

Introduction: Therapeutic mammoplasty (TM) may allow women to avoid mastectomy but few well-designed studies have evaluated the success of this approach or compared the short-term outcomes of TM with mastectomy+/-immediate breast reconstruction (IBR). We combined patients recruited to the national trainee-led iBRA-2 and TeaM studies to evaluate the success of TM and to compare the short-term outcomes of TM and mastectomy+/-IBR.

Methods: Patients in the TeaM study who underwent TM to avoid mastectomy were identified and demographic, complication, oncology and adjuvant treatment data compared to patients undergoing mastectomy+/-IBR in the iBRA-2 study. The primary outcome was the rate of successful BCS in the TM group. Secondary outcomes included post-operative complications and time to adjuvant therapy. Appropriate approvals were obtained.

Results: 2,916 patients (TM n=376; mastectomy n=1,532; IBR n=1,068; [implant-based n=675; pedicled-flap n=105; free-flap n=288]) were included in the analysis. Patients undergoing TM were more likely to be obese, smoke and to undergo bilateral surgery than those undergoing IBR. Patients undergoing mastectomy+/-IBR, however were significantly more likely to experience complications than the TM group (TM-21%; mastectomy only-37%; implant-based reconstruction-33%; pedicled-flaps-40%; free-flaps-41%; $p<0.001$). Breast conservation was possible in 87% of TM patients. There were no clinically-significant delays to adjuvant treatment.

Conclusions: TM may allow high-risk patients who would not be candidates for IBR to avoid mastectomy and is associated with significantly fewer complications than IBR. Further work is needed to explore the comparative patient-reported and cosmetic outcomes of the different approaches and to establish long-term oncological safety.

12. PEDICLED PERFORATOR FLAPS (LICAP, MICAP) ARE SAFE AND ECONOMICAL ALTERNATIVES TO MASTECTOMY AND COMPLEX RECONSTRUCTION IN A SELECT GROUP OF PATIENTS

Radhika Merh, Haresh Devalia, Mohsin Dani. *Maidstone and Tunbridge Wells NHS Trust, Maidstone, United Kingdom*

Introduction: Pedicled perforator flaps, such as the lateral intercostal artery perforator (LICAP) and medial intercostal artery perforator (MICAP) flaps, allow volume replacement using autologous tissue in breast conservation surgery (BCS), avoiding complex reconstruction surgery. Here we analyse initial outcomes and cost savings made in a District General Hospital for patients undergoing either technique as part of their oncoplastic breast treatment.

Methods: A prospectively completed database was searched between 01/10/2016 to 31/08/2018 for patients who had either LICAP or MICAP flap in immediate sitting following BCS by two oncoplastic breast surgeons in the same unit. Patients were typically followed up at 2 weeks post surgery with results of the operative histopathology. We reviewed their length of stay (LOS), early post-operative outcomes and short-term financial implications.

Results: 52 patients met the inclusion criteria. Mean LOS was 1 day; there was no flap necrosis observed. Post-operative histology showed 6 patients had positive tumour margin (11.5%); 2 of 6 underwent total mastectomy and 4 of 6 had re-excision of margin, with the flap intact. For 46 patients (88.5%) who did not require a second operation, a mean relative saving of £3300 per case was made, due to no mesh or drains and shorter LOS when directly compared to implant- and mesh-based reconstruction.

Conclusion: LICAP and MICAP flap techniques in BCS are technically feasible with minimal donor site morbidity, early post-operative recovery, excellent cosmetic outcome and good graft reliability. Additionally, they are more cost-effective when compared to complex breast reconstruction. Further long-term follow-up data is required.

13. PATIENT REPORTED OUTCOMES FOR LATISSIMUS DORSI MYOCUTANEOUS FLAP BASED BREAST RECONSTRUCTION – A 10 YEAR EXPERIENCE

Shazia Khan, Emma MacInnes, Irene Athanasiou, Haley Hocking, Ghulam Wattoo, Kadappa Kolar, Clare Rogers, Olumuyiwa Olubowale, Kathryn Rigby, Nazir Kazzazi, Lynda Wyld. *Doncaster & Bassetlaw Teaching Hospitals NHSFT, Doncaster, United Kingdom*

Introduction: The Latissimus Dorsi Myocutaneous Flap (LDMF) is used in post-mastectomy reconstruction or partial reconstruction. This study has evaluated long-term (12 years) patient reported outcomes from LDMF procedures using the Breast-Q.

