European Journal of Surgical Oncology 50 (2024) 107141

Contents lists available at ScienceDirect

European Journal of Surgical Oncology

journal homepage: www.ejso.com

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COMPARATIVE ANALYSIS OF LOBECTOMY AND SUBLOBAR RESECTION IN NON-SMALL CELL LUNG CANCER: A PROPENSITY-MATCHED STUDY

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Background: Lung Cancer is the primary cause of cancer-related death, with non-small cell lung cancer (NSCLC) accounting for 85% of tumours. Lobectomy remains the gold-standard treatment for such patients. A shifting paradigm towards minimising surgical trauma has given rise to lung-sparing procedures like sublobar resection. This may benefit patients with limited cardiopulmonary capacity or high comorbidity index. This study aims to compare survival outcomes between lobectomy and sublobar resection.

Method: This retrospective cohort study compared recurrence-free survival (RFS), overall survival (OS) and postoperative outcomes in lobectomy and sublobar patients between 2013 and 2023 (n=3983). Propensity-matched analysis was employed to adjust for treatment selection bias, incorporating eight covariates (n=528). Comparison of baseline and post-operative characteristics involved Wilcoxon rank sum test, Fisher's exact test, Mann-Whitney U test and Pearson's Chi-squared test. Kaplan Meier estimates and Multivariate Cox Regression were used to evaluate survival.

Results: No significant inter-cohort differences were observed in either RFS (p=0.31), OS (p=0.40), or 90-day mortality (p=0.60). Sublobar resection was associated with a shorter post-operative length of stay (p<0.05). Both approaches demonstrated comparable resection margins and complication rates. The significant predictors of survival were age (p=0.015), sex (p=0.018) and Eastern Cooperative Oncology Group performance status (p=0.020).

Conclusion: These findings challenge the prevailing notion that lobectomy should be the main-stay treatment, demonstrating that sublobar resection is non-inferior to lobectomy in terms of RFS and OS while offering improved postoperative outcomes. These results emphasise the need for a tailored approach that reflects the evolving understanding of this multi-faceted disease.

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UNVEILING CHANGE: IMPACT OF GUIDELINE REVISIONS ON 2-WEEK WAIT COLORECTAL REFERRALS

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Introduction/Background: The Two Week Wait (2WW) system serves to refer patients with suspected colorectal cancer for urgent evaluation. In recent years, NICE has undergone several revisions to these referral guidelines, particularly in 2017, when FIT testing was integrated. This study examines how these guideline changes have influenced patient characteristics, choice of investigations, and diagnostic outcomes.

Method: A retrospective analysis was conducted to compare 2 sets of 2WW referrals to our colorectal unit: one prior (January to April 2013) and one following (October 2022 to March 2023) several guidelines changes. Parameters were obtained by reviewing electronic medical records.

Results: 100 patients from 2022/3 and 100 patients from 2013 were included. In 2022/3, the primary factor leading to referrals was a positive FIT test (53%) whereas in 2013 it was a change in bowel habit (52%). A higher proportion of patients underwent invasive investigations in 2022/3 (93%) compared to 2013 (81%) (p<0.05), with colonoscopy being the preferred method for both cohorts (73% and 63%). There was no significant difference in the rate of colorectal cancer detection between the two time periods (1% in 2022/3 vs. 2% in 2013, p=0.55). The most frequent outcome following investigations in both groups, was a normal result (59% vs 48% pre-change).

Conclusion: We found a shift towards more invasive investigations in recent years, driven by factors such as FIT testing. However, the guidelines changes did not significantly impact the overall colorectal cancer detection rate. This study emphasises the necessity to revise referral pathways.

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INFERIOR VENA CAVA LEIOMYOSARCOMA: COMPREHENSIVE LITERATURE REVIEW, META-ANALYSIS AND REPORT OF TWO CASES

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Background: Primary inferior vena cava leiomyosarcoma (IVC LMS) is a rare, aggressive cancer. Without early diagnosis and complete surgical resection, prognosis remains poor. Here we report two cases in the context of a literature review and analysis.

Methods: The first patient, an 87-year-old female was diagnosed with primary IVC LMS and underwent mass excision and IVC reconstruction. She had a complicated postoperative course and succumbed on post-operative day 17. The second patient, a 59-year-old female underwent excision of an IVC mass with reconstruction. She recovered well and was alive at last recorded follow-up. A comprehensive literature search was performed in March 2023 using PUBMED. Studies in English literature reporting primary IVC LMS with patient data were included. Demographic and clinical variables were extracted. A meta-analysis of overall survival and progression-free survival was performed.

Results: Of 539 identified studies, 201 met criteria. The median age was 55 years, with the majority female. Abdominal pain was the most common presenting complaint. Disease commonly extended to both kidney and liver. Approximately 70% of patients were alive at follow-up of 24 months. 37% experienced recurrence. Median overall survival was 22 months and progression-free survival was 12 months. Subset meta-analysis demonstrated median survival of 32.6 months and progression-free survival of 8.6 months.

Conclusion: All isolated primary IVC tumours, especially in females, should be suspected of malignancy to avoid negative outcomes. En block

surgical resection is potentially both diagnostic and curative.

Table 1. Demographic and clinical variables of patients included in literature analysis

	Studies included (N)	Patients included (N)	Median or proportion (%)
Demographics			
Age	195	731	55 years
Female	199	880	73.8%
Presenting Symptoms*			
Abdominal pain	189	597	46.6%
Back pain	186	350	13.1%
Abdominal mass/distension	189	597	22.8%
Incidental finding	187	376	6.4%
Nausea or vomiting	185	342	9.1%
Edema	187	570	27.5%
Dyspnea	185	330	8.2%
Weight loss	185	540	14.1%
Organ involvement*			
Kidney	190	432	23.6%
Heart	184	322	6.5%
Liver	184	322	17.1%
Adrenal	184	322	6.8%
Other	184	322	9.0%
Outcomes			
Alive at follow-up	195	809	69.7%
Dead at follow-up	195	809	30.3%
Recurrence	194	559	37.2%
Overall survival time	22	139	22 months
Progression free survival time	35	114	12 months
Meta-analysis, overall survival time	8	30	32.6 months
Meta-analysis, progression-free survival time	7	27	8.6 months

N = number.
*: 'Presenting Symptoms' and 'Organ Involvement' were not mutually exclusive

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107145 TENASCIN-C AS A TARGET FOR INTRA-OPERATIVE MARGIN ASSESSMENT IN PATIENTS AFTER NEO-ADJUVANT CHEMOTHERAPY

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Background: Re-excision rates following breast-conserving surgery (BCS) are so high, some publications have referred to it as an epidemic; especially after neoadjuvant chemotherapy (NACT). Intraoperative margin assessment is limited in this patient group. This retrospective analysis investigates using tenascin-C (TN-C), an extracellular matrix protein up regulated in breast cancer, as a target for intraoperative margin assessment in BCS post-chemotherapy.
Materials and Methods: A cohort of 24 breast cancer patients who had NACT participated in the study. Pre-treatment core biopsies and post-treatment breast specimen samples paraffin embedded and stained with anti-TNC antibody. The distribution and intensity of TNC expression were analysed using a pre-determined scoring system. Statistical analysis included Spearman's correlation and Wilcoxon sign tests, with a significance level set at $p \leq 0.05$.
Results: The sensitivity and specificity of TN-C for margin assessment pre-NACT was 85% and NA; post NACT it was 56.25% and 53.33%, respectively. And the latter increased to 100% and 60% in samples with at least moderate (>1.5 score) pre-NACT invasive edge expression. Additionally, complete pathological response was correlated to a decrease in TN-C expression ($r=-0.57$, $p=0.003$).
Conclusions: TN-C expression is feasible for use in margin assessment for post-NACT breast cancer lesions with at least moderate TN-C expression at their invasive edge pre-NACT. Our findings suggest post-NACT TN-C expression could be a prognostic indicator and change in TN-C expression after NACT could evaluate response to therapy; further investigation should be conducted to validate this.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107146 A RETROSPECTIVE STUDY OF PATIENT OUTCOMES FOLLOWING INVOLVED OR CLOSE MARGIN BASAL CELL CARCINOMA EXCISION.

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Introduction: This study aims to analyse patient management and outcomes following involved/close-margin Basal Cell Carcinoma (BCC) excision to investigate what factors influence the risk of involved/close margin excision and contribute to recurrence.
Methods: 18602 histology reports of patients treated with BCCs in the CUH Plastic Surgery Department from 2015-2021 were collected. After applying inclusion criteria, 160 involved and 500 close-margin primary BCCs were identified, these were studied further with variables including histology, location and surgical margins. Patients were followed up for 2 years minimum, looking at further treatment and for evidence of recurrence.
Results: Histologically, 80.1%/91.2% of involved/close BCCs showed a nodular component. 52.6%/36.6% of involved/close BCCs had a high-risk histological component and 7.5%/2.9% showed perineural invasion. Following involved/close-margin excision, patients underwent re-excision (39.1%/6.6%), were followed up (32.7%/25.9%), underwent Mohs (9.6%/1%) or were discharged (1.9%/62.5%). Residual cancer was found in 44.8%/12.5% involved/close re-excisions and 35.7%/20% involved/close follow-up Mohs operations. Amongst involved-margin BCCs, 3 cases of recurrence (1.9%) were identified, all showing high-risk histology. 4 cases of recurrence (0.81%) were identified in close-margin BCCs, 3/4 showed low-risk histology. None of the recurrences received active treatment after involved/close-margin excision.
Conclusions: This relatively large study highlights the factors that contribute towards involved/close-margin excision (infiltrative/micronodular histology, perineural invasion). It raises questions around what optimal follow-up should involve, especially concerning high-risk involved and low-risk close-margin BCCs. These findings will help inform evidence-based patient choices and guide doctor recommendations for involved/close-margin BCC excisions.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107147 AN IN-VITRO EVALUATION OF THE PHOTOTHERAPEUTIC PROPERTIES OF INDOCYANINE GREEN FOR INTEROPERATIVE PHOTODYNAMIC AND PHOTOTHERMAL THERAPY IN CHONDROSARCOMA

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Background: Chondrosarcomas are a rare, treatment resistant, cartilaginous malignancy, clinically managed through surgery. In Newcastle indocyanine green (ICG) is used for fluorescence guided resection of sarcomas. Alongside its fluorescent abilities, ICG is a photosensitizer with potential use in photodynamic and photothermal therapy. This project aims to assess the phototherapeutic properties of ICG for intraoperative phototherapy in chondrosarcoma.
Methods: HT1080 and three primary patient cell lines were subjected to treatment with ICG (0-100μM) and infrared radiation (IR) or ambient light (AL); alongside patient tumour samples containing ICG, and solutions of ICG. An infrared thermometer measured surface temperature change; reactive oxygen species (ROS) were measured via cell staining and fluorescent intensity measurement of CellROX; and cytotoxicity was evaluated via flow cytometry with LIVE/DEAD and cell counting kit-8 assays. Statical analysis was performed by two-way ANOVA.
Results: Treatment with ICG and IR produced significantly increased

(p=<0.05): temperature change corresponding to ICG concentration, with an average peak temperature change across experiments of +17.7ºC at 15min for 50μM vs +11.3ºC at 30min for 0μM; ROS levels, with almost all ICG concentrations showing increased ROS vs corresponding AL samples, and an increase in ROS with ICG concentration; cytotoxicity in cell lines and patient tumour samples vs AL (Table 1&2), with therapeutic efficacy decreasing with IR intensity and duration, and ICG concentration.
Conclusion: ICG and IR produced a photothermal, photodynamic, and cytotoxic effect in an ICG concentration range corresponding to patient tumours, indicating phototherapy with ICG may benefit chondrosarcoma patients after further testing.

Concentration of ICG (μM)	Percentage Viability in Cell Lines Compared to Cells Treated with 0μM of ICG and Different Light Source Exposure (%)							
	HT1080 Cells (Dedifferentiated Chondrosarcoma)		Primary Cell Line 1 (Dedifferentiated Chondrosarcoma)		Primary Cell Line 2 (Grade 3 Chondrosarcoma)		Primary Cell Line 3 (Grade 2 Chondrosarcoma)	
	Ambient Light	Infrared Radiation	Ambient Light	Infrared Radiation	Ambient Light	Infrared Radiation	Ambient Light	Infrared Radiation
0.01	92.3	52.8	84.0	50.1	87.0	35.2	98.6	102.1
0.1	110.8	44.7	74.0	35.4	76.3	22.5	84.0	55.4
1	88.2	38.8	80.0	58.8	77.8	17.0	68.3	40.9

Table 1. Mean percentage viability of cell lines 72 hours post treatment with different concentrations of ICG and either 20 minutes of IR or AL, calculated from cell counting kit-8 assays compared to cells treated with 0μM of ICG and the same light conditions, with three replicates for primary cell lines and 6 replicates for HT1080 cells.

Dedifferentiated Chondrosarcoma Patient Tumour (Sample Number)	Percentage of Non-viable Cells After Different Light Source Exposure (%)	
	Ambient Light	Infrared radiation
1	20.9	36.0
2	7.1	12.6
3	3.6	5.3

Table 2. Mean percentage of non-viable cells in samples from a patient, taken during tumour resection, who was administered ICG on induction, and subsequently treated *in vitro* with 20 minutes AL or IR, before being prepared and analysed by flow cytometry immediately post treatment. Two specimens from each sample were analysed.

Abstracts for BASO Trainees Oral Prize Presentation at the BASO Annual Scientific Meeting: 6th-7th November 2023

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107148 THE RELATIONSHIP BETWEEN FRAILTY, MALNUTRITION, BMI, DISEASE STAGE, SYSTEMIC INFLAMMATION AND SURVIVAL IN PATIENTS UNDERGOING SURGERY FOR COLORECTAL CANCER

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Background: Frailty has been shown to be a robust predictor of short-term outcomes in patients undergoing surgery for colorectal cancer (CRC). The relationship with long-term survival outcomes in CRC has sparsely been studied.
Method: Consecutive patients who underwent elective, potentially-curative, resections for CRC, between April 2008 and April 2018, were identified from a prospectively maintained database. Frailty was defined using the modified five-item frailty index (mFI-5). Outcomes of interest were cancer-specific and overall survival. Associations between frailty, malnutrition risk, disease stage, systemic inflammation and survival outcomes were examined using uni- and multivariate hazard regression analysis.
Results: 1002 patients met the inclusion criteria. 434% (n=345) of patients were <65 years of age and 55% (n=554) were male. 28% (n=221) of patients were frail (mFI-5 score ≥2). Of those who were pre-operatively screened, 18% (n=174) of patients were at risk of malnutrition. 36% (n=358) of patients had TNM stage III disease. 48% (n=479) of patients had an NLR ≥3 and 27% (n=271) had an mGPS≥1. On univariate analysis, frailty was significantly associated with overall survival (p<0.05), but not cancer-specific survival (p=0.091). On multivariate analysis, age (p<0.05), malnutrition risk (p<0.001), TNM stage (p<0.001), mGPS (p<0.05), NLR (p<0.05) remained significantly associated with overall survival, but not frailty (p=0.102) or BMI (p=0.245).
Conclusion: Frailty was significantly associated with overall survival outcomes in patients undergoing elective resections for CRC. However, when considered with other prognostic factors, specifically malnutrition, disease stage and systemic inflammation, it was not independently associated with survival.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107149 INCREASING TUMOUR INFILTRATING LYMPHOCYTES THROUGH EXERCISE ALONE IN OESOPHAGEAL ADENOCARCINOMA

