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

Introduction: For patients with early invasive breast cancer (EIBC), radiotherapy (RT) is administered in multiple visits, and longer travel times may reduce its use. We examined the relationship between travel duration and receipt of adjuvant RT in England among patients who received breast-conserving surgery (BCS) or mastectomy.

Methods: The study used patient data collated by the National Disease Registration Service and included women (aged ≥ 50 years) diagnosed with Stage 1–3a breast cancer between 2014 and 2018 in England. Travel duration was defined as car journey time from patients' homes to their nearest RT centre. The relationship between non-receipt of RT and travel duration was analysed using Poisson regression, with adjustment for patient characteristics.

Results: Among 81,064 women who had BCS, the proportion of women with a journey time of less than 10 minutes who did not have RT was 8.4% compared to 13.2% among those living over 50 minutes away (Adjusted Incidence Rate Ratio (IRR)=1.65; 95%CI: 1.45–1.88). Among 29,800 women who had mastectomy, the proportion of women with a journey time of less than 10 minutes who did not have RT was 54.6% compared to 57.8% of those living over 50 minutes away (adjusted IRR=1.14; 95%CI: 0.99–1.30). In both BCS and mastectomy analyses, older age and a greater number of comorbidities increased the likelihood of women not receiving RT.

Conclusion: For women with EIBC who had BCS or mastectomy in England, longer journey times had a modest association with lower use of adjuvant RT. Discussions about treatment options should not overlook travel burden.

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CAN WE DE-ESCALATE SURGICAL TREATMENT FOR DCIS?

Aisling Eves¹, Andrew Pieri², Ross McLean², Nerys Forester². ¹Newcastle University, Newcastle, United Kingdom; ²Royal Victoria Infirmary, London, United Kingdom

Background: DCIS accounts for 20% of malignancies diagnosed by the breast screening programme and is primarily managed by surgical excision. This study aims to investigate how often DCIS is fully removed via core biopsy, thereby negating the need for surgery.

Methods: This was a single-centre retrospective cohort study of 101 consecutive breast screened patients diagnosed with DCIS who underwent surgical excision. All patients diagnosed with DCIS had radiological abnormalities < 15 mm. Clinical, radiological, and histological data were collected from patients who had been diagnosed within a 5-year period, and a complete excision by core biopsy was defined as 0mm of DCIS found in the surgical specimen.

Results: Complete DCIS excision following core biopsy was 21.8% (n=22). The median mammographic size of DCIS was 8mm (range: 4–14mm), median number of cores was 8 (3–16) and median biopsy weight was 1.82 grams (1.1–7.5g). There were no significant differences in mammographic size (10mm, p=0.06), number of cores (9, p=0.14), or biopsy weight (2.73, p=0.26) for those who had incomplete excision. Complete excision was seen in 40% of low-grade DCIS cases, 29% of intermediate-grade, and 16% of high-grade DCIS (p=0.19).

Conclusion: There are no clear factors which predict complete excision by core biopsy in screen-detected DCIS. It is possible that DCIS < 15 mm could be excised with VAE techniques but further investigations are needed to determine this. In low-grade DCIS further work could be considered due to higher rates of complete excision with core-biopsy. We would recommend following relevant guidelines to proceed to surgical excision where appropriate.

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

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

Introduction: Window of opportunity trials allow the opportunity to demonstrate pharmacodynamic parameters of a drug in vivo and are increasingly used in the context of breast cancer. Most breast cancer tumours are oestrogen receptor-positive (ER+), and multiple treatment options exist for this tumour subtype. The aim of this systematic review was to collate window of opportunity trials pertaining to the pharmacodynamic activity of drugs available for use in oestrogen receptor-positive breast cancer.

Methods: Five appropriate databases (EMBASE, Cochrane, MEDLINE, PubMed, Web of Science) were searched for eligible studies investigating ER+ patient populations with a window of exposure < 31 days. Study selection based on eligibility was performed in a stepwise fashion (via title, abstract and then full-paper text). Relevant findings were consequently extracted and analysed.

