information leaflet highly, and have found the clinic “easy” and “smooth” to attend.

Conclusions: We commend this approach to other units, both to streamline other busy follow up clinics and for improved patient satisfaction so that all patients may receive the first-class treatment that they deserve.

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P146. Mammaglobin-A tissue expression, breast cancer pathology and survival

Liz Baker, Louise Hall, Naomi Whiteoak, Lucy Hill, Deborah Wilson, Pud Bhaskar

University Hospital of North Tees, Stockton on Tees, UK

Introduction: Human mammaglobin-A is breast tissue specific, over-expressed in some breast cancers and associated with less aggressive phenotypes. Several previous studies have determined the association between mammaglobin-A protein expression with tumour pathology however it is not known whether expression correlates with survival.

Methods: Paraffin sections from 327 consecutive patients who had undergone breast surgery (benign (n = 28) or breast cancer (n = 299)) between October 2007 and June 2010 were analysed for mammaglobin-A protein expression by immunohistochemistry. Tissue expression was compared with histological and clinical parameters; tumour grade, type, size and receptor status (where available; Chi-squared, p<0.05). Five year survival analysis was performed (Kaplan Meier, p<0.05). The study had ethics approval.

Results: Positive mammaglobin expression was observed in 49% breast samples analysed and expression with tumour grade was in 54% benign tissue samples, 57% grade 1, 52% grade 2 and 38% grade 3 tumour samples. There was a significant correlation between mammaglobin-A expression with both oestrogen and progesterone receptor status (p = 0.011 and p = 0.013 respectively). At five year follow up, 296 patients were alive and well, 14 were alive with cancer, 14 had died and 3 were lost to follow up. There were no significant associations between mammaglobin expression and overall or disease-free five year survival.

Conclusions: Mammaglobin-A expression in breast tissue was observed in a higher proportion of benign and low grade tumours, however this difference was not significant. Positive mammaglobin-A expression was associated with positive oestrogen and progesterone receptor status. There was no correlation between mammaglobin-A tissue expression and five year survival status.

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P147. A survey to determine statistics in Portsmouth for the relationship between breast surgery & post-operative upper limb functional problems

Alexandra Stephenson, Joanne Burke

Solent NHS Trust, Portsmouth, UK

Introduction: Most women with breast cancer have surgery to the breast and axilla which can affect the muscles, nerves and lymphatic vessels in upper limb function. Guidelines advocate access to specialist physiotherapy services after treatment.

There was no local data for women having breast cancer treatment with upper limb problems. This service evaluation aimed to investigate if there is an issue with women having these issues following treatment for breast cancer using the Quick DASH.

Method: The data was collected for 3 months retrospectively (March, April and May 2015). The records of all patients aged >18yrs admitted with a diagnosis of histologically confirmed invasive or non-invasive primary breast cancer scheduled for surgical excision/ sentinel lymph node

biopsy /planned axillary node clearance and reconstructive surgery was used. This data was obtained with permission of local NHS trust. Appropriate clinical audit approval was obtained from the trust. A covering letter, a Quick DASH and self-addressed envelope was sent to these patients.

Results: There were 4 responses that had incomplete data so were excluded from analysis. The response rate was calculated as 59%. Thirty seven percent of women had a DASH score of >25% indicating some level of shoulder dysfunction.

DASH Score	Percentage of subjects
0–24	63
25–49	23
50–74	11
75–100	3

Conclusion: The local data corroborates with national data for women having shoulder problems post breast cancer treatment, indicating there is a service need to commission formal physiotherapy within the breast care pathway at Portsmouth. This is supported by recommendations of best practice within the NICE guidelines.

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P148. Sentinel Lymph Node (SLN) Biopsy following Neoadjuvant Chemotherapy (NACT) for early stage breast cancer

Wafa Taher, E. Provenzano, John Benson

Cambridge Breast Unit, Addenbrooke's Hospital, Cambridge, UK

Introduction: Nodal downstaging following NACT can potentially avoid 'obligatory' axillary lymph node dissection (ALND) in many patients. Performance of SLN biopsy in the context of NACT is reviewed since changing from an upfront pre-NACT approach.

Methods: A retrospective analysis was undertaken of 56 patients undergoing mastectomy (n = 19) or conservation surgery (n = 37) plus SLN biopsy following NACT for breast cancer (T1-3; N0). All patients were clinically node negative with a normal axillary ultrasound examination or a negative axillary core biopsy at presentation. SLN localisation employed radioisotope alone (29), blue dye alone (1) or a combination (26).

Results: The average number of SLNs removed was 2 (range 1 – 6) with identification rates of 100%. Six patients had macrometastases (n = 3) or micrometastases (n = 3) yielding a node positivity rate of 11% (6/56). Two-thirds of these patients (4/6) had neither tumour nor fibrosis in non-sentinel lymph nodes whilst 2 patients had residual disease (≤ 2 mm). One-quarter of patients (15/56) had one SLN removed and half ≥ 3 nodes. There was no relationship between number of nodes harvested and node positivity rates with fibrosis seen in a single node only. Overall breast pCR rate was 66% (37/56).

Conclusion: SLN biopsy is safe and accurate post-NACT and is associated with a halving of node positivity rates compared with historical rates of 27% for an upfront approach in the same breast unit. This may relate partially to nodal downstaging but could also reflect improved selection of patients for primary ALND from image-guided needle biopsy of axillary nodes.

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P149. Response to primary systemic treatment by tumor type and its effect on the extent of the subsequent breast surgery – Single center experience

Iskra Daskalova

European Medical Center, Moscow, Russia

Introduction: Primary systemic treatment (PST) in selected breast cancer (BC) patients has become more common in the last decade. We evaluated the effect of PST on the extent of subsequent breast surgery.

Methods: Between September 2014 and November 2016 34 BC patients (stage II–III) underwent PST followed by surgery in our institution. One was treated with primary hormonal treatment (5 months), the other 33 received chemotherapy. Twenty four of the patients had luminal Her2 negative tumours, 3 were luminal Her2 positive (triple positive), 3 were non-luminal Her2 positive (Her2 type), and 4 were triple negative.

Results: Of 24 patients with luminal type, 4 had pCR (16.6%). None of the 3 triple positive patients had pCR or significant downsizing. One of the 3 patients with Her2 type had pCR (33%). None of 4 triple negative patients had pCR, however 3 (75%) had almost complete response, defined as at least 85% reduction of the primary tumour size. Out of 15 patients initially considered for mastectomy, 5 (33%) converted to lumpectomy after PST – 3 out of 10 luminal (30%), 1 Her2 type, and 1 triple negative. None of the 3 triple positive patients converted.

Conclusion: Our results support the use of PST in all tumour types BC, except triple positive. The likelihood of pCR or almost complete response was highest in Her2 type or triple negative. The effect of PST in luminal tumours was sufficient to convert 30% of them to less extensive breast surgery. No triple positive patients had a significant response.

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P150. Adenoid cystic carcinoma of breast: A network audit

Amy Martin¹, Rebecca Millican-Slater¹, Craig Sayers², Jay Naik², Sri Kumar¹

¹Leeds Teaching Hospitals, Leeds, UK

²Mid Yorkshire NHS Trust, Wakefield, UK

Background: Adenoid cystic carcinoma of the breast is rare and thought to carry a good prognosis. There is currently no treatment consensus.

Aim: To assess management and outcomes for adenoid cystic carcinoma of the breast in our network.

Methods: We retrospectively collected data on all patients with adenoid cystic breast cancer in the Yorkshire Cancer Network between 2000 and 2013. Cases were identified from hospital pathology databases. Both pathology and clinical databases were used. Data included patient demographics, clinical presentation, imaging findings, pathological parameters, treatment details and outcomes. Data was analysed using Excel and SPSS.