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Background: The immune system is highly responsive and positively adapts to exercise. A single bout of exercise results in the systemic mobilisation of highly functional effector CD8+ T cells and NK-cells. Murine cancer models have shown that exercise reduces tumour burden by increasing the frequency of tumour-infiltrating lymphocytes (TILs). There are no studies assessing the impact of an exercise programme on the levels of TILs in patients with solid tumours.
Methods: We recently completed a 16-week randomised prehabilitation exercise program (NCT02950324) in oesophageal cancer patients before surgical resection. Exercise was a low-to-moderate intensity twice supervised, thrice home-based weekly program. Tumour specimens obtained at resection were formalin fixed paraffin embedded (FFPE) for multispectral immunohistochemical analysis of the immune cell infiltrate.
Results: During our exercise program, physical fitness and well-being were maintained rather than significantly reduced in the intervention group compared to the control group. Multispectral analysis observed that 3.2%±1.1% of cells in the tumours were CD8+ T cells compared to 1.4%±0.5% in the control group (p<0.001). Furthermore, we observed positive associations between increased frequencies of CD8+TILs, Granzyme B+/CD8+TILs and larger increases in exercise induced aerobic capacity. These data suggests that the more exercise can increase aerobic fitness, the greater the likelihood of increasing functional TILs.
Conclusions: New approaches to improve outcomes following surgery for oesophageal adenocarcinoma are required. One such approach is immunotherapy. Increasing TILs through exercise programmes that are designed to maintaining or improve aerobic capacity may improve patients' response to immunotherapy and positively impact prognosis and survival.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107150 TEMPORAL TRENDS AND UNBALANCED DISTRIBUTION, IN PEDIATRIC MALIGNANT MELANOMA IN 204 COUNTRIES AND TERRITORIES, 1990-2019

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Background: Malignant melanoma is a rare occurrence in the paediatric population and suffers from a dearth of epidemiological data. Consequently, the burden of this condition is often unestimated. This study aims to estimate the distributions and temporal trends associated with paediatric malignant melanoma.
Methods: Data specific to the paediatric population (<20 years old) concerning malignant melanoma were extracted from the Global Burden of Disease (GBD) Study 2019, stratified by Socio-demographic Index (SDI) and WHO region. The data encompassed incidence, mortality, and disability-adjusted life-years (DALYs). Join point regression analysis was employed to assess temporal trends. Quality of care index (QCI) was computed using a principal component analysis.
Result: In 2019, the global age-standardised incidence, mortality, and DALYs rates of paediatric malignant melanoma were estimated at 0.13 , 0.02 and 1.46 per 100,000 population, respectively. From 1990 to 2010, an increase in incidence was noted (0.95, 95% UI: 0.89 to 1.02), while mortality (-0.62, 95% UI: -0.71 to -0.53) and DALYs (-0.58, 95% UI: -0.67 to -0.50) exhibited a decline. Similar trends were observed across all WHO

regions and SDI quintiles. The global QCI for EOBC in 2019 was 87 while Somalia was noted to have the lowest QCI (15). The incidence rate was predominantly observed in European regions and high SDI regions, whereas the disease burden was more pronounced in low SDI regions and African regions.
Conclusion: This study highlights that paediatric malignant melanoma remain rare but having a disproportionate global distribution, warranting targeted strategies to tackle this issue.

Abstracts for Ronald Raven Oral Presentation at the BASO Annual Scientific Meeting: 6th-7th November 2023

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107151 INTERNATIONAL VALIDATION OF THE LOCALLY RECURRENT RECTAL CANCER – QUALITY OF LIFE (LRRC-QOL) MEASURE

Niamh McKigney [1], LRRC-QoL. Collaborators [1], Galina Velikova [2,3], Julia Brown [1], Deena Harji [1,4]. [1] *Clinical Trials Research Unit, University of Leeds, Leeds, UK;* [2] *Leeds Institute of Medical Research at St. James's, University of Leeds, Leeds, UK;* [3] *St. James's Institute of Oncology, St. James's University Hospital, Leeds, UK;* [4] *Department of Colorectal Surgery, Manchester University NHS Foundation Trust, Manchester, UK*

Background: The LRRC-QoL measure of health-related quality of life (HrQoL) in locally recurrent rectal cancer (LRRC) was developed and validated for use in the UK and Australia. The aim of this study was to externally validate the LRRC-QoL in an international cohort.
Method: Patients were recruited in two workstreams, workstream I was a study to cross-culturally adapt the LRRC-QoL, workstream II was a prospective, longitudinal cohort study of HrQoL. Ethical approval was gained at each site. Scale structure was assessed through confirmatory factor analysis (CFA). Reliability was assessed using Cronbach's Alpha and Intraclass Correlation Coefficient (ICC). Convergent validity was assessed against EORTC QLQ-C30, EORTC QLQ-CR29, and FACT-C scales using Pearson's Correlation Coefficient (r). Known groups' comparison was assessed through independent t-tests and ANOVA. Responsiveness was assessed through effect sizes (ES) and standardised response means (SRM).
Results: 204 patients were recruited from 26 sites in 13 countries. The LRRC-QoL scale structure demonstrated excellent goodness of fit when assessed in combination with 117 patients from the original validation study. Most scales demonstrated good reliability, with Cronbach's Alpha and ICC >0.7. Convergent validity confirmed several hypothesised correlations. Known groups' validity was demonstrated for gender, pattern of recurrence, pre-operative treatment, treatment intent, and presence of metastases. The LRRC-QoL demonstrated excellent responsiveness, with patients undergoing surgery reporting worse HrQoL at 3- (p=0.00, ES 0.57, SRM 0.50) and 6-months (p=0.001, ES 0.37, SRM 1.11).
Conclusion: The LRRC-QoL demonstrated excellent psychometric properties in this international validation analysis, enabling its use across 14 countries.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107152 MACHINE LEARNING MODELS FOR CURATIVE AND PALLIATIVE OESOPHAGEAL CANCER TREATMENT PATHWAY PREDICTION

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Introduction: Oesophageal Cancer Multidisciplinary Teams (OC MDTs) operate under significant caseload pressures. This risks variability of decision-making which may influence patient outcomes. Machine Learning (ML) offers the ability to streamline and standardise decision-making by learning from historic treatment decisions to prediction treatment for new patients. We present internally validated ML models designed to predict OC MDT treatment decisions for curative and palliative OC patients.
Methods: Four ML algorithms (multinomial logistic regression (MLR), random forests (RF), extreme gradient boost (XGB) and decision tree (DT)) were trained using nested cross-validation on a cohort of 938 OC cases from a single tertiary unit over a 12-year period. The models classified predicted treatments into one of: Surgery (S), Neoadjuvant Chemotherapy (NACT) + S, Neoadjuvant Chemoradiotherapy (NACRT) + S, Endoscopic or Palliative treatment. Performance was assessed on Area Under the Curve (AUC).
Results: Across algorithms, all models performed strongly with mean AUC for Surgery = 0.849±0.026, NACT +S = 0.884±0.008, NACRT +S = 0.834±0.035, Endoscopic = 0.923±0.067 and Palliative = 0.963±0.033. MLR and XGB models performed most successfully (AUC 0.915±0.051 and 0.911±0.051 respectively). Models were integrated into a web-application to allow clinicians a user-friendly interface.
Conclusion: This study is the first successful use of ML to predict both curative and palliative MDT treatment decisions for OC patients, readily integrated into a user-friendly interface for real-time treatment pathway prediction. This offers significant potential to streamline MDT caseload, focus discussion on complex cases and provide an simple interface for such decision-support tools.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107153 THE PRACTICAL LIMITATIONS OF COMPLETE PATHOLOGICAL RESPONSE (PCR) AFTER NEOADJUVANT CHEMOTHERAPY: IT IS IMPOSSIBLE TO TRULY ASCERTAIN IT

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Introduction: 'Complete' pathological response (pCR) after neoadjuvant chemotherapy (NACT) for breast cancer is often considered as total eradication of viable cancer in the tumour bed.
We explore the sampling limitations of histopathological examination.
Method: We assessed the volume and proportion of the operative specimen that is routinely examined microscopically.
Results: The volume of a typical 4μ-thick histopathological section is 2cm x 2cm x 0.0004 cm = 0.0016cc, so 625 (1 / 0.0016) sections are required to examine 1cc ($1cm^3$) of tumour and 20944 sections would be required to examine a 4 cm diameter tumour (33.51cc).
Assuming 15 minutes to prepare the slide, and 5 minutes to examine it (8-hours/day, 5-days/week, 50-weeks/year), 3.5 years (4 months if every 10th section is examined) would be required to fully evaluate the tumour.
If 20-sections are examined, only 0.095% (20/20944) of the tumour bed - less than $1/1000^{th}$ of the volume - is evaluated.
It is not possible to ascertain true pCR based on such limited examination.
Conclusion: Positive identification of cancer in a treated tumour bed is an indicator of incomplete pathological response. However, the reverse does not hold.
It is practically impossible to confirm the total ABSENCE of cancer within a tumour bed after neoadjuvant chemotherapy for breast cancer, because the amount of tissue examined is such a small proportion (<0.1%) of the tumour bed.
This great limitation of the term 'complete' pathological response (pCR) needs to be recognised when considering using pCR rates for evaluation of drug efficacy, or for treatment planning.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107154 BILE MICROBIOME SIGNATURES AS BIOMARKERS FOR DIFFERENTIATING PANCREATIC DUCTAL ADENOCARCINOMA FROM BENIGN DISEASE: DISCOVERY OF NOVEL MICROBIAL SIGNATURES IN A UK PILOT STUDY

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Background: The intra-tumoural microbiome can influence pancreatic tumourigenesis and chemoresistance, and therefore patient survival. The role played by bile microbiota in PDAC is unknown. We aimed to define bile microbiome signatures in patients presenting with obstructive jaundice caused by benign and malignant pancreaticobiliary disease to develop novel cancer biomarkers.
Methods: Prospective bile samples were obtained from 37 patients who underwent either endoscopic retrograde cholangiopancreatography (ERCP) or percutaneous transhepatic cholangiography (PTC). Variable regions (V3–V4) of the 16S rRNA genes were amplified by PCR and next generation sequencing was performed. The cohort consisted of 12 PDAC, 6 cholangiocarcinoma, 10 choledocholithiasis, 7 gallstone pancreatitis and 2 primary sclerosing cholangitis patients. Bile samples from 8 patients were excluded from the analysis because of low read count.
Results: Using the 16S rRNA method, we identified a total of 108 genera from 29 individuals (12 PDAC and 17 benign). Bile microbial diversity significantly differed between patients with PDAC vs. benign disease (p=0.0173). The separation of PDAC from benign samples is clearly seen through unsupervised clustering based on Canberra distances. We found 4 genera to be of significantly different abundance between PDAC vs. benign groups by association p-value and supported by false discovery rate (fdr). These were Escherichia, Rothia, Streptococcus and Prevotella.
Conclusion: We show that patients with obstructive jaundice caused by PDAC have an altered microbiome composition in the bile, compared to those with benign disease. These bile-based microbes could be developed into potential diagnostic and prognostic biomarkers for PDAC and warrant further investigation.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107155 RISK FACTORS FOR SURVIVAL IN OLDER WOMEN TREATED WITH PRIMARY ENDOCRINE THERAPY (PET) IN EARLY BREAST CANCER

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Background: Selected older patients with oestrogen receptor positive (ER+) early breast cancer may be treated with Primary Endocrine Therapy (PET). Monitoring permits detection of disease progression and timely change of management (COM). This study investigated if early clinical response to PET impacts COM or survival.
Methods: An unplanned secondary analysis of the Age Gap multicentred cohort study was performed. Data were collected at baseline on patient, tumour and treatment characteristics. Women treated with PET were examined at intervals, tumour response classified by RECIST criteria, and correlated with COM and survival. Direct study follow-up was 24 months, longer-term survival data obtained from UK cancer registry. Data were analysed by Uni- and Multivariate analysis and statistical significance accepted at P<0.05.
Results: The main Age Gap study recruited 3450 women over age 70 between 2013 and 2018 across 56 breast units. 505 patients were treated with PET, median follow up 41.9 months (IQR-27-60). RECIST category at 12 months (available for 340 patients) was not associated with COM (change of endocrine therapy or conversion to surgery) within 2 years, or mortality (P>0.05) Univariate analysis identified significant factors associated with all-cause mortality to inform multivariate analysis; Age (HR-1.055(1.029-1.084);P<0.001), Charlson Index (HR-1.166(1.086-1.252);P<0.001) and conversion to surgery (HR-0.372(0.152-0.914);P=0.031) remained statistically significant, but not missed follow-up (HR-0.797(0.592-1.075);P>0.05).
Conclusion: Early disease response to PET is not associated with a change in endocrine therapy or conversion to surgery, and does not affect all-cause mortality. The benefit of intensive early follow-up is unclear.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107156 MICRORNAS DERIVED FROM PRE-OPERATIVE BILE SHOWS DIFFERENTIAL EXPRESSION IN PANCREATIC DUCTAL ADENOCARCINOMA (PDAC) AND CHOLANGIOCARCINOMA (CCA)

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Background: MicroRNAs (miRNAs) are small non-coding RNAs that regulate gene expression at the post-transcriptional level. They are deregulated in cancer and stable molecules in tissues and biofluids. We aimed to identify miRNAs in the bile that can differentiate between malignant (PDAC and CCA) and benign pancreaticobiliary disease.
Method: 111 patients were recruited prospectively at the time of endoscopic retrograde cholangiopancreatography (ERCP) for obstructive jaundice and bile was aspirated with RNA isolated using TRIzol. Cell-free RNA (cfRNA) was extracted from a discovery cohort comprising of 78 patients (27 PDAC, 14 CCA, 37 controls) and analysed using small RNA Illumina NextSeq500 single-end 75bp sequencing. LASSO regression was used to define our bile miRNA signatures. Validation was undertaken (n=87, 34 PDAC, 14 CCA, 39 controls) using TaqMan reverse transcription quantitative polymerase chain reaction (RT-qPCR).
Results: Clinical characteristics were analysed and showed statistical higher bilirubin levels in malignant patients (p<0.0001). No difference was detected in CRP levels at time of ERCP. MiR-340 and miR-182 were found to be significantly differentially expressed (p=0.0268 and p=0.0004 respectively) differentiating malignant patients from benign. This generated an overall AUC of 0.7965 (sensitivity 64.6%; specificity 82.1%). Combining this model with serum CA 19-9 levels improved the diagnostic potential with an AUC value of 0.85 (sensitivity of 86.4%; specificity of 71.4%).
Conclusion: Bile obtained at ERCP contains miRNAs able to differentiate benign from malignant pancreaticobiliary disease. Our bile miRNAs can be used in conjunction with serum CA 19-9 to help detect CCA and PDAC in patients presenting with obstructive jaundice.