Method: Retrospective analysis of all LDMF surgery in two UK hospitals was performed between 2006 - 2016. Case note review of indications and outcomes was performed and all patients were sent the Breast Q[®] patient reported outcome survey by post (unless no longer able to participate, deceased or lacking cognitive capacity). Data were analysed using Excel and SPSS.

Results: In total 226 patients were identified and 27 excluded, with 199 questionnaires being sent out in 2018. Median time since LDMF surgery was 7 years (range 2-12 years). Of these, 77 returned completed surveys (response rate 38.7%). Median satisfaction levels were generally high with 78% satisfied with the outcome of treatment, 65% satisfied with their breasts, 71% satisfied psychosocially and 75% satisfied with their chest. Overall satisfaction was high with 3 patients (3.9%) scoring below 50%, 5 (6.5%) between 51-60%, 19 (24%) between 61 and 70, 21 (27%) between 71-80%, 16 (21%) between 81-90% and 13 (17%) between 91-100%.

Conclusion: Long term follow up of a large cohort of LDMF reconstruction patients show high levels of overall satisfaction, demonstrating how temporally robust the technique is. The technique fell out of favour with the rise in popularity of ADM reconstruction although long term outcomes for ADM surgery are not yet available. The LDMF remains a valuable technique for the oncoplastic surgeon.

14. A RANDOMISED CONTROLLED TRIAL (RCT) OF 3-DIMENSIONAL SIMULATION OF AESTHETIC OUTCOME IN BREAST CONSERVING TREATMENT (BCT)

Amy R. Godden^{1,2}, Aikaterini Michal¹, Carol Pitches¹, Lisa Wolf¹, Patricia Alderton³, Katherine D.C. Krupa¹, Peter A. Barry¹, Jennifer E. Rusby^{1,2}. ¹Royal Marsden NHS Foundation Trust, Sutton, United Kingdom; ²Institute of Cancer Research, London, United Kingdom; ³Royal Marsden NHS Foundation Trust, CTU, Sutton, United Kingdom

Introduction: Almost two thirds of women with surgically-managed breast cancer undergo BCT. Standard practice is to describe likely aesthetic changes. Photographs are shown prior to reconstructive surgery or more complex oncoplastic procedures. Simulation of a patients' individual aesthetic outcome has been used in aesthetic breast and facial surgery. We hypothesise that viewing a personalised 3D simulation improves patients' preparedness for surgery.

Methods: REC approved RCT of 117 women undergoing unilateral BCT at a single centre. Three-way randomisation into standard care, viewing photographs matched for BMI, age, and tumour location, or 3D simulation. Randomisation is stratified by BMI, intention to undergo ALND, and operation type (standard WLE v mammoplasty). Primary end point is comparison of a 10cm Visualise Analogue Scale (VAS) between groups for "How confident are you that you know how your breasts are likely to look after treatment?" Sample size calculation was based on a 1.5cm difference between groups (SD of 2.0, Bonferroni correction, 80% power).

Results: 79/117 have been recruited. Median VAS in the control is group 5.9cm; 2D photography, 8.1cm; and 3D simulation, 9.1cm. Preliminary analysis suggests a significant difference between groups (Kruskal Wallis, $p<0.005$). Post-hoc pair-wise comparison suggests significance between control and simulation and 2-D photographs and simulation ($p<0.005$, $p=0.041$ respectively), but not between control and 2-D photography ($p=0.182$).

Conclusions: We will assess fully powered results in January 2019 when recruitment will be complete. Thus far, results suggest 3D simulation is advantageous over viewing 2D-images of other women and over standard care.