Results: There were 11 new cases of adenoid cystic breast cancer across the Yorkshire Cancer Network. The average age at diagnosis was 56 years (range: 31–82). Pathological grade: 6 grade 1, 5 grade 2. 1 was weakly ER and PR positive, the rest were triple negative; all were node negative. All patients underwent surgical management: 8 Wide Local Excisions (WLE), 2 with Sentinel Lymph Node Biopsy (SLNB) and 2 with Axillary Lymph Node Sampling. 1 required completion mastectomy and 3 underwent mastectomy and SLNB. All patients received adjuvant Radiotherapy 40Gy/15 fractions and 1 had an additional boost of 10Gy/5 fractions. No patients received chemotherapy. Local control rate was 100%. 2 patients died from metastatic neuroendocrine carcinoma, and one from metastatic adenoid cystic carcinoma of solid variant.

Conclusions: Our study shows that hypo-fractionated radiotherapy achieves excellent local control. It is of interest that 2 patients developed metastatic neuroendocrine cancer suggesting a possible link between these pathologies.

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P151. Breast cancer surgery in elderly patients: A local audit

Taner Shakir, Steven Goh

Peterborough City Hospital, Peterborough, UK

Introduction: The management of breast cancer in the elderly varies greatly. We evaluated our practice in this retrospective audit.

Methods: All cancers diagnosed in patients aged 75 or over between January 2011 and December 2015 were included. Medical notes and histo-pathological reports were studied for data collection.

Results: Three hundred and sixty-six patients (4 males) were identified. Mean age of diagnosis was 83 years old (75–102). The average number of co-morbidities was 2.7 (0–10). Median follow-up was 32 months (0–70).

One hundred and fifty-eight (43%) patients received primary endocrine therapy. Of these, 37 patients declined surgery even though they were deemed fit. Seven patients were palliated. A total of 201 (55%) patients underwent surgery as first-line treatment.

Ninety-eight patients underwent breast conserving surgery (BCS). One hundred and three patients had mastectomy, of which 4 were reconstructed. Ninety-one patients received radiotherapy post BCS. Three local recurrences were noted.

The overall complication rate was 10%. There were 8 haematoma, 5 cellulitis, 2 wound dehiscence, 2 skin necrosis, 1 abscess, 1 iatrogenic skin burn and 1 patient developed ischaemic colitis. One patient returned to theatre for wound debridement.

Conclusions: Surgery was performed in patients with fewer co-morbidities (2.4 vs 3.1 endocrine). Both mastectomy and BCS groups have similar co-morbidities and survival outcome, but complication rate is higher in the mastectomy group. Patients who underwent surgery seemed to have an increased length of survival. Designated pathways and joint-care between surgeons and specialist physicians should ensure appropriate patient selection and optimise post-operative care.

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P152. Titanium-coated polypropylene mesh for immediate implant-based breast reconstruction – Our initial experience

Asma Munir, Anita Huws, Yousuf Shariha, Sujatha Udyashankar, Eleri Lodwick, Simon Holt, Saira Khawaja
Prince Philip Hospital, Llanelli, UK

Background: The use of titanium-coated polypropylene mesh (TCPM) is an alternative to acellular dermal matrix for the implant based breast reconstruction by providing extra implant coverage especially in the lower half. The aim of our study was to analyse short-term outcomes of TCPM based implant breast reconstruction and compare the patient- and procedure-related factors to implant loss and surgical complications.

Methods: Between September 2013 and September 2016 implant breast reconstructions after conservative mastectomies using TCPM was performed in 27 patients (with 33 reconstructions). Complications were divided into major (need for additional surgery), minor (conservative treatment), and implant loss. Univariate analyses were performed to determine the influence of the patient- and procedure-related factors on postoperative complications and implant loss.

Results: Thirty-three mastectomies with reconstructions were performed in 27 women. Twenty six patients had therapeutic mastectomies with 6 of them also having contralateral risk reducing mastectomies. With median follow-up of 17.5 months, four of 32 patients had implant loss. Reasons for implant loss were skin necrosis in 2 cases, infection in 1 case and necrosis with infection in another case. One of these patients had a revised reconstruction one year later. One additional patient required implant replacement because of capsule contracture. No risk factors were observed for patient-associated complications. Univariate analysis revealed an increased risk for implant loss in patients with skin necrosis ($p < 0.01$).

Conclusions: This titanium-coated polypropylene mesh shows acceptable complication rates and its use in immediate implant breast reconstruction is safe and effective.

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P153. Flap adhesion facilitates mastectomy without drains

Christian Eichler^{1,2}, Mathias Warm^{1,2}

¹Department of Gynecology and Obstetrics, Holweide Hospital, Cologne, NRW, Germany

²Department of Gynecology and Obstetrics, University of Cologne, Cologne, NRW, Germany

Introduction: Drain-free mastectomy is associated with reduced hospital stays and improved patient comfort. Recent NHS guidance encourages a shift towards mastectomy as Day Case surgery, with use of drains being the exception rather than the rule. Closure without drains or flap fixation is associated with increased postoperative seroma and clinical visits. Flap fixation with a high-strength adhesive may facilitate drain-free mastectomy with no increase in complications.

Methods: A German multi-centre study group has accumulated a body of evidence on the use of TissuGlu® Surgical Adhesive for flap fixation in mastectomy without drain placement, comprised of early case reports, case series and several retrospective and prospective comparison cohort series. Based on this experience, a prospective study design was developed and a single centre PRCT (40+40) is nearing completion. An additional 84 patient multi-centre UK/Germany PRCT has been initiated with expected completion by July 2017.

Results: Initial case and series reports documented feasibility of no drain mastectomy with flap adhesion. Data from retrospective chart reviews of mastectomy +/- SLNB from 3 centres were compiled, with 44 no drain patients and 111 SWC patients with drains. Demographic variables were comparable between groups. Mean number of clinical interventions for fluid management (where a drain placement counts as 1 intervention) was 1.54 in the SWC group and 0.5 in the TissuGlu group. Rates of other minor and major complications were similar in the two groups. Data from the single centre PRCT will be available in March 2017.

Conclusions: We believe that this growing body of evidence constitutes the largest data set to date on this subject and that it will be used to support a trend towards mastectomy as day-case surgery in many countries where this is not yet the standard.

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P154. Immediate nipple-areolar complex reconstruction for patients undergoing skin sparing mastectomy and implant based reconstruction or therapeutic mammoplasty

Lyndsey Highton, John Murphy

Nightingale Breast Centre, University Hospital of South Manchester NHS Foundation Trust, Manchester, UK

Introduction: We describe a technique of immediate NAC reconstruction for patients undergoing skin sparing mastectomy and implant-based reconstruction or therapeutic mammoplasty following central excision.

Method: Nipple reconstruction is performed using a modified CV flap, planned at the correct height along the edge of the wise pattern or peri-areolar incision. A new areola is designed, de-epithelialised and reconstructed using a full thickness skin graft harvested from skin usually discarded. NAC tattooing may be performed at a later date if desired.

Results: We have performed this procedure on 32 breasts in 21 patients. This included 19 risk-reducing mastectomies, 9 therapeutic mastectomies, 2 therapeutic mammoplasties following central excision and 2 major revisions to existing implant reconstructions. The incision was wise pattern in 29 breasts and peri-areolar in 3 breasts. Reconstruction was direct to implant in 29 breasts and expander based in 1 breast, including a variety of techniques in either the pre or post pectoral plane and utilising dermal sling or ADM. There have been no significant complications. Mean follow up is 9 months (2-24 months). Cosmetic results have been excellent to date and no revisional surgery has been required.

Conclusions: Immediate NAC reconstruction is a reliable technique with good cosmetic outcomes. The application of simple techniques for NAC reconstruction in the primary procedure allows reconstruction of

the whole breast in a single stage. There is an immediate focal point to the reconstruction to improve cosmesis, patient satisfaction and psychosocial function without delay, which is particularly beneficial for patients undergoing bilateral risk reducing mastectomies.

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P155. The reliability of specimen X-rays in assessing surgical margins in breast conserving surgery

Hannah Dunlop¹, Laszlo Romics², Sheila Stallard^{1,2}, Tom York¹

¹University of Glasgow, Glasgow, UK

²Gartnavel General Hospital, Glasgow, UK

Introduction: It has been shown that the attainment of a clear excision margin is an important predictor of treatment success and the risk of local recurrence. Specimen X-ray is routinely used to confirm the excision of impalpable lesions, although its reliability to predict adequate excision margins is controversial. Therefore, we retrospectively reviewed specimen X-ray images and corresponding pathological margins.