Abstracts for BASO~ACS Oral Presentation at the BASO Annual Scientific Meeting: 6th-7th November 2023

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107157 EXAMINING CAUSE-SPECIFIC MORTALITY DIFFERENCES BY SEX IN SKIN CANCER PATIENTS

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Background: Women diagnosed with skin malignancy experience a survival advantage compared to men, yet the underlying mechanism remains elusive. This study aims to examine gender differences in cause-specific mortality within a longitudinal cohort of patients.
Methods: The analysis involved adults in the National Health Interview Survey (NHIS) from 2005 to 2018, encompassing data on socio-demographic characteristics and comorbidities. Skin malignancy was defined as a diagnosis of melanoma, non-melanoma, or skin cancer of unknown type. A multivariate generalized linear model assessed risk ratios for binary outcomes, while survival analysis utilized Cox regression and the Fine Gray model for competing risk.
Results: The study included a total of 12,128 adults with skin cancer (51.5% female, 96.2% non-Hispanic White). Male patients were notably older (mean: 65.7 vs 63.3) but exhibited a lower BMI (mean: 28.7 vs 30.6) (p<0.001). Multivariate analysis, accounting for confounding factors, revealed that females had a significantly reduced risk of all-cause mortality (HR: 0.46, CI: 0.35–0.61, p<0.01), cardiovascular disease (CVD) mortality (HR: 0.51, CI: 0.33–0.79, p<0.01), oncological mortality (HR: 0.31, CI: 0.17–0.56, p<0.01), and mortality related to other causes (HR: 0.61, CI:

0.46–0.81, p=0.01) compared to their male counterparts.
Conclusion: Our results demonstrate superior outcomes for females across all causes of mortality, even after adjusting for confounding variables. Subsequent studies should investigate the underlying biological mechanisms contributing to this phenomenon. The specific epidemiological data should be examined in the UK to better understand the sex difference in cause-specific mortality of skin cancer patients.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107158 METABOLITES ASSOCIATED WITH RESECTABLE PANCREATIC DUCTAL ADENOCARCINOMA: A STUDY USING NMR ANALYSIS

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Introduction: Pancreatic ductal adenocarcinoma (PDAC) has a high case-fatality rate, compounded by the minority of cases being suitable for operative intervention. Improving survival rates depends on suitable diagnostic tests and better treatments being developed. There have been some recent developments in understanding changes in metabolomic profiles induced by PDAC using 1H-Nuclear Magnetic Resonance (NMR) spectroscopy, but these have not been undertaken on patients with resectable disease.
Method: Plasma samples were collected from 22 PDAC participants (aged 64.8 ± 11.2, 70% male) prior to surgical resection, and 24 controls (aged 63.8 ± 8.2, 54% male). These samples underwent 1H-NMR spectroscopy, with the output placed into an orthogonal partial least squares – discriminant analysis model set at <0.05 to identify spectral peaks with a significant difference between PDAC and healthy controls. The concentrations of each significant metabolite were then calculated.
Results: Compared to healthy volunteers, there were significantly greater concentrations of 3-hydroxybutyrate (373.5μM vs 423.0μM, p = 0.019), lactate (1.8μM vs 2.2μM, p = 0.044), N-acetylglycoprotein (462.0μM vs 640.5μM, p <0.001) and glucose (3.8M vs 4.5M, p <0.001) in the plasma of participants with PDAC. There were also significantly reduced concentrations of glutamine (894.0μM vs 808.5μM, p = 0.0049) and tryptophan (367.5μM vs 322.5μM, p = 0.002) in those with PDAC.
Conclusions: Metabolite profiles associated with PDAC reflect alterations to metabolic pathways such as increased ketogenesis, gluconeogenesis and the Warburg effect. Understanding these changes may have some clinical utility in improving the early detection of PDAC, or facilitating different treatment strategies.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107159 GLOBAL BURDEN, QUALITY OF CARE AND ATTRIBUTABLE RISK FACTORS OF EARLY-ONSET BREAST CANCER (EOBC): A SYSTEMATIC ANALYSIS FOR THE GLOBAL BURDEN OF DISEASE STUDY 2019

Zhen Yu Wong [1], Kai Qi Ou [1], Zhen Ning Wong [2]. [1] *Nottingham City Hospital, Nottingham, UK;* [2] *Manipal University, Melaka, Malaysia*

Background: Early-onset breast cancer (EOBC) in females is often associated with aggressive features but the current burden of EOBC remains poorly estimated. We aim to estimate the global and subregional estimate of EOBC and their attributable risk factors while evaluating the quality of care.
Methods: We retrieved data of EOBC from the Global Burden of Disease (GBD) 1990-2019 database. Incidence, mortality and disability-adjusted life-years (DALYs) of EOBC and attribution to each risk factor were evaluated, stratified by Socio-demographic Index (SDI) and WHO region. Trends were estimated from 1990 to 2019. A principal component analysis was conducted to produce the quality of care index (QCI).
Result: In 2019, there were 168,776 new cases of EOBC in females, 42,742 deaths driven by EOBC and 2,468,523 DALYs due to EOBC globally. The age-standardised incidence, mortality and DALYs rate in 2019 was 1.19 per 100,000, 0.21 per 100,000 and 0.27 per 100,000 respectively. The growth predominantly occurs in middle, middle-low, and low SDI regions as well as African and Eastern Mediterranean regions. High fasting plasma glucose is the dominant and fastest growing attributable risk factor in causing EOBC in 2019. Global QCI value was 77 and a positive association was demonstrated between QCI and SDI quintiles while the African region had the lowest QCI (31).
Conclusion: The increasing prevalence of EOBC has led to a concomitant rise in mortality rates and underscores the urgent need for early detection to ensure timely diagnosis, especially considering the disproportionate disease burden.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107160 MARGIN CONTROL IN CUTANEOUS FIBROHYSTIOCYTIC TUMOURS: HOW RADICAL SHOULD WE BE? INSIGHTS FROM A SINGLE CENTRE'S 7-YEAR EXPERIENCE

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Background/Introduction: There is no robust guidance on appropriate surgical margins for atypical fibroxanthoma (AFX) or pleomorphic dermal sarcoma (PDS), although recent evidence suggests 10-30 mm wide local excision (WLE) margins to achieve sufficient clearance.
Method: A retrospective review was conducted on confirmed cases of AFX and PDS during a 7-year period (October 2014 to December 2021). Case notes were reviewed for tumour size, surgical margins, histological margins, further excision margins, recurrence, and follow-up.
Results/Discussion: A total of 99 tumours in 93 patients were reviewed with a mean patient age of 78.9 years. Tumours occurred predominantly in males (94.9%) and occurred most frequently on the scalp (79.8%). Sixty-four (64) AFX's with a mean tumour size of 15.4 mm (range 4-40) were excised with a mean peripheral margin of 5.43 mm (range 2-20) achieving a peripheral margin clearance rate of 96.9%. Thirty-five (35) PDS's with a mean tumour size of 21.7 mm (range 6-64) were excised with a mean peripheral margin of 6.9 mm (range 2-20) achieving a peripheral margin clearance of 94.3%. There were 4 cases of re-excision to achieve histological clearance (range 2mm to 10mm). Metastatic/local recurrence rate was 6.25% over a mean follow-up period of 30.5 months (range 0.06-76.5) for AFX, and 5.7% over a mean period of 26.3 months (range 1.1-65.5) for PDS.
Conclusion: Our results suggest that more conservative peripheral margins than those currently recommended may be appropriate for WLE of AFX/PDS. For scalp lesions, excision down to periosteum is recommended.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107161 THE PI-RADS 3 LESION. CAN WE USE A HIGHER PSA DENSITY TO REASSURE PATIENTS WITH MRI PI-RADS 3 SCORE?

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Introduction: Prostate cancer has the second highest cancer incidence worldwide. Diagnosis of clinically significant prostate cancer (CSPC), defined as Gleason ≥3+4 or ≥ISUP 2, is underpinned by Prostate Imaging-Report and Data System (PI-RADS) scoring on MRI and serum PSA, and confirmation with prostate biopsy. Positive predictive value of PI-RADS 3 for CSPC is 13%. A PSA-density threshold of 0.15-0.18 ng/mL/cc is commonly utilised to justify biopsy vs PSA monitoring for associated equivocal MRI findings.
Methods: Retrospective analysis of MRI, PSA and pathology results for consecutive patients undergoing prostate cancer diagnostics between November 2021 and March 2022.
Results: 200 males were studied (mean age 66.4 (SEM 0.62)). MRIs reported 6% ≤PI-RADS 2, 61.5% PI-RADS 3 and 32.5% ≥PI-RADS 4. Among the PI-RADS 3 (n=123), prostate volume was mean 70.0 (SEM 3.21) and PSA density 0.12 (SEM 0.01). 17.9% PI-RADS 3 patients underwent prostate biopsy although 8.9% had PSA-density >0.18 ng/mL/cc. 40.9% biopsies identified CSPC with average PSA-density 0.23 (SEM 0.06). Conversely, for 59.1% biopsies with no cancer or non-CSPC, average PSA-density was 0.14 (SEM 0.03) (p 0.078).

Conclusions: Within our cohort, 3/5 prostate biopsies carried out for PI-RADS 3 lesions revealed non-CSPC or no cancer. There was a notable difference in PSA-density among PI-RADS 3 patients with biopsy-proven CSPC vs. non-CSPC or benign histology. We would propose a 0.2 ng/mL/cc PSA-density threshold when recommending biopsy over PSA monitoring for MRI reported PI-RADS 3 to improve patient selection for biopsy and reduce morbidity from CSPC diagnostics.

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AXILLARY MANAGEMENT OF A POSITIVE SENTINEL LYMPH NODE BIOPSY IN THE ERA OF ABEMACICLIB IN EARLY BREAST CANCER

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Background: Abemociclib is a CDK 4+6 inhibitor for oEstrogen Receptor (ER) +ve Human Epidermal Receptor (HER) 2 -ve early breast cancer with high risk features (≥4 positive axillary lymph nodes (ALN) OR 1–3 +ve ALN and grade 3 disease or tumour ≥5cm). This study investigates a patient cohort with +ve sentinel lymph node biopsy (SLNB) initially ineligible for abemociclib, and how many would be subsequently eligible at completion Axillary Node Clearance (ANC) (achieving ≥4+ve ALN).
Methods: All patients at a single UK institution with ER+ve HER2-ve early breast cancer with +ve SLNB and subsequent ANC between 01/01/2018–03/08/2022 were included and notes reviewed. Statistical analysis performed with chi-squared test and student t-test, statistical significance $P<0.05$.
Results: 67 patients had +ve SLNB with completion ANC; 17/67 remained eligible for analysis (23 eligible for abemociclib regardless of ANC findings; 27 excluded). 11/17 (65%) had no additional +ve ALN at ANC, 13/17 (76.5%) had a total <4 +ve ALN. 4/17 (23.5%) had total ≥4+ve ALN. Predictors of total ≥4+ve ALN were investigated; There was no significant difference between <4 vs ≥4+ve ALN for breast operation, tumour type, grade or size, NPI, number of lymph nodes retrieved at SLNB, percentage yield of +ve SLNB and ALN Ratio ($P>0.05$). All 8 patients with 1 +ve SLNB had total <4 +ve ALN (vs 0 had ≥4+ve; $P = 0.029$).
Conclusion: Patients initially ineligible for abemociclib after SLNB remain unlikely to qualify after completion ANC, with less than a quarter achieving total ≥4+ve ALN.

Abstracts for Poster Presentation at the BASO Annual Scientific Conference & BASO Trainees Day: 6th-7th November 2023

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107163

THE IMPLICATIONS OF SARCOPENIA IN PANCREATIC CANCER SURGERY

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Background: Sarcopenia is the subclinical loss of skeletal muscle and strength and has been extensively studied in both cancer and surgical patients. Patients with sarcopenia are vulnerable to major physiological stressors including surgery, surgical complications and chemotherapy. Sarcopenia has thus gained significant recognition as an important prognostic factor for both complications and survival in cancer patients. The studies on the association between sarcopenia and surgical outcome following resection of pancreatic cancer were evaluated.
Method: Electronic literature search of the MEDLINE (PubMed) database, Cochran library, and Science citation index were performed to identify original published studies on sarcopenia and pancreatic cancer management.
Results: The prevalence of sarcopenia in pancreatic cancer patients range between 20 to 65% due to the heterogenous groups of patients, difference in disease stage and the different methods of measuring sarcopenia. Sarcopenia is more accurately assessed by utilizing both computer tomography (CT) imaging and clinical data such as frailty. The relationship between sarcopenia and outcome following pancreatiocoduodenectomy (PD) was equivocal in most studies. However, most studies showed a higher risk of postoperative pancreatic fistula (POPF) formation in patients with concurrent sarcopenia and high fat mass (sarcopenic obesity). To prevent POPF total pancreatectomy was preferred to pancreaticoduodenectomy (PD) in some studies.
Conclusion: Sarcopenia seems generally to be associated with lower overall survival. Its assessment can lead to changes in management strategy, patient selection, and improved informed consent prior to surgical resection of pancreatic cancer. A better prediction of POPF formation after pancreatic cancer resection is important.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107164

PROGNOSTICATION FOR PATTERNS OF RECURRENCE AFTER SURGICAL RESECTION FOR PANCREATIC ADENOCARCINOMA

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Background: This study aims to investigate patterns and factors affecting recurrence after curative resection for pancreatic adenocarcinoma (PDAC).
Methods: Consecutive patients who underwent curative resection for PDAC (2011-21) and consented to data and tissue collection (Barts Pancreas Tissue Bank) were followed up till May 2023. Clinico-pathological variables were analysed using Cox proportional hazards model.
Results: Some 91 people (42 (46%) males, median age 71 years (range 43 – 86)) had a median follow-up of 51 months (95% Confidence intervals (CI): 40 – 61), with a recurrence rate of 72.5% (n=66: 12 loco-regional alone, 11 liver alone, 5 lung alone, 3 peritoneal alone, 29 simultaneous loco-regional and distant metastases and 6 multi-focal distant metastases at first recurrence diagnosis). The median time to recurrence was 8.5 months (95% CI: 6.6-10.5) and median survival after recurrence was 5.8 months (95% CI: 4.2-7.3). Stratification by recurrence location revealed differences in time to recurrence. Significant predictors for recurrence by multivariate analysis were lymph node ratio (LNR) ≥0.33 (hazard ratio (HR) 2.8 CI: 1.4-5.8), adjuvant chemotherapy (HR 0.4 CI: 0.2-0.7) and systemic inflammation index (SII) ≥500 (HR 4.5 (1.4-14.3).
Conclusion: No significant patterns of recurrence were found. Lymph node ratio, adjuvant chemotherapy and systemic inflammation index were predictors of PDAC recurrence. More research is needed to investigate predictive factors for PDAC recurrence after curative resection in large prospective national cohorts.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107165

WATER SOLUBLE CONTRAST ENEMAS FOLLOWING COLORECTAL CANCER SURGERY ARE UNNECESSARY IN CERTAIN PATIENTS

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Background: Water soluble contrast enemas (WSCEs) are performed following rectal cancer surgery to assess anastomotic integrity and patency before ileostomy reversal. They provide instant information but can be unpleasant for patients and are time-consuming procedures. Our hypothesis is in patients where anastomotic complications are suspected, WSCEs are unnecessary. This local retrospective cohort study aimed to test this hypothesis.
Method: We retrieved all WSCEs performed on patients who had undergone anterior resection for cancer between January 2019-January 2022. Radiological reports, operation notes, endoscopy reports and clinical documents were reviewed for each patient. Data was collected on patient demographics, index operation, complications, presence of leak or stricture on WSCE and reversal rate.
Results: A total of 28 WSCEs were performed over the study period. 2 studies (7%) revealed an anastomotic leak. 1 of 2 leaks (50%) was already diagnosed following clinical deterioration and CT scan. 3 anastomotic strictures were diagnosed on WSCE during the study period. Of these 3 strictures, 2 (66%) were diagnosed clinically via rigid or flexible endoscopy as the patient was symptomatic with pain. Patients with such complications had their reversal delayed for appropriate treatment.
Conclusions: WSCEs carried out for assessment of anastomotic strictures

or leaks potentially do not need to be routine. In our study 60% of the patients with positive radiological findings already had clinical signs and therefore WSCE may be superfluous in a subset of patients.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107166 UK'S FIRST EXPERIENCE INTO AUGMENTED REALITY GUIDED BIOPSY OF THE PROSTATE: A PILOT STUDY

Shenthiuiyan Theivendrampillai, Bob Yang, Mark Little, Christopher Blick. *Royal Berkshire Hospital, Reading, UK*

Introduction: Prostate cancer (CaP) is the most common form of cancer in men in the UK and the current established diagnostic investigation for CaP is an MRI-targeted prostate biopsy. Virtual Surgery Intelligence (VSI) Holomedicine by Apoqlar is a mixed reality (MR)/ augmented reality (AR) software platform that runs on the HoloLens II system (Microsoft). The study investigated the feasibility of performing AR-guided prostate biopsies, using the VSI platform in patients with MRI-detected prostate lesions.
Method: Ten patients with a clinical suspicion of CaP on MRI (PIRAD 4/5) were recruited to the study. The MRI images were uploaded to the HoloLens II system and were used to acquire two AR-guided biopsies. In addition, cognitive fusion biopsies were performed as a standard of care.
Result: The patients had a mean age of 60 years (range 43-80) and the mean PSA at presentation was 9.2 ng/ml. Prostatic tissue was obtained in all AR-guided target specimens. Seven patients (70%) had matching histology in both the standard and AR-guided biopsies. Overall, five patients were diagnosed with CaP in the study. The AR-guided biopsies detected the highest-grade disease in two (40%) of the five patients with underlying CaP. There were no intra-operative or postoperative complications.
Conclusion: The initial data from the study demonstrated that an AR-guided prostate biopsy utilising the VSI Holomedicine system is a viable option in CaP diagnostics. The next stage in development is to integrate live AR images with concurrent real-time tracking of the needle insertion to further improve precision and accuracy.