15. CAN STRATTICE™ REDUCE THE LONG-TERM INCIDENCE OF CAPSULAR CONTRACTURE COMPARED TO A SUBMUSCULAR IMPLANT BASED BREAST RECONSTRUCTION? – A PROSPECTIVE MULTICENTRE STUDY

Rebecca L. Wilson¹, Katie Stocking^{2,1}, Cliona C. Kirwan^{2,1}, Joseph M. O'Donoghue³, Richard A. Linforth⁴, Richard K. Johnson¹, James R. Harvey^{1,2}. ¹Manchester University NHS Foundation Trust, Manchester,

United Kingdom; ²University of Manchester, Manchester, United Kingdom; ³Newcastle Upon Tyne Hospitals NHS Foundation Trust, Newcastle, United Kingdom; ⁴Bradford Teaching Hospitals, Bradford, United Kingdom

Introduction: There is little long-term data on outcomes of ADM reconstruction and its efficacy. Our aim was to establish the incidence of capsular contracture in the world's largest long-term study of Strattice™-assisted reconstruction compared to a submuscular technique and investigate the role of tonometry as an objective measure of capsular contracture.

Methods: All women who had immediate implant based reconstruction with Strattice™ or a submuscular technique between 2009 and 2015 at three tertiary centres in the UK were invited for prospective clinical examination and tonometry measurements (measurement of intramammary pressure, 0=hard – 10=soft). An eight-year retrospective review of case notes, theatre database and implant log was performed.

Results: 585 patients underwent 553 Strattice™-assisted and 242 submuscular reconstructions with median follow-up of 58 months.

8% in the Strattice™ group and 9% in the submuscular had significant capsular contracture (Baker 3/4), having had no revision surgery. Of the Baker 1/2, 3% of Strattice™ and 12% of submuscular reconstructions had undergone revision surgery for capsular contracture ($p=0.01$). Overall there was more capsular contracture in the submuscular group (12% vs. 22%, $p=0.1$).

Tonometry has a positive correlation with Baker grade ($r=0.66$, $p<0.001$). Baker 1/2 capsules had a softer reading of 5.4 compared to 4.8 in Baker 3/4 capsules, however there was no significant difference between the readings of the two groups.

Conclusion: Strattice™ reduces capsular contracture in breast reconstruction. Isolated tonometry measurements are not sensitive enough to diagnose capsular contracture but serial measurements are likely to detect changes to the implant capsule.

16. CAN PATIENTS WITH MULTIPLE BREAST CANCERS IN THE SAME BREAST AVOID MASTECTOMY BY HAVING MULTIPLE LUMPECTOMIES TO ACHIEVE EQUIVALENT RATES OF LOCAL BREAST CANCER RECURRENCE? A RANDOMIZED CONTROLLED FEASIBILITY TRIAL CALLED MIAMI UK (NCT03514654)

Zoe Winters¹, Nick Roberts¹, Neil McCartan¹, Ingrid Potyka¹, Murray Brunt^{2,3}, Anthony Maxwell^{4,5}, Rosemary Greenwood⁶, Jenny Ingram^{6,7}, Rebecca Kandiyali⁸, Peter Schmid⁹, Norman Williams¹. ¹University College London, Surgery and Interventional Trials Unit (UCL SITU), London, United Kingdom; ²Cancer Centre, University Hospital of North Midlands, Stoke on Trent, United Kingdom; ³Keene University, Stoke on Trent, United Kingdom; ⁴Nightingale Centre, University of Manchester, Manchester, United Kingdom; ⁵Wythenshawe NHS Trust, Manchester, United Kingdom; ⁶Research Design Support Service, South West University Hospitals Bristol NHS Foundation Trust, Bristol, United Kingdom; ⁷Institute of Child Health, University of Bristol, Bristol, United Kingdom; ⁸School of Social and Community Medicine, University of Bristol, Bristol, United Kingdom; ⁹Bart's Cancer Centre, Queen Mary University of London, London, United Kingdom

Background: Oncological safety of treating multiple ipsilateral breast cancers (MIBC) using therapeutic mammoplasty (TM) compared to mastectomy remains uncertain. A National Institute for Health Research (NIHR) - funded MIAMI feasibility phase randomized controlled trial (RCT) aims to demonstrate that sufficient numbers of eligible patients can be identified and accept randomization.

Methods: Phase 3 un-blinded prospective UK RCT. Initially aims to recruit 50 women with MIBC ≥ 40 years randomized in a 1:1 ratio to multiple lumpectomies and TM compared to mastectomy +/- reconstruction. No limitations of numbers of cancer foci with multifocal resectable by a single lumpectomy and multicentric cancers requiring separate lumpectomies. Radiation therapy (RT) will mirror IMPORT HIGH and FAST FORWARD, with individualized planning for potential dual lumpectomy RT boosts.