Methods: Data comprised of consecutive patients who underwent wide local excision, for DCIS or invasive carcinoma between 2013 and 2014, where the excised specimen was X-rayed. This yielded a total of 432 margins (4 per patient); each margin was measured on the PACS system, and was compared to the pathological margin. In both radiology and pathology, a margin of 1mm or less was considered “involved”.

Results: Of the 432 margins studied, 414 margins looked clear on the specimen X-ray and 19 looked involved. All those with involved margins on the specimen X-ray had immediate further excision. In fact, of those 19 that looked involved, only 12 were involved pathologically and 7 were clear pathologically.

Of the 414 margins that looked clear on the specimen X-ray, 62 (14.9%) were involved pathologically and 352 were clear pathologically.

Sensitivity (true positive rate) = $12/12+62 = 16\%$

Specificity (true negative rate) = $351/351+7 = 98\%$

Conclusion: The specificity of specimen X-ray margins is high (98%) and the sensitivity is low. These results suggest that specimen X-rays are a reliable way to assess margins and decide about immediate re-excision in theatre.

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P156. Have breast cancer presentations changed over the years as a result of breast cancer screening: A 17 year review

Louise Merker, Manon Jenkins, Nicholas Gallegos

Weston General Hospital, Weston Super Mare, Somerset, UK

Introduction: The UK was the first country to operate a 3 yearly National Breast Screening Programme (NBSP) for all women aged between 50 and 70 years. The aim of an effective screening programme is to improve survival through early detection of cancers before they are advanced. Our study investigates if Nottingham Prognostic Indicator (NPI) scores for tumours, both screened and symptomatic, have decreased over the years.

Method: A local prospectively collated database of patients presenting with a breast tumour between 1/1/1998 – 31/12/2015 was retrospectively analysed. For each patient we identified age on presentation, tumour size, tumour grade, node status and NPI score. The cases were separated into those presenting through the NBSP and symptomatic cases. The pathological characteristics of patients were compared and statistically analysed according to year groups.

Results: There was a total of 1048 patients; 253 screen detected and 795 symptomatic. Average age at presentation was stable throughout ranging from 59 – 66 years old. Grouping the data into 5 year intervals shows there has been a reduction in tumour size, NPI and node positive

disease in all new cancers but most dramatically in the screening group of patients.

	Years	Tumour Size	NPI Score	Node Positive
All cases	2000–2004	2.23	4.09	35.6%
	2005–2010	2.14	3.82	32.2%
	2015	1.81	3.65	22.3%
Screen detected	2000–2004	2.14	3.98	34.4%
	2005–2010	1.74	3.58	22.0%
	2015	1.21	3.65	14.6%
Symptomatic	2000–2004	2.45	4.26	37.0%
	2004–2010	2.32	4.28	35.5%
	2015	2.33	3.94	29.1%

Conclusion: Our findings suggest that since the introduction of screening there has been a trend towards a reduction in NPI, tumour size and node positive status in symptomatic and screened cancers. This implies a better prognosis and reduced mortality in patients with breast cancer, independent of advances in treatment.

<http://dx.doi.org/10.1016/j.ejso.2017.01.209>

P157. Innovation in Action – Breast Care Nurse Specialists in the pursuit of excellence have actively instigated innovative solutions for the introduction of a recovery package for their local breast cancer patients following completion of treatment

Annie Treanor, Eimer McGeown, Lucy Montgomery

Southern Health and Social Care Trust, Northern Ireland, UK

The Breast Care Nursing Team in Southern Trust has transformed breast cancer follow-up via the implementation of a self-directed aftercare pathway which has empowered patients to take control of the management of their own health. We have transformed the service from a medical model to a nurse-led recovery package. The team have been innovative by introducing the following improvement initiatives: Nurse-led Health Needs Assessment Clinics and Health & Well Being Events which occur on a regular basis throughout the year. Automated annual review mammography is performed in a timely fashion with prompt issue of a “healthy letter” directly to the patient. Introduction of the Triage phone service directly to the Breast Care Nurses for fast-access back to the Breast Clinic to see appropriate Consultant. This innovative service improvement has been driven by the team with the aim of improving the overall patient experience in the recovery phase. Everyone’s hard work, determination and motivation has ensured that the Transforming Cancer Follow-Up (TCFU) Self-Directed Aftercare pathway has been successful. Almost 80% of breast cancer patients who have had treatment completed in the last year are now self-managing. This has ultimately reduced the need for surgical and oncological follow-up clinics. Patient feedback via questionnaires is positive as they feel totally supported and have the reassurance that they can fast-track back at any time to the service, if necessary.

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P158. Having low margin positivity can be associated with excellent breast outcomes

Alison Johnston^{1,2}, Geraldine MacGregor¹, Winnie Felle¹, Mark Valentine¹, Michael Sugrue^{1,2}

¹Letterkenny University Hospital, Letterkenny, Ireland

²Donegal Clinical Research Academy, Letterkenny, Ireland

Introduction: Reducing positive margins and need for re-excision yet maintaining cosmesis is key in breast cancer surgery. This study assessed if low margin positivity resulted in adverse cosmesis, pain and functional outcomes in patients undergoing wide local excision (WLE).

Methods: A prospective ethically approved written consent study of consecutive patients undergoing WLE between July 2015 and September 2016 was undertaken at Letterkenny University Hospital.

BCCT.core programme objectively analysed pre and post-op photographic imaging. The Breast Cancer Treatment and Outcome Scale scored subjective outcomes in cosmesis, functionality and pain. Demographic and pathological data, breast excision weight, % breast volume excised (BVE), margin positivity, complications and re-excision were documented.

Results: 41 consecutive patients, mean ages 55 ± 13 were studied, mean tumour size $19.7\text{mm} \pm 12.8$ (2.4–60), mean BVE weighed 78.6 ± 42.6 (18.9–214.4). The mean % of BVE was $11.3\% \pm 5.2$ (5.1–23.3). Re-excision rate was 2/41 (4.9%) for positive margins. No wound infections or haematomas were seen. Computed photographic analysis found 35/41 (85.3%) unchanged, 4 (9.8%) deteriorated and 2 (4.9%) improved. Subjectively moderate breast shape change was reported in 6/41 (14.6%). Of the 22 questions relating to cosmesis, pain and functionality only 8/41 (19.5%) reported any concerns.

Conclusions: This prospective, early outcomes study identified that low margin positivity rates do not come at an objective or subjective cost to the patient. Larger studies may validate as an international benchmark.

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P159. Implications on margin positivity rates following the introduction of an oncoplastic service to a university hospital breast unit

H.K.N. Kankam², R. Bali², R. Hubbard¹, E. Provenzano¹, Amit Agrawal¹

¹ Cambridge University Hospitals, Cambridge, UK

² Cambridge University, Cambridge, UK

Introduction: Larger excisions inherent to oncoplastic breast surgery (OBS) may increase probability of clear margins, irrespective of margin distance. We present our initial experience following the introduction of OBS to a university hospital.

Methods: Single oncoplastic surgeon data between April 2014 (coinciding with margin policy change from 2 to 0mm) and September 2016 for simple wide local excision (WLE) or OBS was reviewed. Relative incidence of margin positivity was estimated at three margin distances. Statistical tests performed were Median (k samples) and chi-squared.