5

EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107167 OUTCOMES FOLLOWING JEJUNAL FREE FLAP RECONSTRUCTION OF PHARYNGEAL DEFECTS IN PATIENTS WITH HEAD AND NECK CANCER: A SINGLE-CENTRE RETROSPECTIVE REVIEW

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Introduction: First utilised in the 1950s, the jejunal free flap (JFF) became the workhorse flap for reconstruction of total pharyngolaryngeal defects. However, even in circumferential defects, fasciocutaneous techniques with reportedly better outcomes have eclipsed the JFF. Furthermore, factors such as radiotherapy complications may necessitate flap vascularisation via larger vessels, including the common carotid artery. Here, anastomosis requires end-to-side (EtS), rather than end-to-end (EtE) anastomosis, a seldom used and riskier approach. This review will assess the JFF's utility, adding to a limited evidence base, in addition to analysis of outcomes according to the type of arterial anastomosis used.
Methods: The 52 JFF procedures at the Queen Elizabeth Hospital, Birmingham (2009-2016) were retrospectively audited, recording incidence of the primary outcome: flap failure, and secondary outcomes: perioperative mortality, long term surgical, fistulae and stricture incidence, and functional outcomes. Relationships between patient characteristics, intraoperative factors, including type of arterial anastomosis, and outcomes were statistically analysed.
Results: JFFs were successful in 90% of cases (n=44/49). Flap failure was significantly associated with recurrent disease (p=0.013) and previous radiotherapy (p=0.047). Perioperative mortality was 2.2% (n=1), and 2- and 5- year survival 52.3% (n=24) and 28.3% (n=14), respectively. No flap failure cases occurred in the EtS arterial anastomosis cohort, compared to five in the EtE anastomosis cohort, but this finding was not significant (p=0.301).
Conclusions: These findings are comparable to similar reviews reported elsewhere, and suggest the JFF remains a valuable reconstructive technique for circumferential laryngopharyngeal defects, with comparable outcomes to fasciocutaneous techniques.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107168 IMPLEMENTATION OF COLORECTAL BUNDLES TO HELP REDUCE SURGICAL SITE INFECTION. A RETROSPECTIVE SINGLE-CENTER STUDY IN UK

Noor Ul Ain [1], Safia Ahmed [1], Saira Bibi [2], Fahad Iqbal [1], Hasan Iqbal [1], Md Tanveer Adil [1], Katherine Brown [1], Marion Obichere [1], Firas Younis [1]. [1] *Luton and Dunstable Hospital, Luton, UK;* [2] *University of Edinburg, Edinburg, UK*

Background: Use of mechanical bowel preparation (MBP) and oral antibiotics before CRS to prevent SSI is controversial. There has been a revival of interest in the use of MBP and antibiotics to reduce SSI in CRS in recent years. The aim of this study was to evaluate the effectiveness of colorectal care bundles in reducing SSI after CRS. .
Methods: A retrospective single centre cohort study was conducted on consecutive adult patients undergoing elective colorectal resection. Colorectal bowel preparation bundles were implemented in August 2019 for elective CRS under enhanced recovery program (ERAS). Patient undergoing CRS before August 2019 were included in control group and patients undergoing surgery after implementation of bundles were included in experimental group. Primary Outcome assessed was SSI. Secondary outcomes were anastomotic leak, ileus, length of hospital stay, readmission rate and 90-day mortality.
Results: 102 patients were enrolled in the control group and 103 in the experimental group. There was no difference between age, gender, and Carlson comorbidity index for patients in each group.Reduced readmission rate (P =0.004) was observed in the experimental group but there were no significant differences in SSI, anastomotic leak, ileus, length of hospital stay and 90-day mortality.
Conclusion: MBP and antibiotics do not reduce the risk of SSI, nor does it reduce the incidence of anastomotic leak, ileus, length of hospital stay and 90-day mortality. Reduced readmission rate was observed after implementation of colorectal bundle, but this difference in results needs to be tested in studies with larger sample size in future

7

EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107169 ASSESSMENT OF POSTOPERATIVE DEATH AND 5 YEARS OVERALL SURVIVAL IN PATIENTS IN THE WEST WITH CURATIVE GASTRIC ADENOCARCINOMA WHO UNDERGO THE EXPERIMENTAL D2 GASTRECTOMY AS COMPARED TO THE PATIENTS WHO UNDERGO CONVENTIONAL D1 GASTRECTOMY; A SYSTEMATIC REVIEW AND META-ANALYSIS

Muhammad Bakhtiar [1], Rabeea Ahmed [1], Mahnoor Mahnoor [2], Muhammad Bajwa [1], Muaz Saleem [1], Tajamal Hayat [1], Usama Ali [1], Syed Hassan [2], Muhammad Ibrahim [1], Waleed Tariq [3], Haseeb Tariq [4], Khawaja Ahmed [1], Roha Tariq [2]. [1] *King Edward Medical University, Lahore, Pakistan;* [2] *Mohtarma Benazir Bhutto Shaheed Medical College, Mirpur, Pakistan;* [3] *Armed forces Institute of Cardiology, Rawalpindi, Pakistan;* [4] *Rawalpindi Medical College, Rawalpindi, Pakistan*

Background: D2 gastrectomy for gastric adenocarcinoma is used in Japan with good outcomes related to mortality and morbidity. In contrast, Western European countries employ D1 gastrectomy for gastric adenocarcinoma because trials have shown that D2 gastrectomy is associated with high adverse events.
Objective: To compare postoperative deaths and 5 years overall survival (OS) of D1 gastrectomy vs D2 gastrectomy in patients with gastric adenocarcinoma in the West.
Methods: 5 RCTs were selected after searching through PubMed, Embase, Cochrane Library, and Clinicaltrials.gov. These trials had Western European patients with histologically proven non-metastatic adenocarcinoma. Each trial had a comparison of D2 gastrectomy with D1 gastrectomy. Quality

assessment was carried out using RoB 2.0 tool. Meta-analysis was conducted using Revman.
Results: For postoperative mortality, a total of 1473 patients underwent D1 dissection while 1327 underwent D2 dissection in 5 RCTs. Most patients had tumor in the distal 1/3rd of stomach with pathologic and TNM stage 2. Splenectomy and Pancreatectomy was done more in D2 compared to D1 group. 62 patients from the D1 group while 125 patients from the D2 group experienced postoperative mortality. The overall risk ratio was 2.23 (95% CI: 1.66, 3.00), p= <0.00001.
For 5 years OS, 713 patients underwent D1 gastrectomy while 665 patients had D2 gastrectomy. The overall Hazard ratio was 1.06 (95% CI: 0.92, 1.22). No 5 year OS benefit was recorded.
Conclusion: D2 gastrectomy has higher postoperative mortality vs D1 gastrectomy in Western European population. There were no 5 years OS differences in both groups.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107170 OESTROGEN RECEPTOR-POSITIVE BREAST CANCER CONFERS BETTER SHORT-TERM BUT NOT LONG-TERM SURVIVAL IN YOUNG WOMEN

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Introduction: Breast cancer is the most common malignancy in women under 35. Unfortunately, the disease is more severe in younger women and often confers a poorer prognosis. This study aimed to profile a cohort of young women with breast cancer and address whether aspects of their tumour biology influenced survival outcomes.
Methods: The records of women aged 40 and under who were diagnosed with breast cancer at one centre between 2010-2015 were analysed and a profile was created. The influence of tumour receptor status (Kaplan-Meier survival analysis p<0.05) and age, tumour grade, axillary lymph node metastases, oestrogen positivity (ER+), and HER2 positivity (HER2+) (Cox-regression model p<0.05) on survival and disease-free interval (DFI), at both 5-years and overall was investigated.
Results: Patients typically presented with large, high-grade tumours with axillary lymph node metastases, and the average 5-year survival was 83.22%. Tumour receptor status had a significant impact on 5-year survival; ER+/HER2- 87.06%, ER+/HER2+ 88.46%, ER-/HER2+ 75.00%, and triple negative (ER-(PR-)/HER2-) 72.00% (p=0.0362). This was reinforced by the Cox-regression model which revealed ER+ conferred better survival at 5-years (p=0.0473). However, the protective factor of ER+ was lost after 5-years with both methods (p=0.2842 and p=0.1201 respectively). Only the presence of axillary lymph node metastases had a significant impact on DFI (5-years p=0.0190, overall p=0.0019).
Conclusion: Young breast cancer patients have a lower 5-year survival than the UK average for all ages, and patients with ER+ tumours have significantly better short-term but similar long-term survival compared to ER- breast cancer.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107171 STOP THE CLOT! IMPROVING EXTENDED VENOUS THROMBOEMBOLISM PRESCRIPTION FOLLOWING MAJOR ABDOMINAL SURGERY

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Background: Extended VTE (eVTE) prophylaxis following major abdominal cancer surgery is well documented in national guidelines and associated with reduced VTE incidence. Following cases of VTE after major abdominal non-cancer surgery, eVTE prophylaxis is increasingly favoured for both cancer and non-cancer patients at a district general hospital in Birmingham. This audit aims to improve the prescription and operation note documentation of eVTE prophylaxis.
Method: Theatre lists and ward lists were reviewed across 4 weeks. Suitable patients for inclusion were identified and data collected. Following implementation of posters, training and education of junior and senior staff, results were compared to previous cycles.
Results: Operation note documentation of eVTE prophylaxis was significantly improved following interventions, with documentation rate at 76.2% compared with 30.4% previously (p=0.024). This improvement was seen across both cancer and non-cancer patients. Whilst overall prescription rate remained similar, 100% of cancer patients received eVTE prophylaxis when indicated, compared to only 72.7% previously. All CRS-HIPEC patients were also prescribed eVTE prophylaxis when indicated, and all operation notes for these patients documented suitably.
Conclusion: The documentation rate of eVTE prophylaxis on operation notes was significantly improved following our interventions, alongside improved prescription rates of eVTE prophylaxis for cancer patients. Further cycles would benefit from collecting data over a longer duration to achieve a larger sample size. Finally, a comparison of VTE incidence, before and after interventions, across cancer and non-cancer patients, would be useful in determining whether eVTE prophylaxis in both subgroups should be incorporated in local guidelines.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107172 TO STENT OR NOT TO STENT, AN UPDATED META-ANALYSIS FOR THE OPTIMAL SURGICAL APPROACH FOR OBSTRUCTED CANCER COLON

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Background / Introduction: Emergency surgery is still the standard of treatment for obstructed cancer colon with many controversial studies about the long-term oncological outcomes after using a stent as a bridging therapy. Our primary outcome is to compare the short and long-term oncological outcomes for Stent as a bridging therapy and emergency surgery (ES) for obstructed cancer colon and the secondary outcome is to compare the complication rate between the two modalities.
Methods: Medline, Embase and Cochran were searched for all eligible studies. A systematic review and meta-analysis were done.
Results: A total of 43 studies (12 RCT) with 33,273 patients were included in our study. Those who had a stent as a bridging therapy for operation have better overall survival (5 years OS; RR, 1.15 ; 95% CI, 1.04, 1.27, P=0.007) and disease-free survival (5 years DFS; RR, 1.08 ; 95% CI, 1.01, 1.16, P=0.02) in comparison to those who had ES. In addition to that stent groups has lower incidence of morbidity (RR, 0.76 ; 95% CI, 0.66, 0.88, P=0.0002) and short-term mortality (RR, 0.66 ; 95% CI, 0.53, 0.82, P=0.0002). Moreover, ES is associated with a higher rate of stoma formation and conversion into open.
Conclusion: With better survival and lower incidence of morbidity, stenting as a bridging therapy for obstructed cancer colon offers an excellent alternative to emergency surgery.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107173 ROBOTIC-ASSISTED PARTIAL NEPHRECTOMY IN SOLITARY KIDNEYS VS STANDARD CASES: A COMPARATIVE ANALYSIS OF PERIOPERATIVE OUTCOMES

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Introduction: While open partial nephrectomy has long been considered the standard approach in solitary kidneys, the role of robotic-assisted partial nephrectomy (RAPN) has demonstrated oncologic efficacy in selected tumours.
Method: A retrospective analysis between 2010-2022 of a tertiary institution was performed. Demographics, surgical and perioperative outcomes were reviewed. Clinical data was analysed to compare outcomes of RAPN

in the solitary kidney versus standard RAPN cases.
Results: 671 patients underwent partial nephrectomy in the 12 year period. In total, 369 patients had completed data available and were included; 26 (7%) were operated on a solitary kidney and 343 (93%) were standard cases. For both tumour groups, patient characteristics were compared for age, BMI and gender. There was no statistical difference in tumour characteristics between the two cohorts: tumour size (2.8cm vs 3.3cm, p=0.06) and PADUA score (7.8 vs 8, p=0.53). Whilst a positive surgical margin was reported in 11 (3.2%) standard RAPN cases, none were observed in the single kidney cohort. Patients in the solitary kidney group reported a shorter mean ischaemia time when compared with standard cases (12 minutes vs 17 minutes, p=0.001). Longer operative times (200 minutes vs 165 minutes, p=0.021) and higher mean blood loss (p=0.01) were observed in the single kidney group. There was no difference noted in complication rate, length of stay or need for perioperative dialysis.
Conclusion: RAPN represents an efficient and minimally-invasive treatment option for patients with a solitary kidney, offering comparable preoperative outcomes, preservation of renal function and low surgical morbidity.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107174 SIDE EFFECTS LIMIT UPTAKE AND USE OF BREAST CANCER CHEMOPREVENTION AT A FAMILY HISTORY CLINIC

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Background: Chemoprevention can reduce the incidence of breast cancer in high risk individuals. Following NICE guidance, a Family History clinic was established at the Princess Alexandra Hospital in 2006, and began offering chemoprevention to patients at high and moderate risk since 2013. Our aim was to identify uptake rates in our population, and to ascertain reasons for declining.
Methods: A search was performed on FaHRAS to identify patients. Data was collected by a family history nurse on the number of moderate and high-risk patients seen 1/7/2014-31/3/2023, the number offered chemoprevention, the number who took it, and those who stopped early. Reasons for patients not being eligible, stopping early and declining it were also extracted.
Results: A total of 1408 moderate and high-risk patients were seen, and 599 (42.5%) were offered chemoprevention. 230 patients (38.4%) declined chemoprevention, with most these, 101, being concerned about side effects. 226 patients (37.7%) remain undecided and 45 (7.5%) plan to take chemoprevention later. 98 patients (16.4%) took chemoprevention, with 10 taking Anastrozole and the rest Tamoxifen. Overall compliance was 63.2%, with 36.8% of patients stopping early, most commonly due to side effects (20 patients). Of the 809 (57.5%) patients not offered chemoprevention, 759 were not eligible, with the most common reason following active breast cancer being for this being pending investigations and concurrent hormonal medication.
Conclusion: At our centre, uptake of chemoprevention is 16.4%, slightly higher than nationally, but remains low. Side effects are the most common reason for declining chemoprevention and also for discontinuation.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107175 NEOADJUVANT RADIOTHERAPY AND WOUND COMPLICATION - LITERATURE REVIEW AND REVIEW OF SINGLE SURGEON SERIES OF MYXOID LIPOSARCOMA TREATED WITH NEOADJUVANT RADIOTHERAPY FOLLOWED BY SURGERY.