Results: Fifteen eligible studies were found, representing six different drug classes (Als, SERMs, SERDs, mTOR inhibitors, AKT inhibitors and oestrogens). Proliferative marker Ki67 was significantly downregulated in all drug classes except for oestrogens. Most endocrine therapies (ETs) prompted a significant fall in both oestrogen receptor and progesterone receptor expression, while both SERMs and oestrogens significantly increased SHBG protein expression in post-treatment biopsies.

Conclusions: Multiple treatment options exist to decrease the proliferative capacity of oestrogen receptor-positive breast cancer tumours, as demonstrated by widespread downregulation of Ki67. This review demonstrated the predictive value of numerous lesser-established biomarkers including pS6 and pAKT and illustrated the requirement for subsequent research into window of opportunity trials.

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

Melissa Gannon¹, David Dodwell², Katie Miller¹, Kieran Horgan³, Karen Clements⁴, Jibby Medina¹, Ian Kunkler⁵, David Cromwell¹. ¹Clinical Effectiveness Unit, The Royal College of Surgeons of England, London, United Kingdom and London School of Hygiene & Tropical Medicine, London, United Kingdom; ²Nuffield Department of Population Health, University of Oxford, Oxford, United Kingdom; ³Department of Breast Surgery, St James's University Hospital, Leeds, United Kingdom; ⁴National Cancer Registration and Analysis Service, NHS Digital, Birmingham, United Kingdom; ⁵University of Edinburgh, Edinburgh, United Kingdom

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

Methods: Women aged ≥ 50 years undergoing surgery for EBC from Jan-2019 to Jul-2020 were identified from the Rapid Cancer Registration

Dataset for England and Wales Cancer Network data, linked to routine national hospital and radiotherapy datasets.

Results: Among 35,561 women having surgery for EBC, 71% received post-operative radiotherapy. Receipt of 26 Gray in five fractions (26Gy5F) increased from 12% in Mar-2020 to 70% in Apr-2020. Regional variation in the use of 26Gy5F during Apr-Jul 2020 was similar by age, ranging from 49–87% among older women. Use of 26Gy5F was characterised by no known nodal involvement, no comorbidities, initial BCS. Of radiotherapy to the breast/chest wall, 85% was 26Gy5F; 23% if radiotherapy included regional nodes.

Conclusions: There was a striking increase in use of 26Gy5F regimens for EBC, among women (≥ 50 years), within a month of recommendations in guidance published at the start of the COVID-19 pandemic in England and Wales. This work includes patient data collated by the National Disease Registration Service.

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

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

Introduction: Oncotype DX Breast Recurrence Score (RS) has proven to be useful in predicting the risk of recurrence and the potential benefit of chemotherapy in hormone-receptor positive, HER-2 negative early-stage breast cancer patients. The aim of this study (part of service evaluation) was to explore the role of Oncotype DX recurrence scores in the treatment of older versus younger women, treated within the Hywel Dda Health-Board between 2010 to 2018.

Methods: Patients' demographics and treatment were retrieved from CANISC database and medical records. 10-year survival data was computed using SPSS vs-19.

Results: A total of 448 patients had Oncotype Dx testing done for early-stage, ER/ PR positive, HER-2 negative breast cancer. 395 patients were aged 69 or less and 53 were aged 70 and above. The proportion of patients with low (<18), intermediate (18–30), and high (>30) RS were not different among older versus younger women ($p=0.468$). The proportion of patients receiving chemotherapy decreased with age in all RS categories. This difference was statistically significant in the high RS category ($p=0.015$). The median follow-up was 61 months (range 0–120 months). 5yr breast cancer specific survival was statistically worse for patients older than 70 years with intermediate RS (78% vs 99%, $p=0.005$) and high RS (39% vs 91%, $p=0.032$).