Results: See Table 1

Table 1

	WLE	All OBS	Displacement (therapeutic mammoplasty or mastopexy)	Replacement (chest wall perforator flap partial reconstruction)
Total, n	161	35	19	16
Pre-operative tumour size(mm)	14(4–53)	23(5–76)	20(6–30)	25.5(5–76)
		($p < 0.001$)	($p < 0.001$)	($p < 0.001$)
Post-operative tumour size(mm)	17(1–60)	26(4–75)	28(7–75)	24(4–45)
		($p = 0.001$)	($p = 0.001$)	($p = 0.001$)
Neo-adjuvant chemotherapy(%)	6.2	25.7($p < 0.001$)	Two pCR	18.8($p = 0.001$) One pCR
Total, Lobular, DCIS(%)	21.7, 9.9, 11.8	25.7, 8.6, 17.1	21.1, 15.8, 5.3	31.3, 0, 31.3
Margin positivity, if 2, 1 and 0 mm margin respectively(%)	27.3, 18.2, 16.9	17.1, 5.7, 5.7	15.8, 5.3, 5.3	18.8, 6.3, 6.3
Actual Re-excision(%)	20.5	14.3	15.8	12.5
Actual Mastectomy(%)	6.2	0	0	0

pCR = pathological complete response (to neo-adjuvant chemotherapy)

Conclusions: Whilst there was no significant difference in margin positivity irrespective of margin distance, OBS alone reduced margin positivity by 10.2%, 12.5% and 11.2% with 2, 1 and 0mm margins respectively. This, despite median OBS pre-and post-operative sizes being 50% larger (versus WLE), thus reducing re-excisions/mastectomies; and expanding patient choices whilst maintaining and frequently improving aesthetics.

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P160. Applanation tonometry after breast conservation – Is texture the missing link?

Stephanie Dean, Rachel O’Connell, Nandita deSouza, Nicola Roche, Anna Kirby, Peter Barry, Jennifer Rusby

Royal Marsden NHS Foundation Trust, Sutton, UK

Introduction: Studies often show divergence between patient-reported outcome measures (PROMs) and clinicians’ evaluation of outcome after breast conserving therapy (BCT). The hypothesis was that firmness of the breast, which is not well seen in photographs, may partly explain this discrepancy. The aim was to use applanation tonometry (placing a weighted Perspex disc on the breast and measuring the contact area) to document the compressibility and to correlate that with PROMs (BREAST-Q BCT module), in particular the questions relating to breast texture.

Methods: Ethical approval was obtained. Women who had unilateral BCT 1–6 years ago were recruited. Participants completed the BREAST-Q and underwent applanation tonometry. The contact area was expressed as a ratio: treated/un-treated breast. Pearson’s correlation and ANOVA tests were used to evaluate association.

Results: 175 women participated. Mean age was 64yrs (SD = 10.3). Time from surgery was 35.6 months (SD = 18.1). Mean applanation tonometry ratio was 0.89 (SD = 0.19). Median ‘Satisfaction with breasts’ was 68 (IQR = 56–80). There was a weak correlation (0.198) between applanation tonometry and ‘satisfaction with breasts’. There was no correlation with ‘effect of radiotherapy’ or the sub-questions ‘how your lumpectomy breast sits/hangs’ or ‘how much you are bothered by the irradiated skin feeling thick’.

Conclusions: While texture of the treated breast may impact on satisfaction, this was not shown in this study. Either the compressibility measurement technique was not sufficiently accurate or the PROMs questions are not sensitive enough to detect this. Alternative methods such as compressibility read-outs from mammography should be explored as objective measures of texture as this is an important outcome of surgery and radiotherapy.

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P161. Decreased expression of BRCA2 accelerates sporadic breast cancer progression

Diptendra K. Sarkar

IPGMR, Kolkata, India

Introduction: BRCA2 is a mismatch repair gene. Germ line mutation in BRCA predisposes individuals to familial breast and ovarian cancers.

Aims: To study the implication of BRCA2 expression in cases of sporadic breast cancer.

Study design: Female breast cancer aged between 20 and 75 years were selected for study. Patients with stage IV disease or previous history of any non breast malignancy or undergoing neoadjuvant therapy were excluded. Concentration of BRCA2 was measured by sandwiched method of ELISA. IHC was done to determine the hormone receptor and HER2 neu status. The results were correlated with age, menopausal status, clinical stage, size, lymph node status, grade, histopathological subtype and molecular subtypes. Statistical analysis and significance were ascertained using SPSS (Chi-square test).

Results: The findings were noted. Age ($p = 0.9640$), menopausal status (0.6282), tumour size ($p = 0.1226$), HP ($p = 0.3977$) insignificantly correlated with BRCA2 data. Clinical stage ($p = 0.0112$), lymph node status ($p = 0.0055$), grade ($p = 0.0030$) and molecular subtypes ($p = 0.0010$) were found to have significant association.

Conclusion: Decreased expression of BRCA2 was found to be mostly triple negative cancers and had aggressive biological nature. The study highlights the fact that Indian population of breast cancer has higher incidence of BRCA2 mutation and is possibly one of the reasons for a younger breast cancer with poorer outcome

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P162. Generating awareness among Indian population through survivors: An innovative model for developing countries

Diptendra K. Sarkar¹, Agnimita Giri Sarkar^{1,2}

¹IPGMER, Kolkata, India

²Disha, Kolkata, India

Breast cancer is the leading cause of cancer in females in India. Due to the younger age at presentation, lack of infrastructure and financial constraints, population screening program is unrealistic for most of the developing countries. The model for early diagnosis therefore rests on population awareness. The biggest block in generating awareness in India is lack of idea that breast cancer is a potentially curable disease. Misconception about loss of body image after surgery and chemotherapy is also a major cause for the conservative females to report to the health care system.

Aims of the study: To validate a new model for population awareness through performing arts by breast cancer survivors.

Study design: Patients treated for breast cancer were included in the study group. An advocacy group called "Disha" (meaning "direction") was formed in collaboration with IPGMER Breast service. The survivors were trained in various performing arts, cancer awareness communication techniques, clinical breast examination and psychological counselling of the patients undergoing treatment for breast cancer. The acceptance of the general population in various subpopulations (socioeconomic and educational) was studied using questionnaires used in pre and post awareness campaign sessions.

Results: Generation of awareness was more when survivors were talking about cancer compared to non-medical health professional (91% versus 46%). The change in perception was found in 88% of the study population. The significance was marginally more in higher socioeconomic and educated subpopulation but had poor statistical significance ($p = 0.981$).

Conclusion: The study could validate the significance of survivors in generating population awareness in India.

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P163. Prognostic models of life expectancy in the elderly: A systematic literature review to aid appropriate allocation of primary endocrine therapy

Robert Thomas^{1,2}, Andrew Pieri¹, Henry Cain³

¹North Tees and Hartlepool NHS Trust, Teesside, UK

²Gateshead NHS Trust, Gateshead, UK

³Newcastle Hospitals NHS Trust, Newcastle Upon Tyne, UK

Introduction: The use of primary endocrine therapy (PET) in managing breast cancer in the elderly has become widespread. Whilst a Cochrane review concluded no difference in overall survival in comparison with surgery, PET was found to be inferior in local disease control with a limited duration of efficacy (2–3 years). The International Society of Geriatric Oncology (SIOG) state that PET may be considered in patients with a short life expectancy (<2y) or considered unfit for surgery. Frequently, decision making for PET allocation is subjective.

Method: A systematic literature review was performed to establish what is the most accurate prognostic index of all-cause geriatric mortality or life expectancy and what breast-specific models have been used.

Results: 19 prognostic models were deemed eligible from 16 papers. 1 breast-specific model was found, 2 nursing home related and 16 for community-dwelling elders. Accuracy (as defined by discrimination; c-statistic or AUROC) ranged from 0.69 (moderate) to 0.86 (very good).

Conclusions: Our review highlighted a variety of validated prognostic indices. Several high-quality models were identified. However, most were validated in US-populations and relied on information from administrative datasets. One breast specific model was identified, specifically to aid treatment planning for frail elderly patients but is yet to be externally validated in a larger cohort. The strength of an index, however, will ultimately be on its clinical impact and influence on treatment decisions rather than its accuracy. Randomised trials evaluating the outcomes from indices would form the highest level of evidence but none have yet been performed.

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P164. Clinical and patient reported outcomes in breast reconstruction using acellular dermal matrix

Sarah Powell-Brett, Steven Goh

The Breast Unit, Peterborough City Hospital, Peterborough, UK

Introduction: There is a lack of published patient reported outcome measures (PROMs) for the use of acellular dermal matrix (ADM) based breast reconstruction. This cohort study reviewed our clinical outcomes and PROMs.