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Introduction: Neoadjuvant radiotherapy (NART) is often used in the treatment of extremity soft tissue sarcomas (STS) including Myxoid Liposarcoma (MLS). Post-operative major wound complications (WC) are a well-recognised problem following NART, previously described by Pollack (1998) and O'Sullivan (2002).
Aims:
1) Review of literature regarding definition and incidence of WC following NART and surgery for STS.
2) Retrospective review of a single surgeon series of 25 MLS treated with NART and surgery
Methods: A literature search for papers focusing on MLS, NART and WC was performed. 12 relevant papers were reviewed. Retrospective data, from a single surgeon series of 25 patients with MLS, treated with NART and surgery was reviewed, focussing on WC.
Results: Average rate of WC from the 12 papers included was 29.4% (20-47%) and the average rate of re-operation was 15.6% (7.3-24%). There were a range of definitions used for WC. Five used the O'Sullivan (2002) definition, and five listed only the complications that occurred. Of these papers, five used the 120-day inclusion, two used 90 days, and one used 30 days' time for wound healing. In the single surgeon series of 25 patients, two patients (8%) developed WC, were treated conservatively and there were no readmissions or reoperations within 120 days.
Conclusion: This literature review identified that there was a lack of consistency between the definitions used for major WC. The single surgeon series of MLS showed WC that were lower when compared to the reviewed literature (8% vs 29.4%).

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107177 A GAME-CHANGING REFERRAL PATHWAY: STRAIGHT-TO-THEATRE APPROACH TO CUT THE DIAGNOSTIC WAIT TIME

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Introduction: The Lung Multidisciplinary team (MDT) aims to enhance efficiency in the diagnostic pathway, particularly focusing on reducing the time between referral and diagnosis with the 28-day pathway being the diagnostic standard. We examined a new pathway that has been introduced to decrease this diagnostic time. Patients needing diagnostic biopsy of lesion(s) in their lungs that were not amenable by the routine means (CT guided biopsy or EBUS) were referred for biopsy with the help of Electromagnetic Navigation Bronchoscopy. Traditionally these patients were seen in the outpatient clinic after the referral and the procedure was performed later. We introduced a straight-to-theatre approach in this novel pathway. This study evaluates the impact of this novel pathway on the diagnostic time and process.
Methods: This retrospective analysis compares the interval between referral and biopsy procedure for pulmonary lesions using navigational bronchoscopy. Patients from November 29, 2019, to June 16, 2021, followed the traditional pathway, while later patients followed the novel pathway. Among 383 patients, 211 used the novel and 172 the old pathway.
Results: The novel pathway significantly reduced mean referral-to-procedure time (24.22 vs. 36.96 days, $p < 0.001$), by an average of 12.74 days. The novel pathway met the 28-day diagnostic target 68% of the time, surpassing the 42% with the old pathway.
Conclusion: The novel pathway proves effective in reducing diagnostic wait times and consistently meeting the diagnostic target. This suggests potential benefits in improving patient outcomes and optimizing healthcare resource utilization.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107178 ROBOTIC TAMIS FOR EARLY RECTAL CANCERS: PERIOPERATIVE AND SHORT-TERM OUTCOMES

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Background: Transanal minimally invasive surgery (TAMIS) is an advanced technique for excision of early rectal cancers. Robotic TAMIS (rTAMIS) has been introduced as technical improvement and potential

alternative to total mesorectal excision (TME) in selected cases.
Method: Retrospective analysis of prospectively collected rTAMIS (July 2021 - July 2023). A da Vinci Xi multiport platform was used for transanal resection. Demographics, clinicopathological features, short-term outcomes, recurrences, and survival were investigated. Institutional Review Board approved the study.
Results: Twenty patients were included. Median age and body mass index were 69.5 (62.0-77.7) years and 31.0 (21.0-36.5) kg/m2. Male sex was prevalent (n=12, 60.0%). ASA III accounted for 66.7%. Median distance from anal verge was 7.5 (5.0-11.7) cm. Median operation time was 90.0 (60.0-112.5) minutes. Blood loss was minimal. Conversion was nil. Median postoperative stay was 2.0 (1.0-3.0) days.
Complication rate was 30.0%, all Clavien-Dindo I-II. Seventeen (85.0%) patients had an adenocarcinoma whilst three an adenoma. R0 rate was 90.0%. Most tumours were pT1 (55.0%), followed by pT2 (25.0%). One patient (5.0%) had a pT3 tumour. Specimen and tumour median maximal diameter was 51.0 (41.0-62.0) mm and 21.5 (17.2-42.0) mm, respectively. Median specimen area was 193.1 (134.3-323.3) cm2. Median follow-up was 11.5 (3.5-17.0) months. Two patients developed a recurrence, one local and one distant.
Conclusions: rTAMIS, with strict postoperative surveillance, is a safe and feasible technique for surgically unfit and elderly patients who refuse or cannot undergo a TME. Future prospective multicentre large-scale studies are needed to report the long-term oncological outcomes.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107179 INVESTIGATING THE PROGRESSION OF SARCOPENIA AND ITS IMPACT ON OUTCOMES IN PATIENTS WITH PANCREATIC CANCER UNDERGOING NEOADJUVANT CHEMOTHERAPY: A RETROSPECTIVE COHORT STUDY.

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Background: Pancreatic ductal adenocarcinoma (PDAC) is a devastating disease, with surgical resection offering the best chance of survival. However, many patients are not eligible for surgery. Neoadjuvant therapy (NAT) offers the potential to downsize borderline resectable (BR) and locally advanced (LA) PDAC, making resection feasible. The study aims to asses body composition changes during NAT, in particular, the progression of sarcopenia, and how this impact outcomes in these patients.
Methods: This is a retrospective cohort study including 104 patients with BR or LA PDAC who underwent NAT between January 2017 and December 2020. Routine baseline and post-NAT computed tomography scans were analysed for changes in sarcopenia and adiposity measurements. The impact of these changes on resection possibility and overall survival was assessed. Additionally, the effect of pancreatic enzyme replacement therapy (PERT) on these changes was investigated.
Results: Muscle mass and adiposity decreased during NAT (p<0.001). 38% received resection following NAT. Those who were still not eligible for resection experienced a greater reduction in muscle mass (-0.92cm2/m2 vs-0.18cm2/m2, p<0.001), subcutaneous adipose tissue (-43.6cm2 vs-11.9cm2, p=0.002) and visceral adipose tissue (-20.80cm2 vs -4.88cm2, p<0.001). Only surgical resection was independently associated with overall survival. Patients receiving PERT experienced less reduction in muscle mass and adipose tissue, but this was not shown to be significant.
Conclusions: This study shows there are significant changes in body composition during NAT, which could preclude surgical resection of PDAC. PERT may reduce the progression of sarcopenia, but larger studies in the field are required to draw reliable conclusions.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107180 DURING COVID-19, THE NHSBSP PAUSE IN LONDON REDUCED OVERDIAGNOSIS, DID NOT INCREASE RADICAL SURGERY AND MAINTAINED 3-YEAR SURVIVAL AT PRE-COVID RATES

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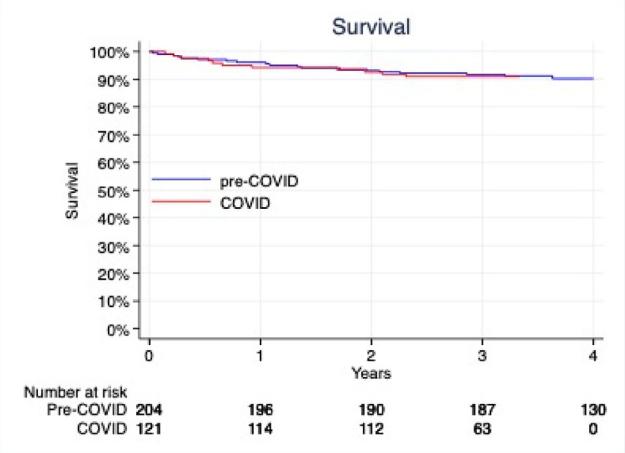
Introduction: The NHS breast screening programme (NHSBSP) paused during COVID-19, potentially impacting presentation and survival.
Methods: We analysed referral source of all breast cancer patients diagnosed at two London hospitals from 2019 to 2021. Using routinely collected hospital data, we compared tumour characteristics, treatments and survival during pre-COVID and COVID era (Apr-Aug+Oct of 2019 vs 2020) using chi-square tests, and Kaplan-Meier estimates. Registered as local audit.
Results: Overall (n=3353), there were 31% fewer patients in 2020 compared with 2019 (886 vs 1281, p=0.002), due to fewer screen-detected (851 vs 398) rather than symptomatic cases (432 vs 459), p<0.00001); there was no corresponding increase during 2021 (n=1186)
In the detailed analysis (n=325), in 2020 vs 2019, there were significantly fewer grade 1 cancers (11/120 vs 37/204, p=0.028) with no corresponding increase in numbers of grade 2 or 3 (109 vs 167). There were fewer T1 (41/121 vs 85/204) and node negative tumours (69/115 vs 123/200), but no increase in >T1 (80/121 vs 119/204) or node positive cases (46/115 vs 77/200), both p>0.05.
There were fewer operations (113 vs 197); fewer breast conservations (81/113 vs 134/196) but no increase in mastectomies (32/113 vs 56/196) or axillary clearances (34/114 vs 54/174), all p>0.05. The median follow up was 3.8 years; K-M survival curves overlapped; 3-year survival: 90.5% vs 91.7%, HR=1.09, p=0.83.
Conclusion: During the COVID-19-induced NHSBSP pause, good-prognosis cancers reduced without increasing worse-prognosis cancers or more extensive surgery, and 3-year survival remained unchanged: suggesting that pausing NHSBSP avoided overdiagnosis without causing harm.



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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107181 A COHORT STUDY COMPARING VOLUME REPLACEMENT ONCOPLASTIC BREAST SURGERY WITH STANDARD BREAST-CONSERVING SURGERY FOR BREAST CANCER

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Background: Volume Replacement Oncoplastic Surgery (VR-OPS) combines oncological resection with plastic surgical techniques. This approach offers an alternative for women facing mastectomy or unsatisfactory aesthetic outcomes from standard wide local excision (WLE). Our team conducted a systematic review of all comparative studies looking at VR-OPS vs standard treatment and found a large number of case series but very few comparative studies. In this paper, we present a cohort study with long-term follow-up comparing VR-OPS to WLE.
Method: A retrospective chart review compared all women in 1 centre under a single surgeon who underwent VR-OPS (in 2012-2016) to WLE (in 2013-2014). Clinicopathological, demographic data and follow-up results were collected.

Results: During the study periods 80 women underwent WLE and 79 VR-OPS. VR-OPS patients were younger with larger tumours, and more positive lymph nodes, leading to increased neo-adjuvant chemotherapy and axillary surgery. High-risk cancers (TNBC or HER2+ve) were more prevalent in VR-OPS (30%) versus WLE (17%). Despite this, no differences emerged in local recurrence (p=0.087) or overall survival (p=0.45). Notably, VR-OPS showcased superior outcomes in achieving clear margins (p=0.009*), leading to fewer re-excisions/mastectomies (p=0.049*). Although minor complications were more frequent in the VR-OPS group this did not reach statistical significance.
Conclusion: This study, while constrained by its modest sample size has an extended follow-up, which but the duration of follow-up provides reassurance that VR-OPS is oncologically safe to offer as primary surgery for breast cancer treatment and may allow women who otherwise may not have been able to have breast-conserving surgery.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107182 SYSTEMATIC REVIEW COMPARING VOLUME REPLACEMENT ONCOPLASTIC TECHNIQUES TO OTHER SURGICAL TECHNIQUES – WIDE LOCAL EXCISION, SIMPLE MASTECTOMY AND MASTECTOMY WITH RECONSTRUCTION

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Introduction: In the last twenty years, breast surgery has evolved, notably with the rise of oncoplastic surgery (OPS) driven by evidence endorsing safe breast-conserving surgery and its integration into training. Existing OPS evidence predominantly pertains to mammaplasty, leaving a gap concerning volume-replacement techniques (VR-OPS). This review focuses on evidence from comparative studies specifically centred on VR-OPS.
Methods: We searched databases from 1980-2022 and included all studies comparing VR-OPS to wide-local excision(WLE) or mastectomy +/- reconstruction but did not include papers that compared oncoplastic techniques.
Results: From 9341 records, 15 non-randomised observational cohort studies were included – 10 comparing to WLE, 4 to mastectomy and 4 to mastectomy + reconstruction.
s-BCS
Compared to S-BCS, VR-OPS patients were younger, had similar/lower BMI and were less comorbid. The disease burden was greater with larger, higher-grade tumours and more positive axillas. Despite this, no difference in oncological outcomes was found. The complication rate was greater in VR-OPS. Only one small study found VR-OPS resulted in fewer positive margins, which lead to fewer mastectomies.
Mastectomy +/- Reconstruction
Comparatively fewer studies examined VR-OPS against mastectomy +/- reconstruction but VR-OPS exhibited advantages in terms of fewer procedures, lower complication rates and improved Patient-Reported Outcome Measures(PROMs) and cosmesis.
Conclusion: This review justifies the use of VR-OPS as a safe alternative to mastectomy with a lower risk of complications and for those who WLE isn't possible. There is a gap for a large multi-centre cohort study and a need to improve national PROMs data.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107184 REAL WORLD OUTCOMES OF BLADDER SPARING APPROACHES IN BCG FAILURE - A SINGLE CENTRE EXPERIENCE

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Introduction: Radical cystectomy is the standard for patients with BCG unresponsive disease, however the majority of patients are too frail or unwilling to undergo major surgery. There is growing interest in investigating bladder sparing alternatives. Our objective is to describe real world outcomes - to act as a benchmark for new treatments currently investigated.
Methods: Between Jan 2017 - Sept 2022, a retrospective analysis was conducted at a single institution (UCLH, London), reviewing all patients with BCG failure. The study assessed cancer-specific and overall survival as primary outcomes. Secondary outcomes evaluated disease recurrence, progression, and cystectomy-free survival.
Results: A total of 114 patients were included with 51% BCG refractory disease, 12% experienced relapse, 31% had unresponsive disease, 10% had muscle-invasive disease (MIBC), and 27% exhibited BCG intolerance. Cancer-specific survival rate did not significantly differ between patients choosing bladder-sparing treatment or cystectomy in the relapsing and refractory group (88%), the unresponsive group (67%), and the intolerance group (100%), p=0.51. 93% of the patients who opted for bladder-sparing treatment avoided cystectomy. 11% of the patients received a second-line intravesical treatment, and 71% remained free of high-grade recurrence.
In the MIBC group, there were 3 cancer-specific deaths (25%), while no deaths occurred in the group of patients undergoing cystectomy.
Conclusion: There was no difference in cancer specific survival in cystectomy or bladder sparing groups.
No cancer related deaths were observed in patients avoiding cystectomy in the BCG intolerance group - suggesting that endoscopic surveillance in this group is a valid alternative to cystectomy.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107185 COMPARING INFLAMMATORY RESPONSE BETWEEN LAPAROSCOPIC AND ROBOTIC TOTAL MESORECTALEXCISIONS