Results: Five centres screened 374 invasive cancers (June - Nov 2018). MIBC were diagnosed in 49 women (13.1%). Most women were ineligible for MIAMI ($n=40$, 81.6%) with 3 (6.1%) invited to trial participation. Unsuitability for TM was common ($n=16$, 32.7%), and similarly bilateral

breast cancer ($n=9$), previous cancer ($n=7$), neoadjuvant chemo ($n=8$), other cancers ($n=3$), < 2 invasive foci ($n=3$) and exclusive DCIS ($n=2$). Three women declined randomization: two preferring a mastectomy and the other electing TM.

MIAMI TMG proposed major amendments: randomization of MIBC on mammogram and US, with breast MRI restricted to women allocated to TM only; 2:1 treatment allocation of 60 women.

Discussion: MIAMI is a world-first RCT investigating clinical and cost-effectiveness of TM being oncologically equivalent to mastectomy +/-reconstruction in MIBC. The feasibility phase will inform the main RCT.

17. FERTILITY PRESERVATION PROVISION FOR BREAST CANCER PATIENTS IN ENGLAND – A POSTCODE LOTTERY

Isabella Dash¹, Sarah Armstrong^{2,3}, Christobel Saunders⁴, Allan Pacey³. ¹Aneurin Bevan Health Board, Abergavenny, United Kingdom; ²Royal United Hospital NHS Trust, Bath, United Kingdom; ³University of Sheffield, Academic Unit for Reproductive and Developmental Medicine, Sheffield, United Kingdom; ⁴School of Medicine, Division of Surgery, University of Western Australia, Perth, Australia

Introduction: Breast cancer is the most common cancer in women of reproductive age. Current NICE guidelines state that fertility should be discussed at diagnosis because of the impact treatment may have. Also standard eligibility criteria for IVF should not be used. Despite this, we suspect many Clinical Commissioning Groups (CCGs) who fund fertility preservation do apply eligibility criteria. We undertook this study to identify what differences existed.

Method: A 'Freedom of Information' request was sent to all 209 CCGs in England enquiring about eligibility criteria for cryopreservation, options and storage length for breast cancer patients.

Results: We obtained information from 204 CCGs (98%). 58 followed NICE guidelines with no eligibility criteria for cancer patients, 97 had specific policies with eligibility criteria, and 36 did not have separate policies for cancer patients. 15 CCGs stated that patients had to be under 35 years; 54 used 38, 39 or 40 years; and 62 funded cryopreservation up to age 42. 176 CCGs offered embryo cryopreservation and 167 offered oocyte cryopreservation. 97 CCGs offered 10 years' storage. 36 offered 5 years only, 17 offered 3 years and 4 only offered 1 year's worth of storage.

Conclusion: This study reveals that there is a marked difference in the provision of fertility preservation for breast cancer patients across England, contrary to NICE guidelines. Women with breast cancer across England are not getting equal opportunities to an evidence based fertility preservation service.

18. NEW MODEL OF BREAST AFTERCARE - SELF-SUPPORTED MANAGEMENT

Nicola Stubbs, Fiona O'Regan, Sue Bell. Manchester Foundation Trust, Manchester, United Kingdom

Introduction: Ensuring high quality care for people affected by cancer has been a pivotal point for the NHS for many years. The breast team at WATW have implemented an after care model comprising a stratified follow up pathway, which is tailored to meet patient individual concerns, based on promoting recovery, health and well-being, rather than the traditional medical model; subsequently improving patient outcomes and experiences.

Background & Aims: Evidence suggests the traditional model did not meet the individual psychological needs of breast cancer patients. Changes to the traditional breast aftercare pathway were also intended to ensure a better use of NHS resources by the removal of unnecessary follow up appointments.

Method: The initiative was to implement the Macmillan recovery package, providing patients with a 45-60 minute nurse-led treatment summary appointment at the end of initial treatment, all elements of diagnosis, surgery, treatments, potential signs of recurrence and health promotion is discussed. A holistic needs assessment is completed and patients are invited to attend a breast health and well-being event.

A surveillance mammogram is also offered at the appropriate time.

Results: A patient satisfaction questionnaire shows 99% of patients strongly agreed that the aftercare provided met all their needs and 98% felt