Methods: All patients undergoing mastectomy with ADM assisted immediate breast reconstruction under a single surgeon between June 2013 and September 2016 were included. A prospectively kept database, clinic letters and operation notes were analysed. All patients received BREAST-Q™ pre and post-operative questionnaires.

Results: Forty-eight consecutive patients with 62 reconstructions were included. Mean hospital stay was 3.8 days. All patients received 48 hours of intravenous antibiotics, followed by a two-week course of oral antibiotics. Mean post-operative follow up was 17 months. There were 6 cases of skin necrosis (9.7%), and 2 infections (3.2%). These resulted in 4 explantations (6.4%); 3 following skin necrosis and 1 following infection. There was no observed 'red skin' syndrome. Post-operative mean score for 'satisfaction with outcome' was 83.1%. Mean score for 'Psychosocial well-being' was 70.7% and the mean score for 'physical well-being' was 77.9%.

Conclusion: Our complication rates were comparable to those published, and PROMs were consistently good. The skin necrosis rate was potentially due to earlier practice of performing single-stage immediate reconstruction using fixed volume breast implants. We have modified our patient selection criteria and ADM based reconstructive techniques with experience. Longer term clinical and patient reported outcome should be sought.

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P165. Outcomes following neoadjuvant chemotherapy: converting trial results into “real world” practice

Andrew Pieri, Ellie Whyte, Henry Cain

Royal Victoria Infirmary, Newcastle Upon Tyne, UK

Introduction: Neoadjuvant chemotherapy is now established in the management of breast cancer. This change in practice is based on the results of large clinical trials demonstrating the benefits of down staging the tumour. The aim of this study was to ascertain if these results could be achieved in everyday clinical practice.

Methods: Data was collected retrospectively from a single institution's pathology database. All patients who had undergone NACT between October 2013 and October 2015 were included.

Results: A total of 47 patients had NACT over the two year period. The indication for NACT was: To downstage tumours to permit breast conserving surgery (BCS) in 37 (79%) cases, locally advanced disease in 8 (17%), facilitate immediate reconstruction in 1 (2%) case and to allow time for genetic testing in 1 (2%) case. Table 1 shows pathological response rates categorised by receptor status. Of those who received NACT for down staging from oblique mastectomy, 23 (62%) successfully underwent BCS.

Table 1

Receptor Status	Pathological Response, n (%)			
	pCR	pPR	No response	Progression
ER+ HER2–	1 (10)	9 (90)	0	0
ER+ HER2+	6 (40)	9 (60)	0	0
ER– HER2–	1 (8)	10 (77)	2 (15)	0
ER– HER2+	7 (78)	2 (22)	0	0
Total	15 (32)	30 (64)	2 (4)	0

(pCR = Pathological complete response; pPR = Pathological partial response)

Conclusions: Pathological response rates in this study are relatively consistent with those published in recent major trials. We have shown a high rate of successful down staging patients from mastectomy to BCS. This study demonstrates the “real world” benefits of giving chemotherapy in the neoadjuvant setting where indicated.

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P166. Does the use of negative pressure wound therapy in closed wound after reconstructive and oncoplastic breast surgery decrease the incidence of skin necrosis?

Z. Al-Ishaq, F. Salem, R. Koshy, R. Athwal, C. Jones, M. Casey, D. Dickson, H. Clark, S. Mylvaganam, R. Vidya, B. Isgar, P. Matey, T. Sircar

New Cross Hospital, The Royal Wolverhampton NHS Trust, Wolverhampton, UK

Table 1

Risk factor		Conventional dressing % (Numbers)	Negative pressure wound therapy % (Numbers)	P value
Incision	Wise pattern	15.3 (8/52)	26.3 (10/38)	0.286
	Others	8.3 (2/24)	3.3 (1/30)	0.579
Smoking history	Positive	24.1 (7/29)	15.7 (3/19)	0.718
	Negative	6.3 (3/47)	16.3 (8/49)	0.199
BMI	< 35	11.5 (8/69)	9.4 (5/53)	0.774
	> / = 35	28.5 (2/7)	42.8 (6/14)	0.655
Mastectomy weight (gm)	< 400	15.1 (5/33)	18.1 (2/11)	1.00
	> / = 400	17.2 (5/29)	31 (9/29)	0.357

Introduction: Skin necrosis is a significant complication after reconstructive and oncoplastic breast surgery (ROPBS). The aim of this study was to evaluate whether use of negative pressure wound therapy (NPWT) in closed wound decreases the rate of skin necrosis.

Method: We studied 95 patients (144 breasts) who underwent ROPBS. Patients were divided into two groups: Control with conventional dressing (between January 2015 and June 2015 studied retrospectively) and those with NPWT (from July 2015 until October 2016 studied prospectively). We observed the incidence of skin necrosis in the 2 groups and the effect of patient's BMI, smoking history, type of incision and mastectomy weight on skin necrosis rate.

Results: The control group included 76 breasts (47 patients) and the NPWT group included 68 breasts (48 patients). The rate of skin necrosis was 13.1% in the conventional group and 15.7% in the NPWT group ($p = 0.64$). Table 1 below shows the impact of different risk factors on the skin necrosis rate in the two groups.

Conclusion: In patients undergoing reconstructive and oncoplastic breast surgical procedures, use of negative pressure wound therapy did not reduce the incidence of skin necrosis.

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P167. A point prevalence analysis of breast cancer experience on YouTube

Louise Cousins

Altnagelvin Area Hospital, County Londonderry, UK

Introduction: Breast cancer is the most common cancer in the UK. With a patient shift to an active consumer role of health information, YouTube and equivalent media portals are now used frequently to enhance patient education. The objective of this study was to review YouTube “breast cancer” videos.

Methods: A point-prevalence evaluation by a single clinician was performed on a single day to evaluate 100 consecutive YouTube videos identified using the search term ‘breast cancer’. Videos were classified into content, source and viewer interaction while additional parameters included video length, view numbers, upload source and days since upload. The upload source was categorised as hospital or physician (PH), TV Channel (TV), commercial website (CW) or civilian (C).

Results: From 100 videos reviewed, 91% were provided in English language. There was a cumulative viewership of 20.7 million with an average 206,759 (Range 328–7511196) views per video. The majority of videos addressed female breast cancer (99%). However, the most frequently viewed video (7.5 million views) provided information on male breast cancer (1%). Multiple sources included PH (16%), TV (12%), CW (35%) and C (37%). The most common category watched was personal stories from patients (39%) followed by symptomatology (19%), medical information (19%), self-examination (8%) and surgical aspects (6%).

Conclusions: This point-prevalence study suggests that YouTube engagement for breast cancer is high with personal experiences and male related content demonstrating most interaction. Only 16% of videos were healthcare-led.

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P168. Comparison of 2 radioisotope injection techniques for SLNB in breast cancer

Michael Hughes, Ronan McLaughlin, Stuart McIntosh, Samantha Sloan, Peter Mallon

Belfast Health and Social Care Trust, Belfast, UK

Aim: To compare peri-areolar and peri tumoural injection techniques in sentinel lymph node biopsy for breast cancer

Methods: All patients undergoing SLNB in the Belfast City Hospital from 24/5/16 – 5/7/16 were eligible for inclusion. Patients were excluded if they had received isotope injection not on the day of surgery or if data collection was not complete. Intraoperative radioactivity counts were recorded using a GammaFinder® probe at; site of injection, axilla pre operatively, node post removal. Counts were analyzed for each technique. Histological samples were reviewed for each technique and the number of nodes, including positive nodes were also compared. A students t-test was performed on the data.

Results: Twenty two patients in total were eligible for data collection. The peri-areolar technique had statistically significant, p value = less than 0.05, higher reading for axilla counts (166 Vs 7.4) and nodal counts (1140 Vs 115). There was no difference between number of nodes removed (2.3 Vs 3.6) or the histological diagnosis of the nodes.

Discussion: Peri-areolar injection technique compared to the Peri Tumoural results in significantly higher mean nodal count scores. This results in easier and more reliable detection of sentinel nodes. This however does not reflect in the number of nodes removed.