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Introduction: Rectal cancer surgery has a high risk of nerve damage, due to technical difficulties and pelvic anatomy, which can influence functional outcomes and produce immune responses. There have not been any trials comparing stress/immune response and few trials comparing functional outcomes between the two techniques.
Method: Comparing laparoscopic and robotic TMEs between 2013 and 2021 with available postoperative immune response data. Primary outcomes were postoperative C-reactive protein (CRP) and neutrophil-lymphocyte ratios (NLR). Secondary outcomes included length of stay (LOS) between the cohorts and correlations in the full dataset.
Results: Data from 113 laparoscopic and 146 robotic TMEs with no significant differences in baseline characteristics was analysed. Robotic cohort had lower tumours compared to the laparoscopic cohort (7.8 [5.0-10.0] vs 6.0 [3.0-8.0] cm from anorectal junction on MRI, p<0.001).
There were significant differences in LOS (7.0 [6.0-13.5] vs 6.0 [5.0-11.0] days, p=0.004), postoperative day (POD)-1 CRP (160.5 [102.5-226.8] vs 106.0 [62.0-148.0], p<0.001), POD-2 CRP (193.0 [125.0-245.0] vs 99.0 [70.0-173.0], p<0.001), and POD-3 CRP (144.0 [103.3-215.8] vs 93.5 [62.0-189.5], p=0.006) in favour of the robotic cohort. There were no significant differences in POD-4 CRP or postoperative NLR between the cohorts. LOS was positively correlated with POD-1 (r=0.168, p=0.009), POD-2 (r=0.186, p=0.007), POD-3 (r=0.264, p<0.001), and POD-4 CRP (r=0.224, p=0.003).
Conclusion: Robotic resections may be associated with a reduced postoperative immune response, which correlates with a shorter LOS. Further research is needed to confirm this hypothesis and explore its potential implications in the surgical treatment of rectal cancers.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107186 THE AGE OF QUILTING: A RETROSPECTIVE STUDY INVESTIGATING SEROMA FORMATION FOLLOWING A MASTECTOMY WITH QUILTING

Alexander Bald, Tani Fasih, Lynn Pounder. *Gateshead NHS Foundation Trust, Newcastle, UK*

Introduction: Breast cancer is the most diagnosed cancer worldwide with 1 out of 3 patients undergoing a mastectomy with or without axillary lymph node dissection. The most common complication following a

mastectomy is seroma formation. One factor in reducing seromas is quilting – where dead space left after surgery is minimised by fixation of the skin flaps to the underlying skin.
The purpose of this study was to investigate the incidence rate of seroma formation following a mastectomy, with and without quilting, and identify the risk factors that influence seroma formation.
Methods: 60 patients undergoing mastectomy with or without quilting were identified in this retrospective study. The primary outcome measured was seroma formation, with secondary outcomes being fluid volume, number of aspirations and tumour biology compared against risk factors in a multivariate analysis.
Results: The incidence rate of seroma formation was significantly higher in the non-quilted group compared with that in the quilting suture group (70% vs. 0%). The type of tumour was associated with an increased incidence of seroma formation, with lobular carcinomas more likely to develop a seroma compared to ductal ($p = 0.034$). There was no significance between grade or weight of tumour in development of seroma in either group.
Conclusion: The type of tumour is an important prognostic factor in influencing seroma formation in patients undergoing mastectomy +/- quilting. Quilting reduces the incidence of seroma formation, and factors that increase incidence rates should be used to identify high risk patients who should undergo mastectomy with quilting.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107187 IMPLEMENTING A GREEN SUSTAINABLE OPERATING THEATRE

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Background: In 2020 the NHS launched the "Greener NHS" and delivered a report that committed to achieve Net-Zero for emissions they control by 2040. Operating theatres are a very energy intensive area using 2-6times more energy than other areas. An Intercollegiate Green Checklist was developed November 2021 as a guide to how theatres can be more sustainable. However, there are multiple barriers to implementing sustainable measures to operating theatres despite everyone's' best intentions. We wanted to introduce a modified green checklist and understand:
•What the adherence of the checklist would be
• The barriers to checklist measures that failed
Methods: Over 3months information was collated on commonly used equipment and instruments in theatres. After discussing with clinicians and procurement, a checklist of 18 areas to change and make theatres more sustainable was devised. Staff received teaching and were briefed in advance.
Results: The initial 3-month results show 9 checklist changes have an over 85% compliance in using more sustainable measures.

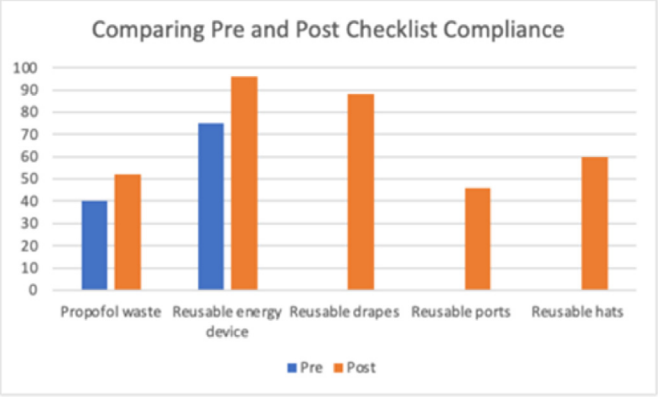

Table shows increased use of sustainable items after initiation of checklist, proving that some more sustainable measures that were available before increased due to use of checklist. Additionally, demonstrates how some items were easy to replace with nearly full compliance (drapes), other less so (ports).
Conclusion: Checklists help to act as a reminder and force initiation of change in early stages of implementation. Response to barriers that are stopping full implementation include supply-chain, resistance to change, NHS time pressures, education and awareness, and leadership.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107189 CROSS-CULTURAL ADAPTATION OF THE LOCALLY RECURRENT RECTAL CANCER – QUALITY OF LIFE (LRRC-QOL) QUESTIONNAIRE FOR USE IN 14 COUNTRIES

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Background: The LRRC-QoL was developed as a disease-specific measure of health-related quality of life for patients with locally recurrent rectal cancer (LRRC), it has been validated for use in the UK and Australia. The aim of this study was to translate and cross-culturally adapt the LRRC-QoL to enable its use on an international platform.
Method: The ISPOR taskforce report concerning PROs in rare diseases was consulted given the low incidence of LRRC. Cross-cultural adaptation of the LRRC-QoL was undertaken through a process of 1) Translatability Assessment (TA), 2) forward-backward translation, and 3) pre-testing interviews to establish content validity and conceptual equivalence across all versions. The QQ-10 measure was used to assess face validity and acceptability. This process was undertaken in Canada, Brazil (Portuguese), Denmark, France, Italy, India and Pakistan (Urdu), Singapore (Mandarin), Spain, Sweden, the Netherlands, and New Zealand. Ethical approval was gained at each participating site.
Results/Discussion: Following a process of TA and forward-backward translation, involving clinicians and professional translators, 67 patients and 6 clinicians were recruited to pre-testing interviews and the LRRC-QoL was found to demonstrate conceptual equivalence and content validity across all versions. Mean QQ-10 Value score was 76.80 (SD 13.88) and mean Burden score was 20.22 (SD 23.03), confirming face validity and acceptability in this international cohort.
Conclusion: The LRRC-QoL has now undergone cross-cultural adaptation to enable its use in 10 languages and 14 countries overall. Its psychometric properties will be further examined through external validation in an international cohort.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107191 THE RELATIONSHIP BETWEEN PRE-OPERATIVE ANTI-DEPRESSANT USE, MALNUTRITION, CO-MORBIDITY, BMI, DISEASE STAGE, SYSTEMIC INFLAMMATION AND SURVIVAL IN PATIENTS UNDERGOING SURGERY FOR COLORECTAL CANCER

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Background: Depression has been adversely associated with survival in patients with cancer. The relationship between depression and survival outcomes in patients with colorectal cancer (CRC) has rarely been studied.
Method: Consecutive patients who underwent elective, resections for CRC, between April 2008 and April 2018, were identified from a prospectively maintained database. Anti-depressant usage was identified from patients' pre-operative assessment. Outcomes of interest were cancer-specific and overall survival. Associations between anti-depressant usage, malnutrition risk, co-morbidity, disease stage, systemic inflammation and survival outcomes were examined using chi-square analysis.
Results: 1047 patients met the inclusion criteria. 35% (n=364) of patients were <65 years of age and 55% (n=582) were male. 9% (n=91) of patients were taking anti-depressants pre-operatively. 34% (n=358) of patients had TNM stage III disease. 35% (n=364) of patients were ASA ≥3. 49% (n=538) of patients had an NLR ≥3 and 28% (n=293) an mGPS≥1. On univariate analysis, anti-depressant use was significantly associated with ASA only

(p<0.05). It was not found to be significantly associated with age (p=0.099), sex (p=0.056), TNM stage (p=0.713), malnutrition risk (p=0.324), BMI (p=0.366), mGPS (p=0.350), NLR (p=0.983), cancer specific survival (p=0.646) or overall survival (p=0.533).
Conclusion: Pre-operative anti-depressant usage was associated with comorbidity but not overall survival in patients undergoing surgery for CRC. Co-morbidity was significantly associated with survival and therefore it may be that depression acts to exacerbate comorbidity.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107192 INVESTIGATING THE ROLE OF CIRCULATING MITOCHONDRIAL DNA IN DISEASE PROGRESSION TO HIGH-RISK MELANOMA, AND ITS CLINICAL UTILITY AS A NON-INVASIVE NOVEL BIOMARKER TO SCREEN FOR DISEASE PROGRESSION, RESPONSE TO TREATMENT, AND RECURRENCE

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Background/Introduction: Melanoma is the most aggressive, deadly form of skin cancer, the incidence of which is among the fastest growing cancers world-wide. It is the leading cause of death from skin malignancy.
The prognosis of metastatic melanoma is grim, with a 5-years survival rate of 5-19%. Better outcomes can be realised through new therapies, improved diagnosis, developed from an improved understanding of the biology of the disease. Our recent work highlights the phenomenon of melanoma tumor cells obtaining energy through mitochondrial transfer from its surrounding mesenchymal cells, conferring a survival advantage for the emerging cancer.
Method: Peripheral bloods were obtained from 15 patients with biopsy proven metastatic melanoma prior to resection. Cell-free DNA were be obtained from these samples, Mitochondrial DNA (mtDNA) quantified using 2 target mitochondrial genes (ND1 and CO2) and qPCR.
Results/Discussion: Serum obtained from the recruited patients with biopsy proven metastatic melanoma had significantly higher cell free mtDNA compared to serum from control patients. Furthermore the first batch of 4 month post-op follow up repeat blood sample in 4 of the 15 patients have exhibited a significantly lower levels 4 months post-op compared to the pre-op levels.
Conclusion: Biomarkers (mtDNA) in the outpatient setting, have a role to play in place of the current costly, invasive and anxiety inducing investigations namely imaging in detecting disease progression, response to therapy and recurrence. Furthermore, this work will allow for novel insight into melanoma derived mtDNA changes to known sites of metastatic tumor progression such as the liver.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107193 THE IMPACT OF ADVERSE HISTOPATHOLOGICAL FACTORS AND GENETIC MARKERS WITH TUMOUR SIDEDNESS ON THE OUTCOME OF STANDARDIZED SURGICAL MANAGEMENT OF COLON CANCER: A SINGLE CENTRE EXPERIENCE-KSA.

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Introduction: Colorectal cancer is the most commonly diagnosed cancer in KSA, with up to two-thirds diagnosed at an advanced stage.
Objective: To assess the impact of histopathological factors and genetic markers with tumour sidedness on the short term oncological outcome .
Patients and Methods: 45 patients with colonic cancer were enrolled from 2018-2022 at MNGHA- KSA. Cases were operated upon by a single surgeon with a standardized surgical technique with assessment of MSI-KRAS ,lympho-vascular (LMVI) & perinueral invasion (PNI) with peritumour infiltration.
Results: Adenocarcinoma was detected in 87% with 13% mucinous variant. The median of harvested nodes was 15(3-65) with 18.2% positivity. CTNM&PTNM were matched in 20.7%.PNI was found in 13.2%,LMVI in 20.9% and tumor perforation in 6.97% .About 35% of cases with adverse prognostic factors had recurrent disease compared to 10.7% in the arm without prognostic factors. MSI positivity was noted in in 4.6%, KRAS/NRAS in 5.4%, BRAF in 2.3% .Tumor sidedness in association with genetic markers, KRAS markers were positive in right sided cancers. NRAS/BRAF and cases with positive MSI were equal in both sides.
In a multivariate analysis, clinical stage was an independent prognostic factor. After a median follow up of 13.0 months , the 5- year- overall survival (OS) and disease free survival (DFS) were 57.3% & 66.5% respectively
Conclusion: The study revealed a disproportionately poor 5 −year- survival rate (57%) compared to those reported among SEER population (65%). Tumour sidedness, adverse histopathological factors and genetic markers have an impact in overall Survival disease recurrence.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107194 RAPTOR: RANDOMISED CONTROLLED TRIAL OF PENTOCLO IN MANDIBULAR OSTEORADIONECROSIS

Anastasios Kanatas [1], Mandeep Bajwa [2,3], Stefano Fedele [4], Jag Dhanda [5], Vinod Patel [6], Chris Butterworth [3], James McCaul [7], Mererid Evans [8], Richard Shaw [3]. [1] *Leeds Teaching Hospitals NHS Trust, Leeds, UK;* [2] *University of Surrey, Guildford, UK;* [3] *University of Liverpool, Liverpool, UK;* [4] *University College London, London, UK;* [5] *Queen Victoria Hospital NHS Foundation Trust, East Grinstead, UK;* [6] *Kings College London, London, UK;* [7] *NHS Greater Glasgow & Clyde, Glasgow, UK;* [8] *Velindra University NHS Trust, Cardiff, UK*

Background: Osteoradionecrosis (ORN) is a severe complication of radiotherapy in Head & Neck Cancer (HNC) patients characterised by exposed necrotic bone, recurrent infection, pathological fractures, and fistulation. Many patients deteriorate and need multiple hospital admissions, removal of necrotic bone and complex reconstruction. A drug combination, PENTOCLO (pentoxifylline, tocopherol, clodronate), purportedly heals most ORN cases with a year-long treatment. While single-arm studies show promise, no randomised controlled trials (RCT) comparing PENTOCLO to a control exist. RAPTOR aims to assess PENTOCLO's efficacy against standard supportive care (SSC) in treating mandibular ORN.
Method: Unblinded phase II RCT measuring time-to-healing as primary endpoint. Secondary endpoints include pain, function, quality of life, and mandibular preservation. Patients undergo 3-monthly clinic visits, supplemented by blinded remote evaluations through clinical photographs. A dedicated app captures patient symptom data every ten days. Eligible participants have been cured from HNC, have ORN of the mandible and are fit for non-surgical interventions. The study aims to recruit 120 patients over 48 months across 15 UK sites.
Discussion: Funded by the NIHR EME, RAPTOR is currently open to recruitment. It is supported by the Maxillofacial Trainee Research Collaborative (MTReC) and the NIHR Associate PI scheme, offering trainees portfolio trial experience. This presentation will showcase the trial and promote recruitment through increased awareness.
Conclusion: RAPTOR will critically assess PENTOCLO against a control, influencing future ORN treatment decisions or necessitating a larger phase III trial. The trial also introduces an ePROM data collection app, showcasing RAPTOR's potential to shape future surgical oncology research.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107195 COMPARING WATCHFUL WAITING AND RADICAL PROSTATECTOMY OUTCOMES IN EARLY PROSTATE CANCER: A SINGLE-CENTER STUDY