Conclusion: Older patients with high Oncotype DX RS are less likely to receive chemotherapy. They also have worse BCSS as compared to younger women. Frailty and omission of chemotherapy may have contributed to the worst survival in older women, which needs further exploration.

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

Dharsshini Reveendran¹, Catherine Tait², Brian Hogan³. ¹Leeds General Infirmary, Leeds, United Kingdom; ²Bradford Teaching Hospitals NHS Foundation Trust, Bradford, United Kingdom; ³Leeds Teaching Hospitals NHS Trust, Leeds, United Kingdom

Introduction: Neoadjuvant chemotherapy (NACT) is increasingly used to aid breast preservation surgery for patients with non-conservable disease at presentation. NICE guidelines recommend offering primary systemic therapy to patients with ER- disease and/or HER2+ disease and for those with ER+ disease to reduce tumour size. This retrospective study aimed to analyse the incidence of local and systemic recurrence post NACT.

Methods: A retrospective analysis of NACT usage was conducted from January 2011 to December 2020 at the Bradford Royal Infirmary. Clinical data of patients who received NACT were collected using the local Breast

Unit database, Electronic Patient Record (EPR) and Systm1. Data included patient demographics, type of breast and axillary surgical procedure, histopathology of breast tumour, pathological response to NACT and time to local and/or systemic recurrence.

Results: 202 patients received NACT for breast cancer between January 2011 to December 2020. Analysis showed an increasing use of NACT ranging from 2.19% of all cancers in 2013 to 14.5% in 2020. 89/202 patients underwent breast preservation surgery. 1 patient developed local recurrence at median follow up of 26 months. 42 patients developed systemic recurrence, and 40 of them had residual disease found at surgery post NACT at median follow up of 24 months.

Conclusion: Our unit has been increasingly using NACT over the last 8 years in line with guidance. Breast conserving surgery post NACT is associated with a low risk of local recurrence. The risk of systemic disease progression post NACT is very low for patients who have complete pathological response.

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AUDITING A NIPPLE AREOLA MICROPIGMENTATION CLINIC

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

Introduction: A nurse-led nipple areola micropigmentation service commenced in 2012. The service was audited in 2013 and 2015. The clinic was suspended during the first wave of COVID-19 and then reaudited when it restarted in 2021.

Methods: The first 10 consecutive patients were asked to complete the audit. The audit tool was the same used for similar purposes in 2013 and 2015. The tool consists of two likert scales asking the patient how informed and involved they felt in decisions regarding shape, position and colour of the new nipple-areola, and how satisfied they were with results. An additional question asking how safe they felt from a C-19 point of view was added.

Results: The first 10 consecutive patients agreed to take part in the audit. The patients had a combination of implant-based and autologous reconstruction. 9 felt very informed and involved in decisions about the shape, position and colour (10/10, one 8/10). 9 felt very satisfied with the results (10/10). 1 patient rated 9/10. Free text comments included;

- Having the procedure has enhanced my contentment
- Excited and pleased
- It gives confidence
- It's very satisfying to know that this could potentially be the final part of a very long process
- Aesthetically it will improve my confidence
- I am pleased. Just need to go a bit darker next visit
- Was a good procedure and has helped me feel a bit more 'complete' as a woman
- Elated, relieved

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

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CONTENT SPECIFICATION FOR A PATIENT DECISION AID FOR BRCA MUTATION CARRIERS

Yvonne Hanhauser¹, Sarah McGarrigue², Manria Polus², Carol Spillane¹, Niamh Byrne¹, Geraldine Prizeman², Amanda Drury³, Elizabeth Connolly⁴, Anne-Marie Brady². ¹St James's Hospital, Dublin, Ireland; ²Trinity College Dublin, Dublin, Ireland; ³University College Dublin, Dublin, Ireland; ⁴St James's Hospital, Dublin, Ireland and Trinity College Dublin, Dublin, United Kingdom

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