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P169. The LadyCare device: A novel treatment for the management of menopausal symptoms

Tena Walters¹, Nyjon Eccles²

¹The London Breast Clinic, London, UK

²The Natural Doctor, London, UK

Introduction: Menopausal symptoms are a major problem for patients following the treatment of breast cancer. Hormonal replacement may be contraindicated and there are no other effective treatments available at present. We have tested the efficacy of static magnetic therapy “The LadyCare” device, which ameliorates symptoms.

Methods: 508 subjects with menopausal symptoms responded to an advert in a national newspaper. Subjects were asked to complete a questionnaire reporting duration of symptoms and to rate the severity of 23 menopausal symptoms on a scale of 0–5, prior to and after one, two and three months of using the device. They were instructed to wear the device 24-hours per day for a duration of three months. The results were analysed with Mann-Whitney two sample test and Bonferroni correction method.

Results: For each symptom studied, levels of suffering were significantly reduced after the use of LadyCare. After one month of use of the device; 2.6% of subjects reported worsening of hot flushes, 43.1% had no benefit, 28.6% had reduction of symptoms of between 20–40%, 25.6% of women had a 50–100% reduction of symptoms.

After 3 months 6.3% reported an increase in symptoms 23.8% had no change, 22.6% reported a 20%–40% reduction and 47.2% of women had an improvement of between 50–100%. 60.3% of subjects reported improvement in quality of sleep after 1 month and 75.5% reported improvement in the quality of sleep after 3 months. 50.4% of subjects reported reduction in anxiety after one month and 68.6% after 3 months.

Conclusion: The LadyCare device significantly reduced menopausal symptoms in a large, albeit self-selected group of women. Further validated quality of life data studies into the use of this device are indicated to assess the benefit in patients precipitated into the menopause by the treatment of breast cancer.

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P170. The effect of surgical site infection in immediate breast reconstruction on breast cancer recurrence

Nassreen Abdullah, Peter O’Leary, Mohammad Albatthli, Mohammad Mustaque, Colm Power, Arnold Hill

The Department of Breast and Endocrine Surgery, Beaumont Hospital, Dublin, Ireland

Introduction: There has been a considerable increase in the use of immediate reconstruction. However, recent controversy has arisen surrounding the oncological safety of immediate reconstruction. In particular, it has been suggested that an associated wound infection may confer a detrimental survival outcome. Thus, we aimed to assess the relationship between immediate breast reconstruction, wound infection and disease recurrence in our institution.

Methods: A retrospective review of breast cancer patients who underwent immediate breast reconstruction at our centre from 2011 to 2015 was performed. The presence of infection was based on clinical signs and symptoms, in combination with microbiological evidence of wound infection from samples collected. Recurrence was defined as the presence of local recurrence and distant metastasis. Statistical analysis was performed using SPSS version 23.

Results: A total of 136 patients underwent immediate breast reconstruction. The mean age of this group was 45. Reconstruction techniques included implants alone (37%), Latissimus Dorsi flap (29%), DIEP (Deep inferior epigastric perforators) flap (25%), Latissimus Dorsi with implant (4%), Transverse Upper Gracilis (4%) and Omental (1%). Twenty-seven patients (19.8%) had microbiological proven surgical site infection. At a median follow-up of 36 months, nine patients (6%) had disease recurrence, two of which showed evidence of infection. No statistically significant difference in recurrence rates was observed ($p = 0.552$) and no difference in overall survival ($p = 0.359$) was observed between patients who had a post-operative infection and those without.

Conclusion: Wound infections associated with immediate breast reconstruction do not appear to have survival implications for breast cancer patients.

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P171. Immediate breast reconstruction using ADM and implant: 5-year experience

Anuradha Apte, Maia Walsh, Sankaran Chandrasekharan, Arunmoy Chakravorty

Colchester Hospital University NHS Foundation Trust, Colchester, UK

Introduction: With more frequent use of ADM & pre-pectoral bi-mesh in Immediate Breast Reconstruction (IBR), debate is still on to measure the outcomes of using sub-pectoral implants and ADMs. Aim of our study is to share our experience and PROMS data in single-stage IBR using ADM and implant.

Methods: In this prospective study, consecutive patients undergoing single-stage-IBR with fixed-volume-implant and ADM from Feb. 2012 – Sept. 2016 received a standardised questionnaire, 6 weeks post-surgery. This included pre-operative, operative and post-operative outcomes, complications, patient satisfaction, cosmesis and return to activities.

Results: 67 patients (73 procedures, 6 bilateral) underwent reconstruction. 98.4% patients felt that adequate information was given including non-availability of long-term data on ADMs.

Tumour biology: IDC-37, ILC-12, Mixed-6, DCIS-11, ER+ve-52, HER2+ve-12, Average NPI- 3.9 (range 2.1–7).

12 patients had neo-adjuvant chemotherapy, 19 chemotherapy, 11 Herceptin and 20 had radiotherapy.

Average hospital-stay: 1.66 days (range 1–5).

Return to light activities: 2.55 weeks (range 0–6) & normal activities: 5.4 weeks (range 1–12)

	NMBRA- results	Standards- Oncoplastic Guidelines	Our Outcomes
Severe post-operative pain	11.4% (1 st week)	< 5% (24 hours)	6.4% (1 st week)
Patient-satisfaction with clothed-appearance	90%	90% (18 months)	93.7%
Implant loss (12 months)	8.9%	<5%	5.9%

Implant loss - 4 patients (3 smokers). One red-breast-syndrome. 98.4% would recommend reconstruction.

Conclusion: IBR using ADM and implant is an acceptable option in selected group as suggested by this PROMs and outcome data. However, IBR with ADMs can be fraught with problems and therefore appropriate patient selection with realistic expectations is essential for an acceptable outcome.

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P172. Organisation of services for the management of breast cancer in older patients in NHS Trusts in England and Wales

Yasmin Jauhari¹, Carmen Tsang¹, Jibby Medina¹, David Dodwell², Kieran Horgan², David Cromwell¹

¹Clinical Effectiveness Unit, London, UK

²Leeds Teaching Hospital NHS Trust, Leeds, UK

Introduction: The National Audit of Breast Cancer in Older Patients (NABCOP) started in April 2016. One objective of the audit is to evaluate the organisation of NHS breast cancer (BC) services, in England and Wales.

Methods: An online organisational survey was distributed to all BC multidisciplinary team leads in NHS Trusts in England and Wales in November/December 2016 (n = 150).

Results: The survey remains active until mid-December 2016. We describe the early results (n = 46).

There was considerable variation in staffing and range of BC services provided.

In 48.6% of Trusts, Care of the Elderly teams have no formal involvement with older patients with BC, whilst the remaining Trusts describe ad-hoc involvement. 'Formal assessments' of cognitive function and frailty/functional status were performed in 37.1% and 68.6% of Trusts, respectively. This was mainly through clinical assessment, and scoring tools were rarely used. 65.7% of Trusts routinely recommend bone health checks as part of their BC management.

Routine HER2 testing for patients aged ≥ 70 is performed in 88.6% of Trusts, and 88.6% of Trusts reported that all women with BC (regardless of age) undergo annual follow-up mammography for BC.

Conclusion: The organisational survey will describe the range of services for breast cancer in England and Wales, with particular emphasis on those with greatest relevance for older patients. The results should stimulate discussion and analysis as to what should be the optimum.

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P173. Impact of neoadjuvant chemotherapy and pathological response on patient outcomes: A single centre study

Sophie Williams, Ross Kenny, Jennifer Glendenning, Ash Subramanian, Elizabeth Shah

Conquest Hospital, Hastings, UK

Introduction: Neoadjuvant chemotherapy (NAC) is selected to obtain tumour volume reduction (TVR) or facilitate breast conserving surgery

(BCS). NAC may result in pathologic complete response (pCR) with rates cited between 3–20%. Local outcomes over a 6-year period were retrospectively analysed and compared with literature.

Methods: All patients receiving NAC for breast cancer between 2010 and 2015 were identified via the "Somerset" cancer database. The aims of NAC were pre-defined as tumour downsizing to enable BCS or TVR followed by Mastectomy. Data was obtained through electronic records and case notes. NAC regimens were identified using ChemoCare database. Radiological tumour size was compared pre and post-NAC and pathological response verified. Results were analysed using Microsoft Excel and SPSS.