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Background: The optimal management approach for early prostate-cancer remains a topic of debate. This study aimed to compare the outcomes of watchful-waiting versus radical-prostatectomy in patients with prostate-cancer in UAE. This study also aimed to contribute to the deficit of studies from the region.
Methods: A retrospective analysis was conducted on prostate-cancer patients who underwent watchful-waiting ($n = 50$) or radical-prostatectomy ($n = 45$) between 2015 and 2023. Patient demographics, clinical-characteristics, and follow-up data were collected. Primary endpoint was disease-specific mortality; secondary endpoints were overall mortality, metastasis, and local tumor progression. Statistical analysis employed appropriate tests.
Results: Average age for the watchful-waiting cohort was 68.3 years, whereas that of the radical-prostatectomy group was 65.7 years. Within the watchful-waiting group, 24% (12 patients) experienced prostate-cancer-related mortality, contrasting with the radical-prostatectomy group's 11% (5 patients) ($p = 0.12$). Disease-specific mortality rates were 7% for watchful-waiting and 3% for radical-prostatectomy. Overall mortality figures were 18% for watchful-waiting and 13% for radical-prostatectomy ($p = 0.36$). Comparatively, radical-prostatectomy was linked to a notably reduced risk of metastasis compared to watchful-waiting (8% vs. 22%, $p = 0.03$). Assessing local tumor progression rates of watchful-waiting cohort was 13%, whereas it was 6% ($p = 0.18$) in the radical-prostatectomy group.
Conclusion: This single-center study comparing watchful-waiting and radical-prostatectomy outcomes in early prostate-cancer suggests a potential benefit of surgical intervention. Radical-prostatectomy demonstrated a trend towards lower disease-specific mortality and significantly reduced the risk of metastasis compared to watchful-waiting. In addition, overall mortality-rates were also lower in the radical-prostatectomy group.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107196 INTESTINAL INTUSSUSCEPTION IN A CHILD WITH PEUTZ-JEGHERS SYNDROME

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Introduction: Peutz-Jeghers Syndrome (PJS), an uncommon inherited autosomal-dominant disorder, is distinguished by mucocutaneous pigmentations, many gastrointestinal hamartomatous polyps, and a higher incidence of gastrointestinal tract (GIT), genitourinary, and extracolonic malignancies. Recurrent acute intestinal obstruction (AIO), in particular intussception in the young, is a serious sequalae of PJS.
Case Presentation: A clinical observation of a 5-year-old patient with a complicated course of PJS is presented. Emphasis on recurring episodes of acute abdomen, clinical diagnosis including polyp histopathology, and surgical management is emphasised.
Clinical Findings and Investigations
While an inpatient, bloodwork demonstrated severe iron deficiency anaemia (Hb 72g/l, er. 3.1x1012/l) and multiple melanin pigmentations measuring 2-4 mm in size on the lip mucosa during a physical-examination. Erosive duodenopathy and polyposis of the stomach were discovered via fibroesophagogastroduodenoscopy (multiple gastric polyps 5-10 mm in size). Acute intussusception of the intestine was discovered by ultrasonography.
Interventions and Outcome
A mid-median laparotomy was performed alongside manual disinvagination with gut viability intact. Histopathology of excised polyps revealed smooth-muscle hyperplasia and Ki67 protein (MIB-1) positivity with small intestinal hamartomatous polyps seen macroscopically. Conservative management was initiated for standard postoperative care and intestinal motility. Patient was discharged nine days postoperatively.
Relevance and Impact
On the basis of literature data, modern ideas about the aetiology, diagnosis and methods of managing patients with PJS are considered. Attention is focused on the high risk of developing cancer of various localization in PJS, recommendations are given for cancer screening and clinical observation of patients with hereditary gastrointestinal syndromes in childhood.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107197 CHILDHOOD AND YOUNG ADULT SKIN CANCERS: A 30-YEAR, UNICENTRIC REVIEW

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Background / Introduction: Skin cancer ranks among the most prevalent malignancies affecting the child and young adult (CYA) population in the UK. An increasing incidence of skin cancer has been observed in this demographic, prompting the need for a comprehensive analysis of its patterns and public health implications. This study aims to shed light on local trends in the East of England and their alignment with the broader national patterns concerning the incidence of skin cancer in this vulnerable population.
Method: A 30-year retrospective cohort study analysed the pathology results of 2,609 cases of skin cancer among individuals aged 0-39 years treated at Addenbrooke's Hospital (Cambridge) between 1991 and 2019.
Results/Discussion: The data shows an increasing incidence of melanoma and basal cell carcinoma (BCC) over the period analysed, controlling for population growth. Melanoma cases rose by 43% in those under 40 years ($p=0.0003$), and BCC cases surged by 101% in the same age group ($p=5x10^{-13}$), with the most substantial rise seen in the 30-39 age category (+174%). Females exhibited a higher risk of melanoma ($p=5.6x10^{-15}$) and BCC ($p=3.3x10^{-8}$) than males. Superficial spreading melanoma was the dominant subtype across all ages, while nodular BCCs gained prevalence in the 2010s, replacing superficial BCCs prevalent during the 1990s.
Conclusion: There is an escalating incidence of skin cancer in the CYA population within Addenbrooke's catchment area. These findings emphasise the critical importance of further implementing preventive measures and promoting early detection strategies.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107198 ENHANCING PERSONALISED CARE ON A LOWER GI 2WW PATHWAY BY A FRAILTY PILOT PROGRAMME

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Background: Our centre is piloting a frailty pathway with NHS Cancer Alliance, incorporated into the LowerGI-2ww secondary care protocol, to provide a holistic and patient-centred geriatric assessment to improve outcomes. The pathway aims to increase the number of patients undergoing Straight-To-Test and achieving the 28-day Faster Diagnosis Standards (FDS) in suspected cancer. This study analyses the frailty pathway referrals and outcomes.
Methods: A prospectively maintained database between January 2022 to June 2023 was analysed. Patients age over 75 with frailty score of ≥ 5 or Performance Score ≥ 3, dementia, polypharmacy and care home residents were referred to the frailty pathway.
Results: Over the 10-month period, 165 patients with suspected cancer were seen on the frailty pathway.2 specialty doctors and pathway navigators assessed all referrals.The average number of investigations per referral was 0.5 for frail patients compared to 1 for non-frail patients.41.2% were found to be unfit for further investigations or self-discharged from the cancer pathway.3 patients required optimisation prior to investigation.

Only 1 patient was diagnosed with cancer. The median number of days patients remained on frailty pathway was 36 days, an improvement on the standard pathway with 45days.The 2ww standard was met in 80% of frail patients compared to 55% in>75s on the standard pathway. The 28-day FDS standard was met in 50% of frail patients compared to 18% in>75s.
Conclusion: Frail patients benefit from a holistic geriatric assessment prior to any invasive investigations. The frailty pathway improved cancer diagnostic outcomes and is an effective initiative in suspected lower GI cancer.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107199 POST COVID-19 PANDEMIC RE-AUDIT OF IMPACT ON IMMEDIATE BREAST IMPLANT BASED RECONSTRUCTION OUTCOMES; INFECTION-READMISSION- REOPERATION- LOSS OF IMPLANT. A SINGLE CENTER RE-AUDIT. (RE-COVIBRO)

Haitham Soliman [1], Asmaa Sharfeldin [2], Ahmed Dorra [3], Mohamed Abdellatif [4], Waleed Fahmy [1]. [1] *Kettering General Hospital, Kettering, UK;* [2] *Faculty of Medicine Menoufia University, Menoufia, Egypt;* [3] *Mid Cheshire University Hospital, Crewe, UK;* [4] *Leicester Royal Infirmary, Leicester, UK*

Introduction: Post COVID-19, Association of Breast Surgery recommended new guidelines for management of breast diseases/immediate breast reconstruction. This is a re-audit..
Methods: Following COVIBRO audit, hospital electronic data collected (March 2021 to February 2022) for early/delayed immediate breast reconstruction outcomes (3 and 12 months respectively). Reconstructions were all pre-pectoral with expanders/implants/TiLoop mesh +/- Dermal sling. Z-test used to compare with the initial audit and National standards (NMBRA, Quality Standards OPS, I-BRA and Pre-BRA).
Results: Re-audit results, Table 1- 2, are all improved except for infection which are similar. All results achieved National targets. There is no significant difference in early outcomes while in delayed re-audit Z-test did not apply (descriptive only).
Conclusion: Re-audit assures high quality service. Unit is to maintain the high standard of practice and governance.

Table 1
Early Outcomes 2020/2021 VS 2021/2022.

Outcomes	NMBRA (%)	Quality Criteria (%)	IBRA (%)	Pre-BRA (%)	COVIBRO 20/21 study N=14 (%)	RE- COVIBRO21/22 studyN=28%	Z-test (P-value)
Infection	25	<10	25	<20	1(7,1)	2(7.1)	0.64 (0.525)
Readmission	16	<5	<18	<18	1(7,1)	1(3.57)	0.26 (0.798)
Reoperation	5	<5	<18	<16	1(7,1)	1(3.57)	0.26 (0.798)
Implant loss	9	<5	<9	<9	1(7,1)	1(3.57)	0.26 (0.798)

Table 2
Delayed Outcomes– 2020/2021 VS 2021/2022.

Outcomes	NMBRA (%)	Quality Criteria (%)	COVIBRO20/21 study, N=14(%)	RE-COVIBRO21/22 StudyN-28(%)	Z-test (P-value)
Infection	25	<10	0(0)	0(0)	-
Readmission	16	<5	1(7.1)	0(0)	-
Reoperation	5	<5	1(7.1)	0(0)	-
Implant loss	9	<5	1(7.1)	0(0)	-

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107200 COMPARING CLINICO-PATHOLOGICAL OUTCOMES BETWEEN OPEN, LAPAROSCOPIC, AND ROBOTIC ANTERIOR RESECTION – A COHORT STUDY FROM A LARGE-VOLUME COLORECTAL UNIT IN THE UK

Amr Abushawaly [1], Lina Abdelmoneim Ali [1], Nithin Narayanan [1], Heba Ibrahim [2], Tamer Hassan [1], Abeed Chowdhury [1]. [1] *Division of Colorectal Surgery, Nottingham University Hospitals, Nottingham, UK;* [2] *Division of Internal Medicine, Sheffield Teaching Hospitals, Sheffield, UK*

Introduction: Rectal cancer comprises around 35% of bowel cancers. Surgical treatment is by anterior resection (AR) whose oncological optimality is determined by lymph node yield, resection plane and distance to margins. We compared the AR outcomes between open (OS), laparoscopic (LS), and robotic surgery (RS).
Methods: Between January 2020 to February 2023, patients who underwent AR were enrolled in our study. We compared the clinicopathological variables and analysed the factors associated with suboptimal resection (SR). We defined SR as circumferential resection margin of </=1mm, lymph node yield of <12, positive margins, sub-mesorectal dissection plane, and/or distance to longitudinal margins of </=2cm.
Results: In total, 229 patients were enrolled. 14.4% had OS, 64.2% had LS, and 21.4% had RS. In RS, more patients were ASA 1 or 2 (P=0.033). Operative duration did not differ significantly, but the length of stay was shorter in RS compared to LS and OS (mean 5.2 Vs 6.3 Vs 12.3 days, respectively, P<0.001). Postoperative complications were less common in RS (P=0.014) and covering ileostomy was more common in OS (P=0.039). Factors associated with SR were tumour size <5cm (P<0.001), tumour height </=10cm (P=0.006), and preoperative chemo-radio therapy (pCRT) (P=0.003). The type of surgery did not affect the resection quality and neither did sex, age, BMI or stage.
Conclusion: RS reduces hospital stay and complication rate in AR without increasing the operative duration. SR was associated with small and low tumours, and pCRT. Type of surgery did not affect the quality of resection.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107201 QUALITY AND READABILITY OF ONLINE INFORMATION AND MATERIALS ON SEROMAS

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Introduction: Breast cancer is the most diagnosed cancer worldwide with seroma formation being the most common complication following breast surgery. Despite them being the most prevalent complication following breast surgery, and NHS Digital Toolkit advising that medical pages should aim for a reading age of 9-11 years, there is little evidence on the quality and readability of online patient education materials on seromas.
The purpose of this study was to examine the readability of online materials about seromas and assess their suitability for the general population with varying levels of health literacy.
Methods: 36 English-language websites were identified using two different search terms on Google related to seromas. The readability of each article was assessed using the Flesch Reading Ease Formula, Flesch-Kincaid Grade Level, Coleman-Liau Index, Gunning-Fog Index, and Simple Measure of Gobbledygook Grade Level (SMOG).
Results: The average Flesch-Reading Ease score for all patient education materials was 53.9 (± 21.9), suggesting that they were 'fairly difficult' to read. The average Flesch-Kincaid reading grade level was 7.80 (± 3.1), which is higher than the recommended reading level for patient education materials.

Conclusion: Online patient education materials regarding seromas are at a higher-than-recommended reading grade level of the general public. Improvement would allow all patients, regardless of literacy level, to access and utilise such resources to aid decision making around undergoing breast surgery.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107202 SEXUAL AND URINARY DYSFUNCTION IN PATIENTS UNDERGOING EXTENDED TOTAL MESORECTAL EXCISION FOR LOCALLY ADVANCED RECTAL CANCER

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Background: 40–50% of Indian patients present with locally advanced rectal cancer, which requires resection beyond the mesorectal plane. The functional outcome of the same has not yet been reported in the literature. Hence, this study reports sexual and urinary dysfunction in patients undergoing extended total mesorectal excision.
Method: This study uses a questionnaire to conduct a retrospective analysis of male patients who underwent extended total mesorectal excision from 2014 to 2022. Urinary and sexual dysfunction were assessed using the International Prostatic Symptom Score (IPSS) and the International Index of Erectile Function Score (IIEF), respectively.
Results: 68 male Patients were included, with a mean age of 44 years. The anterior quadrant was the most common anatomical site resected (60.5%). There was no significant difference between type of surgery and Urinary or sexual outcome The Median post-operative foleys removal day was 20 (3–60). Retention and incontinence occurred in 7 (10.3%) and 7 (10.3%) patients, respectively. Only two (2.94%) of these patients needed clean intermittent catheterization. According to the IPSS, 40 (58.8%) were mildly symptomatic, whereas 15 (22.1%) and 13 (19.1%) were moderately and severely symptomatic, respectively, at a median follow-up of 30 months. According to IIEF severity, 14 (20.6%) had mild to moderate erectile dysfunction, and 25 (36.7%) had severe erectile dysfunction.
Conclusion: After eTME, 36.8% of patients had severe erectile dysfunction and 19.1% had severe urinary dysfunction at a median follow-up of 30 months. Therefore, pre-operative counseling and post-operative follow-up are crucial to enhancing these patients' quality of life.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107204 CHOROID PLEXUS TUMOURS: A STUDY ON PROGNOSTICATING FACTORS ON CLINICAL AND EDUCATIONAL OUTCOME

