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**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)

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**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  $\geq 40$  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

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**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

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**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

confident in contacting their breast care nurse.

This new model won the Macmillan excellence award for service improvement in November 2017.

**Conclusion:** All breast follow up patients' are offered a treatment summary appointment; saving 2,128 consultant follow up appointments to date.

## 19. SURGERY AND SYSTEMIC THERAPY IN OLDER WOMEN WITH EARLY STAGE TRIPLE NEGATIVE BREAST CANCER (TNBC) IN ENGLAND: A POPULATION BASED COHORT STUDY WITHIN THE NATIONAL AUDIT OF BREAST CANCER IN OLDER PATIENTS (NABCOP)

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**Introduction:** Chemotherapy is the only systemic therapy that can be used in TNBC and consequently there are no less toxic systemic treatments for older women with TNBC. The study evaluated the use of surgery and chemotherapy for early stage TNBC in women aged  $\geq 70$  yrs compared to those aged 50–69 yrs, as part of NABCOP.

**Methods:** Women aged  $\geq 50$  yrs with unilateral early stage (1–3a) TNBC in England diagnosed between 2014–2016 were identified from the national cancer registry and linked Hospital Episode Statistics (HES) datasets. Use and details of chemotherapy were obtained from the national Systemic Anti-Cancer Therapy (SACT) dataset.

**Results:** Among 88,115 women aged  $\geq 50$  yrs with early invasive breast cancer, 7% (n=5,734) had TNBC. Of these, 37% were aged  $\geq 70$  yrs. Tumour characteristics were comparable across age groups; most were grade 3 (77%) and TNM stage 2 (54%).

The overall rate of surgery was 94%; only women aged  $\geq 85$  yrs had a substantially lower rate at 76%. Among 5,411 women receiving surgery, 12% received neoadjuvant and 36% adjuvant chemotherapy, and the use of both decreased with age. Lower grade, lower stage, absence of axillary nodal involvement and poor fitness were strongly associated with not receiving chemotherapy.

Women aged  $\geq 70$  yrs were more likely to receive anthracycline-based and less likely to receive a taxane-containing chemotherapy regimen compared to women aged 50–69 yrs. Use of bisphosphonates increased in each study year, across all age groups.

**Conclusion:** Majority of women aged  $\geq 50$  yrs with early stage TNBC received surgery. Fewer fit older women received chemotherapy and prescribed regimens varied by age.

## 20. AURICULAR ACUPUNCTURE IN TREATING MENOPAUSAL SYMPTOMS CAUSED BY BREAST CANCER TREATMENT – A PILOT STUDY

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**Introduction:** Hot flushes affect 51% to 81% of women with breast cancer and negatively impact quality of life. Integrative oncology can be effective at reducing these adverse symptoms. We explored the efficacy of auricular acupuncture in ameliorating symptoms of hot flushes, and improving quality of sleep and feeling of well-being when given to cancer patients within a dedicated support centre.

**Methods:** A prospective pilot study was conducted between April 2016 and August 2017 at a single cancer support centre within the UK. Consent was obtained from 106 patients referred with menopausal symptoms associated with hormonal treatment. Eligible patients were offered four weekly sessions of auricular acupuncture, and subsequent 'top-up' sessions. Participants completed a self-assessment questionnaire at baseline and at end of treatment using an adapted version of the validated Measure Yourself Concerns and Wellbeing evaluation tool.

**Results:** 77.4% of patients reported improvement in hot flush symptoms. At baseline, most patients reported severe hot flushes, improving to moderate after treatment, Wilcoxon Signed Ranks Test Z value = -8.24,  $p < 0.001$ . On a Likert scale of 0 to 6, this was equivalent to a reduction by 2 Likert points (95%CI 1.93 to 2.42,  $p < 0.001$ ). Sleep quality was better in 66% with equivalent reduction of 1.72 Likert points (95%CI 1.44 to 2.00,  $p < 0.001$ ). Well-being was better in 52.8%, improving from moderate to mild; 1.03 point reduction (95%CI 0.76 to 1.30,  $p < 0.001$ ).

**Conclusion:** Auricular acupuncture reduced the severity of hot flushes, and improved sleep quality and well-being.

## 21. OUTCOMES OF VASCULARISED LYMPH NODE TRANSFER FOR MANAGEMENT OF BREAST CANCER RELATED LYMPHOEDEMA

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**Introduction and Aims:** Lymphoedema can be a debilitating consequence of breast cancer treatment. Vascularised lymph node transfer (VLNT) is a relatively novel surgical technique for management of this condition. The aim was to evaluate the effectiveness and patient reported outcomes of VLNT.

**Material and Methods:** Between November 2012 and October 2017 sixteen patients underwent VLNT in combination with delayed deep inferior epigastric artery perforator (DIEP) free flap breast reconstruction. Pre and postoperative measurements of arm circumference at 3 fixed points were recorded. Patients were invited to complete a validated quality of life questionnaire for limb lymphoedema (LYMQOL).

**Key Results:** Postoperative upper limb measurements at all 3 points were significantly reduced from preoperative values ( $p < 0.005$ ). The circumferences of the upper limbs were reduced by an average of 3.8% at the deltoid insertion; 3.3% at the upper forearm and 5.2% at the wrist.

LYMQOL results following VLNT showed significant reductions on the effects of lymphoedema on patients' lives with statistically significant improvements in 4 of 5 domain scores - appearance, function, symptoms and QoL (all  $p < 0.008$ ).

**Conclusion:** VLNT is a promising surgical option for women with breast cancer related lymphoedema undergoing delayed DIEP reconstruction. It improves signs and symptoms of lymphoedema and significantly improved quality of life in these patients.

## 22. SNAKES AND LADDERS: THE HIGHS AND LOWS OF THE BREAST CANCER JOURNEY AND CLINICAL NURSE SPECIALIST INTERVENTION

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Breast clinical nurse specialists were invited to demonstrate the variety of work they do to other cancer CNS teams and senior leaders within the trust in order to increase understanding of their role.

The National Institute for Healthcare and Excellence (NICE) guideline for early and locally advanced breast cancer advises that all people with breast cancer should have a named clinical nurse specialist (NICE 2018).

As breast clinical nurse specialists we wanted to demonstrate our role in a visual and easily accessible way. We therefore created a large, colourful poster of a 'Snakes and Ladders board' with specific problems faced by breast cancer patients and outcomes of interventions attached. This was a pictorial analogy to represent the highs and lows seen in the breast cancer journey from diagnosis through surgery and adjuvant treatments to living with and beyond cancer.

The snakes represent the emotional, physical and psychological lows of the journey. The clinical nurse specialist intervention is noted at the bottom of the snake to identify the holistic support given.

The ladders represent the tools provided by the clinical nurse specialist to enable the person to climb the rungs to a better sense of control, emotional well-being, body image and ultimately self-management.

The board brought about a lot of discussion. It increased engagement with other cancer site clinical nurse specialists and senior managers and raised awareness of how breast clinical nurse specialists are implementing the NHS 6Cs (NHS England 2016) and our Trust's Journey to Outstanding (GHNHSFT 2018).