Results: 46 patients (mean 55.5 years) received NAC, of which 67% were node positive, 48% Grade 3, 22% HER-2 positive, and 11% (5/46) Triple Negative. Mean radiological pre-NAC size was 45mm, post-NAC 21mm (53% reduction, $p < 0.00001$). Mean post-NAC pathological size was 24.7mm. BCS was performed in 28% (13/46). Overall pCR rate was 15% (7/46), of which 6/7 were initially node positive. The Triple Negative group attained a pCR of 20% (1/5). Mean patient follow-up 3.7 years (1.4–6.8yrs). Local relapse rate 15%; distant relapse 26%. Breast cancer-related mortality rate was 15% (7/46). No mortality or relapse in pCR group.

Conclusions: NAC significantly reduced tumour size ($p < 0.00001$). pCR rate compares favourably with literature at 15%. Lymph node pCR may be associated with better disease-free and overall survival; longer follow-up is required in this subset.

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P174. The role of regional anaesthesia in improving day case rates for patients undergoing mastectomy

F. Eljalani, Robert Milligan, Henrietta Dawson, Henry Cain, Ben Goodman

Royal Victoria Infirmary, Newcastle Upon Tyne, UK

Introduction: Regional anaesthesia has been shown to improve rates of perioperative analgesia, reduce chronic pain and improve quality of life following major breast surgery.

The British Association of Day Surgery (BADs) recommends that 15% of mastectomies should be performed as day case and 70% with a single night stay in hospital. Two years ago, we commenced a quality improvement project to improve the quality, experience and throughput of patients undergoing breast cancer surgery.

Methods: Perioperative care was standardised among regular anaesthetists with an interest in breast surgery. Patients were treated with multimodal analgesia with the avoidance of long acting opioids. Regional anaesthesia was routinely used in the form of paravertebral block at the level of the third thoracic vertebra or interpleural block using loss of resistance technique.

Patients undergoing simple mastectomy (excluding reconstruction or axillary clearance) between April 2013 and October 2015 were identified from our electronic record system. Length of stay (LOS) was compared to the BADs targets. Data were analysed using Chi-square test.

Results: 203 simple mastectomies were performed in the 30-month period of the audit. Our day case rate for patients undergoing mastectomy increased year-on-year from 1.5% in 2013/14 to 27.8% in 2015/16 ($p = 0.001$). Our current practice exceeds BADs targets for day surgery mastectomy, but we have more patients staying for over 24 hours than recommended (33% vs 10%). No complications of regional anaesthetic technique were reported.

Conclusions: Paravertebral and interpleural blocks may be used as part of a quality improvement programme to decrease LOS following simple mastectomy.

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P175. Synchronous symmetrisation – An obligatory part of the reconstructive journey?

Kathryn Hamnett, Adam Talbot, Nathan Hamnett, Adam Hague, Robert Warner, Ruth Waters, Naren Basu
Queen Elizabeth Hospital, Birmingham, UK

Introduction: Recent evidence suggests that 77% of surgeons would consider contralateral synchronous symmetrisation in the context of a Therapeutic Mammoplasty (TM) or Total Breast Reconstruction (TBR) if indicated. In contrast, only 13% would never offer it. The argument for delaying symmetrisation to a planned second operation is that the final reconstructed breast will often undergo morphological change. This can be unpredictable particularly when radiotherapy is recommended. It is suspected that performing synchronous symmetrisation shortens the patient's reconstructive journey with important benefits to patient, practitioner and institution.

Methods: The aim of this study was to compare current practice and outcome of synchronous symmetrisation in both TM and TBR against best practice. Patients undergoing TM, implant or autologous TBR (including DIEP, TRAM and LD) during a ten-year period were identified. Outcome measures included: Choice of symmetrising procedure, time length of operation, total number of general anaesthetics, (GAs) duration of time patient spent with gross asymmetry and length of patient journey from first to final operation.

Results: The total number of GAs were less in the synchronous group, while the delayed symmetrisation group had shorter individual operation time lengths. Patients spent less time with gross asymmetry.

Conclusion: Synchronous symmetrisation in both TM and TBR results in fewer GAs and shortens the patient reconstructive journey. Even accounting for revision surgery, less theatre operative time is utilised with an additional potential financial saving. In view of this we recommend that symmetrisation be performed at the same time as reconstruction where possible.

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P176. Radiation dose exposure during sentinel lymph node biopsy

Anita Hargreaves, Tracy Scott, Shabbir Poonawala
Wirral University Teaching Hospitals NHS Trust, Wirral, UK

Introduction: The adoption of sentinel lymph node biopsy techniques in breast cancer patients exposes operating personnel to ionising radiation. SLNB technique is regulated by Ionising Radiation Regulations 1999 and the EANM and SNMMI guidelines 2013. Formal risk assessment of radiation exposure is mandatory. Exposure is dependent on many factors; previous studies have assessed dose equivalents following immediate pre-operative or peri-operative injection. We have determined our intra-operative dose equivalents following injection on the pre-operative day.

Method: Our unit protocol for SLNB isotope injection, standardises a peri-areolar injection of 0.5ml Technetium-99 nano-colloid emitting 150MBq. All injections are performed between 16:00 and 17:00 on the pre-operative day. All consecutive SLNB cases over a 3 month period were monitored for a single operator and assistant to reduce variability of results. A personal dosimeter was worn at chest and abdominal level. The results obtained were compared to the control dosimeter.

Results: A total of 25 cases were analysed, 14 combined WLE and SLNB, 8 mastectomy and SLNB and 3 SLNB alone. The primary operating surgeon measured dose at waist height, the assistant at chest height. Results were obtained for the superficial (SDE) and deep dose equivalent (DDE). The surgeons' SDE was 0.03mSv and DDE 0.03mSv, the assistants SDE was 0.11mSv and DDE 0.13; compared to control SDE 0.25mSv and DDE 0.25mSv.

Conclusions: SLNB has a patient dose of 0.3µSv compared to CXR 0.04µSv and CT Chest 8.3µSv. Maximum employee DDE dose limit is 100mSv over 5 years. Our DDE falls significantly below this cumulative dose and confirms safety of our technique.

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P177. Pyoderma gangrenosum following breast reconstruction surgery: A rare complication

Kavitha Kanesalingam, Assad Khan, Isabella Karat, George Kousparos, Hisham Osman, Ian J Laidlaw, Raouf Daoud
Frimley Park Hospital, Surrey, UK

Introduction: Post surgical pyoderma gangrenosum (PSPG) is rare cutaneous inflammatory skin disorder, which is characterised by painful and necrotic ulceration. We present two patients who developed PSPG following breast reconstructions.

Method:

Patient 1: 39 year old BRCA carrier had bilateral skin sparing mastectomies and immediate implant and dermal sling reconstructions. Five days after surgery she developed worsening wound breakdown and necrosis despite antibiotics and underwent bilateral implant removal and skin debridement. Post op her wound edges continued to deteriorate and a clinical diagnosis of PSPG was made. She was started on steroids and made an uneventful recovery.

Patient 2: A 65-year-old lady underwent a skin and nipple-sparing mastectomy with an immediate implant and ADM reconstruction. Eight days later, she developed skin blisters and wound breakdown of incision site. She had her implant removed and skin edges debrided. Histology confirmed PSPG. She was started on steroids and made an uneventful recovery.

Discussion: The diagnosis of PSPG is often made late. Acute onset of nipple sparing skin deterioration and necrosis despite antibiotics should raise the clinical suspicion of PSPG. Histology diagnosis should be attempted however a negative result does not exclude this diagnosis. Steroids and/ or immunosuppressants such as cyclosporine or tacrolimus (systemic or topical) have been shown to result in rapid improvement of symptoms.

Conclusion: PSPG although rare, causes significant morbidity to patients following breast surgery especially following implant reconstructive surgery. Therefore early diagnosis and treatment is crucial to limit the degree of scarring and reduce the risk of potential implant loss.

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P178. Oncotype DX™ predicts benefit from adjuvant chemotherapy in women with early breast cancer at intermediate risk of distant recurrence

Kate Harvey, Nicky Levitt, Ben Phillips, Pankaj Roy
Oxford University Hospitals NHS Foundation Trust, Oxford, UK

Introduction: Not all women with primary breast cancer benefit equally from adjuvant chemotherapy. Selecting who to treat from those considered at intermediate risk of recurrence is challenging. Oncotype DX™ is a clinically validated genomic assay which evaluates 21 genes to assess tumour biology. It is validated to predict individual risk of distant recurrence at 10 years and is NICE approved.

Methods: Prospective databases and electronic records were used to collect information about women tested for Oncotype DX™. Those predicted to get intermediate benefit from chemotherapy were tested between February 2013 and October 2016.

Results: 63 women were tested, 51 node negative, 12 with micro-metastases. 17 women (27.0%) were recommended chemotherapy based on recurrence scores, all were node negative. Fewer women under 40 were tested but a higher proportion of those tested were recommended chemotherapy (60%) 50% (9/18) of women tested with tumours 11–19mm and 33.3% (1/3) of women with tumours 10mm or less were recommended chemotherapy compared to 11.1% (1/9) of 26–40mm tumours and none with tumours >40mm (n = 8). 60.9% (14/23) of women tested with grade 3 tumours were recommended chemotherapy compared to 8.1% (3/37) of grade 2 and none with grade 1 tumours.

Conclusions: Oncotype DX™ is an independent predictor of benefit from chemotherapy irrespective of factors such as size and nodal status. 27% of women were offered systemic chemotherapy in this cohort compared to 80% in the absence of genomic testing. The test cost was offset by reduced chemotherapy cost, making it cost-effective for the intermediate risk group.

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P179. Breast cancer patients' opinions on follow up procedures

Julie Dobbin¹, Alison Lannigan^{1,2}, Juliette Murray^{1,2}

¹University of Glasgow, Glasgow, UK

²Wishaw General Hospital, Lanarkshire, UK

Introduction: Breast teams in the UK have different approaches to follow up for cancer patients. Current practice in Lanarkshire is to follow up patients with a consultation, examination and mammogram annually for 10 years. Mammogram only follow up has been advocated in some centres, however the opinion of breast cancer patients has not been studied.

Aim: To use a patient centred approach and collate the views of current service users before making changes to current practice. To guide change that would be cost effective and holistic.

Methods: All patients attending follow up clinics between October and November 2016, were asked to fill in a questionnaire. Data was analysed using excel and SPSS.

Results: 54 questionnaires were returned. 65% (n = 35) of patients wanted annual 10-year clinic follow up; 15% (n = 8) wanted annual 5-year clinic follow up; and 20% wanted mainly mammographic follow up, with some clinic appointments interspersed. 54.4% patients thought examination by the breast team was the most important reason they attended the clinic. 21.4% had asked to attend but had no concerns, 11.9% attended to arrange mammograms, 9.5% wanted to discuss worrying symptoms and 4.8% patients wanted to discuss treatment side effects.

Conclusion: The majority of patients did not agree with the proposed change to mammographic only follow up, with examination and consultation being the most important aspects of follow up. More information is needed. However an opt-in approach to follow up could be more appropriate.

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P180. Patterns of treatment and recurrence in women diagnosed with ductal carcinoma in situ at Poole Hospital NHS Foundation Trust

Jo Fields, Abigail Evans, Heidi Hall

Poole Hospital NHS Foundation Trust, Poole, UK

Introduction: Knowledge of patterns of treatment and recurrence for women diagnosed with ductal carcinoma in situ (DCIS) is important to inform the development of best practice.

Methods: A retrospective data analysis was undertaken of all women diagnosed with DCIS at Poole Hospital NHS Foundation Trust (PHFT) between January 2010 and December 2014, with median follow up of 48 months (range 24–72). Data was collected on demographics, treatment, histology, time to recurrence, and site/type of recurrence.

Results: 175 women were treated for DCIS from 2010–2014, mean age 62 years (range 36–91). The majority were detected via screening (67%) or surveillance (6%) mammography, however a quarter (26%) presented symptomatically. 66% (n = 116) underwent wide local excision (WLE), 30% (n = 53) mastectomy, 3% (n = 5) primary hormone therapy, and 1% (n = 2) no treatment. Of those undergoing WLE, 84% (n = 97) received adjuvant radiotherapy, and 44% (n = 54) with hormone receptor positive (ER+ve) disease received tamoxifen. After 48 months median follow up, following WLE 4.3% (n = 5) developed local recurrence, 2.6% (n = 3) ipsilateral recurrence, and 1.7% (3/175) in total contralateral disease. All local recurrences occurred at two years (3 invasive, 2

DCIS). Of those undergoing WLE who received radiotherapy, 3% (n = 3/97) developed local/ipsilateral disease compared to 26% (n = 5/19) who did not. Of those ER+ve receiving hormone therapy, none (n = 70) developed recurrence, compared to 10% (n = 7) who did not.

Conclusions. Early findings suggest local recurrence rates are low at PHFT. All occurred early (at 2 years). Adjuvant radiotherapy and hormone therapy (if ER+ve) appeared to reduce risk. Further data collection and a subsequent audit is planned to determine the local recurrence rate and compare this to the ABS standard of <10% at 5 years.

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P181. Nurse-led seroma clinic three years on...

Vanessa Hewick, Claire Hall, Steven Goh

Peterborough City Hospital, Peterborough, UK

Introduction: We described our experience of conducting a Breast Care Nurse (BCN)-led seroma clinic over the past three years.

Method: A retrospective audit of prospectively kept clinic records was conducted to evaluate this service. All data from September 2013 to August 2016 were included.

Results: A total of 964 patients were seen in this 36-month study period. This service is run by two BCNs. There was on average one BCN-led seroma clinic per week. The average number of patients seen per clinic was 6. Most patients were pre-booked into these clinics, but urgent patients were commonly accommodated into ad hoc clinics within 2 working days of contacting the breast unit. Over time, this clinic has expanded to include assessing outcome of nurse-led tattoo, reviewing complex wounds, informing benign results and managing breast abscesses. Seroma aspiration (24.3%) and post-operative wound review (27.0%) remain the two highest proportions of clinic attendees.

57 patients (6.2%) required Consultant input. 1% of these patients were purely for antibiotics prescription which BCNs are currently unable to provide.

Conclusion: This new service has provided flexibility and has allowed professional development for the BCNs. It has increased consultant clinic availability and has provided a cost improvement within the unit. With an increasing service demand and an expanding scope of practice, further improvements to the service should include a second weekly clinic and nurse prescribing.

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P182. Setting up a nurse-led nipple areola tattooing service

Vanessa Hewick, Claire Hall, Steven Goh

Peterborough City Hospital, Peterborough, UK

Introduction: We described our experience in developing a Breast Care Nurse (BCN)-led nipple areola tattooing service.

Method: Two BCNs attended training for nipple-areola tattooing at a private clinic and gained accredited certification in the procedure. The next step was to create a unit guideline which included obtaining informed consent, patient selection criteria and documentation. The guideline was endorsed and published on the Trust intranet. BCNs then carried out supervised tattooing sessions with consultant, which then was an in-theatre procedure. On achieving competency, the service was commissioned as a nurse-led service, within the outpatient setting in our breast unit.

Results: A monthly clinic was set up with four potential appointment slots each from March 2015. Between March 2015 and September 2016, 38 patients have been tattooed (average 2 per clinic). Six patients have required bilateral tattooing. Four patients have had 3D tattooing.

An audit on patient satisfaction was carried out. Twenty-five surveys were sent, with 17 responses received (68%). All patients felt that they were involved in the decision-making for shape, position and colour of

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the procedure. 82% were satisfied with the results of their tattooing. Eleven patients (68%) required more than one session.

Conclusion: The service has allowed professional development for our BCNs and has increased theatre capacity for consultants. Patients were satisfied with the cosmetic outcome but improvements in the re-tattooing

rate can be achieved with increased experience and the use of colour chart aid.

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