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Background / Introduction: The optimal management of choroid plexus tumours (CPTs) of various grades is unclear, due to low incidence, young age of presentation, variable gross total resection (GTR) rate and the challenging risk/benefit balance regarding adjuvant therapy. Most patients require cerebrospinal fluid shunt insertion. This study investigates the clinical, oncological, and surgical factors affecting clinical outcomes.
Method: 15-year retrospective study from (2006–2021). Patient demographics, tumour and treatment data were collected. Event-free survival [EFS] was performed using Kaplan-Meier analysis. Events were defined as recurrence or death from disease.
Results/Discussion: Seventeen patients were included. 9 patients with WHO grade I lesions had a 5-year EFS of 89 %(8/9). A disease recurrence occurred in the only child without GTR. Out of the 5 grade II, and 3 grade III cases, 50 %(4/8) achieved GTR and one mortality occurred at 6 months of a child with a partially resected grade II tumour. Shunt insertion rates were greater in grade I than grade II/III tumours (6/9 vs 4/8), as well as shunt revision rates (4/6 vs 1/4). Three children out of eight attended special educational needs schools. The same 2 of the 3 children developed post-operative epilepsy and had shunt insertion.
Conclusion: Children with choroid plexus papillomas treated with surgery alone achieve a high EFS. 8 children with grade II/III disease, who received adjuvant therapy following surgery, achieved a 75% EFS and 88% overall survival. Post-operative epilepsy and shunt may be associated with poorer cognitive and educational outcome.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107205 SIMULATION IN SURGICAL TRAINING: USEFULNESS AND QUALITY SURVEY AMONG TRAINEES

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Introduction: Simulation is a well-established form of training. In surgery, it allows to achieve proficiency through unlimited practice opportunities.
Aim: Assess the usefulness of simulation courses among surgical trainees within the West Midlands Deanery.
Methods: A survey was handed to all the attendees at the beginning and the end of the courses to self-assess their performance. The trainees were divided in 2 groups: Specialty Registrars, if they were above ST3 level (n=63), and Junior Doctors below that (n=50). Index procedures were laparoscopic appendicectomy, inguinal hernia repair, bowel anastomosis and laparoscopic right and left hemicolectomy. A 0 to 10 scale was used to evaluate their degree of confidence with these procedures. A rate of 6 or more was considered confident. Fisher's exact test was employed to calculate the statistical significance between the confidence rating for each procedure before and after the course.
Results: One hundred and thirteen trainees participated in the courses between October 2022 and June 2023 at UHB. Only 28% of the participants felt comfortable with their laparoscopic skills prior to the course. The median number of appendicectomies, hernia repairs and bowel anastomosis performed within the group of Junior Doctors prior to the course was 5, while for the Specialty Registrars was 15, 10 and 5, respectively. Statistical significant difference was demonstrated for each one of the procedures.
Conclusions: Despite the subjectivity of this assessment, all trainees reported feeling satisfied with the course format and they all improved their performance confidence regardless of their level of training.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107206 DOCUMENTING CLINICAL AND RADIOLOGICAL ASSESSMENT SCORES IN A ONE-STOP BREAST CLINIC

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Background: In accordance with ABS (Association of Breast Surgeons) standard clinical practise guidelines, breast examination scores should be recorded in the form of P1-P5, with P1 representing normal findings and P5 reflecting findings suggestive of cancer. This helps the radiologists to gather an objective idea of the clinical findings prior to imaging. Similarly, RCR (Royal college of Radiology) guidelines advise M1-M5/U1-5 scoring for mammogram and Ultrasound respectively. This study aims to retrospectively analyse patient records and to evaluate the following
-Proportion of patients who had examination and imaging scoring documented
-Concordance between examination (P) and imaging (M/U) scores with the biopsy reports, hence the quality of triple assessment.
Methods: This is a retrospective audit of prospectively maintained data from patients presenting to breast clinic at a single centre during a period of 4 months (1/5/2022 to 30/6/2022 and 1/11/2022 to 31/12/2022). Data was obtained from electronic patient records, and analysed using SPSS.
Results: Out of 951 patients studied, 608 (63.9%) patients had their P scores documented and 100 % of patients who had imaging had their M/U scores documented. We found a significant association between the documented P-scores with the M, U and Biopsy results as per Chi-square test. $X2$ (30, $N=951$) = 4.738, $P = 0.029$.
Conclusions: P-scores haven't been recorded in 100% patients as per the

standard. In order to ensure that P-scoring is uniformly recorded by all clinicians, a standardised examination template has been implemented within the department.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107207 REAL WORLD INCIDENCE OF BREAST LYMPHOEDEMA FOLLOWING BREAST CONSERVING SURGERY AND DIFFERENT RADIOTHERAPY SCHEDULES.

George Lodge, Siobhan Laws. *Royal Hampshire County Hospital, Winchester, UK*

Background: Lymphoedema of the breast is a known side effect of breast conserving surgery (BCS) and adjuvant radiotherapy. There is significant variability in reported incidence of breast lymphoedema following breast cancer treatment and even less following the newly introduced 26Gy in 5# radiotherapy regimen following the FAST-Forward Study in 2020, however data from this indicates a possible, increase in clinician reported breast oedema and patient reported breast swelling, as well as increased breast lymphoedema specialist referrals from the shorter course of EBRT. At our district general hospital, we offer intra-operative radiotherapy (IORT) to a subsect of patients, which showed fewer side effected than external bean radiotherapy (ERBT) in TARGIT A trial.
We are conducting a retrospective cohort study comparing prevalence of breast lymphoedema in breast cancer patients who received BCS and either IORT, fractionated EBRT and hypofractionated EBRT.
Materials and Methods: We have matched age, BMI, type of breast and axillary surgery in patients in the IORT and EBRT groups to reduce the variability these breast lymphoedema risk factors will create. From these, we will assess lymphoedema both radiologically through analysis of 1 year post-treatment mammograms for presence of lymphoedema and measurement of skin thickening, and symptomatically through attendances at breast care nurse clinics for breast lymphoedema management. There are various secondary outcome measures.
Results: No formal results yet, mammograms being reviewed by radiologist currently. We will have results pre-BASO
Conclusions: None without results but preliminary data suggest more mammographic evidence lymphoedema with hypofractionated course of external beam radiotherapy.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107208 PATTERNS OF SERUM CEA IN RECURRENT SIGNET CELL COLORECTAL ADENOCARCINOMAS

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Aim: Carcinoembryonic antigen (CEA) serves as a valuable biomarker for treatment and surveillance in colorectal cancer. However, its role in monitoring recurrence remains uncertain. This study aims to investigate CEA trends in cases of recurrent signet cell colorectal adenocarcinoma.
Method: A retrospective analysis was conducted on patients diagnosed with signet cell colorectal adenocarcinoma. Baseline CEA levels, recurrence occurrences, CEA levels at recurrence, and sites of recurrence were examined. The rate of transformation of CEA secretory status at recurrence was assessed and correlated with the recurrence site.
Results: Among 747 patients with signet cell colorectal adenocarcinoma presenting at our tertiary care center from June 2011 to October 2021, 337 treated with curative intent were analyzed. 263 patients who completed treatment were included in the final analysis. The median age was 36. 29.7% were women. Median baseline CEA was 3.35 ng/mL. Baseline secretors constituted 32.3% of patients. During a median follow-up of 21 months, 44.86% experienced recurrence.
At recurrence, 94.3% of baseline secretors exhibited elevated CEA levels, while 70.76% of baseline non-secretors transitioned to secretor status. Irrespective of the recurrence site, a similar proportion of patients presented with CEA elevation.
Conclusion: CEA elevation was prevalent in most recurrences, regardless of baseline secretor status. A significant portion of non-secretors demonstrated elevated CEA levels upon recurrence, supporting the use of CEA in surveillance for signet cell colorectal cancer/ For baseline secretors with normal CEA levels at recurrence, there was a notable negative predictive value. CEA elevation appears to be non-site specific.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107209 COST EFFECTIVENESS OF INTRAOPERATIVE RADIOTHERAPY VS HYPOFRACTIONATED EXTERNAL BEAM RADIOTHERAPY IN BREAST CANCER PATIENTS - AN ECONOMIC ARGUMENT FROM A DISTRICT GENERAL HOSPITAL.

George Lodge, Siobhan Laws. *Royal Hampshire County Hospital, Winchester, UK*

Background: Intra-operative radiotherapy (IORT) offers an alternative to external beam radiotherapy (ERBT) in a subsect of early breast cancer patients.It is delivered at time of surgery: both convenient for the patient but also reducing delays in receiving EBRT due to current waiting lists - which has been shown in itself to result in worse clinical outcomes. Having had experience of IORT while partaking in the TARGIT-A trial, our district general hospital (DGH) is one of few centres able to perform IORT as per NICE guidelines.
Method: We calculated all additional costs of delivering IORT (alongside breast-conserving surgery (BCS) and OSNA). We then compared this extra cost per patient to the current tariff for radiotherapy to understand the cost/saving per patient of IORT.
Results: To be updated with newly released tariffs, but as per last year's tariffs:
IORT rate paid per patient: £3216.64. Extra costs to hospital per case: £690.64. Incorporating that 15% of IORT patients went on to receive ERBT, total income for the hospital per case: £1173.13.
Discussion: With capital purchase of IORT accelerator, it becomes financially beneficial over 24.4 cases/year. If one were to rent (inc service), it is financially beneficial over 30.6 cases per year. Our medium sided DGH has about 80 patients eligible for IORT/year, and could have more from neighbouring trusts or private use. We find this as a case study to be a strong economic argument for using IORT in BCS, alongside lower patient morbidity and reducing pressure on clinical oncology.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107210 INCIDENTAL IMAGING DETECTION OF BREAST CANCER: ONE YEAR ANALYSIS OF BREAST MDT OUTCOMES IN A DISTRICT GENERAL HOSPITAL

Emily Mills, Oscar Oglina, Emma Gray. *Mid and South Essex NHS Trust, Southend, UK*

Background/ Introduction: Incidental breast lesions compose a well-recognised proportion of referrals to the Breast Multi-Disciplinary Meeting (MDM). However, there is limited data on how many of these referrals result in a new cancer diagnosis. This project aimed to assess and quantify new breast cancer diagnoses referred to the MDM arising from incidental findings on imaging including CT for the period of April 2022 to April 2023.
Method: This was a retrospective one-year study conducted at Mid & South Essex NHS Trust (MSE). The inclusion criteria specified the imaging had to be for a different suspected clinical diagnosis other than breast cancer. Patients were excluded if they had known breast cancer or we undergoing current treatment for breast cancer.
Results/ Discussion: Over this period, 95 patients were eligible and identified. The mean age for patients were 71 (age range: 33 to 93). Of these 95, 45 patients underwent Triple Assessment in the Breast Unit. Among these patients, 15 were diagnosed with breast cancer. Our dataset demonstrated an incidental breast cancer detection rate of 16%.
Conclusion: Early referral to the Breast MDM and appropriate Triple Assessment could lead to early breast cancer detection and potentially improved clinical outcomes for patients. These findings highlight the significance of multidisciplinary collaboration in optimising breast cancer diagnosis and patient care.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107211 CAN SENTINEL LYMPH NODE BIOPSY BE OMITTED FROM THE MANAGEMENT OF SCREEN-DETECTED BREAST CANCER IN SELECTED PATIENTS?

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Background: Sentinel lymph node biopsy (SLNB) is an established procedure in the management of breast cancer. However, as management options become more nuanced, MDT discussion may be more appropriate to determine the benefit of axillary surgery in early screen-detected breast cancer. This study aims to investigate the need for further axillary surgery in screen-detected patients.
Methods: Patients diagnosed with screen-detected invasive breast cancers were analysed between April 2018 - May 2019 at a single district general hospital. Data was gathered from electronic medical records. Patients undergoing neoadjuvant treatment were excluded.
Results: 72 patients with screen-detected invasive cancers (grade 1-3) undergoing breast surgery and SLNB were identified. Median age was 60 years. Of the 72 patients that underwent SLNB, 6 (8.3%) had macrometastatic disease. Of these 6, 3 had axillary node dissection (AND) during the index procedure based on intra-operative OSNA assessment and 3 returned to theatre for AND (one also required re-excision of margins). 11/72 patients total required re-excision of margins. In the follow-up period to August 2023, 3 patients had local or distant recurrence and 2 had contralateral primaries. All tumours <16mm had negative SLNB.
Conclusions: Only 8.3% of patients had positive SLNB, much lower than the 34% rate quoted in the AMAROS trial. In our study all tumours under 16 mm had negative sentinel nodes. We suggest that SLNB may be unnecessary in selected screen-detected breast cancers and MDT discussion may be more appropriate. Further studies to establish tumour and patient criteria for this group are required.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107212 IMPACT OF THE 'STRAIGHT TO TEST' RAPID DIAGNOSTIC CENTRE (RDC) GASTROINTESTINAL (GI) PATHWAY ON THE BREAST MDT OVER ONE YEAR

Emily Mills, Emma Gray. *Mid and South Essex NHS Trust, Southend, UK*

Background/ Introduction: Rapid Diagnostic Centres (RDCs) are coordinated quality-care pathways that are being expanded through NHS England, with the aim to transform and accelerate cancer diagnoses. Within the Mid and South Essex (MSE) Trust, RDCs have been introduced for suspected Lower GI Cancer pathways, which include a straight to colonoscopy in addition to imaging (CTCAP) following a positive FIT Test (>10), prior to review by a Colorectal Surgeon. An unintended consequence of RDC pathways will therefore be incidental findings requiring referral on imaging, which will then impact wider specialty workload.
Method: Breast MDT records at Mid & South Essex NHS Trust (MSE) were retrospectively examined over a one-year period from April 2022- April 2023 during the running of the RDC Lower GI pathway. Included patients were required to have a CTCAP (via RDC pathway) demonstrating an incidental breast lesion. Patients were excluded if they had previous or current breast cancer.
Results/ Discussion: During this period, 18 patients were referred to the Breast MDM as a result of the Lower GI RDC CTCAP. Of these 18, 13 proceeded to Triple Assessment and of those 13, 6 were confirmed cancer diagnoses of breast. Of the 5 that did not proceed to Triple Assessment, 3 were known breast lesions and the remaining 2 were deemed benign.
Conclusion: This study demonstrates the wider impact that 'straight to test' pathways can have on specialties other than the one initially intended. A thorough assessment of the broader effects of RDC pathways are essential during their implementation.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107213 IMPACT OF INCIDENTAL BREAST FINDINGS DUE TO CT SCANS: A SINGLE TRUST, ONE YEAR EXPERIENCE

Emily Mills, Emma Gray. *Mid and South Essex NHS Trust, Southend, UK*

Background/Introduction: Incidental breast lesion CT findings comprise a significant burden of MDT expertise, needing input from both radiologist and surgeon. This year-long project aimed to quantify and analyse incidental breast lesion referrals to the Breast MDT originating from CT imaging, focusing on the referring specialties involved.
Methods: This retrospective audit examined records between April 2022 and April 2023 at Mid and South Essex NHS Trust of incidental breast lesions found on CT imaging to the Breast MDT. Patients were excluded if they had previous or known breast cancer. Only incidental breast findings on CT were included in this project (excluding PET-CT).
Results/Discussion: Over the year period, 83 patients were identified as incidental referrals based on CT imaging for other primary indications. This comprised as a mean of 2 referrals (that met the above inclusion criteria) per week. The highest burden of referrals in relation to referring specialty were Respiratory 28% (23), Colorectal 24% (20), Upper GI 13% (11). The primary imaging modalities that were detecting incidental breast lesions were CT Thorax (alone) 45% (37), CTCAP 40% (33), CTPA 11% (9). The cancer rate amongst incidental CT detected breast lesions and specialities was 16% (13 cases).
Conclusion: The highest burden of specialty referrals came from those with existing Rapid Diagnostic Centre (RDC) pathways including need for CT imaging prior to clinician review, in this case, both Respiratory and GI Pathways. It is therefore important that the impact of RDCs in relation to the Breast MDT are understood and considered.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107214 THE ROLE OF AI IN SURGICAL ONCOLOGY – ANALYSIS OF THE LITERATURE AND A NARRATIVE OF ITS FUTURE SCOPE

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Background: AI in surgical oncology has become increasingly prevalent, especially its application to advanced imaging and personalised medicine. However, the extent to which AI will shape the near future of surgical oncology is poorly understood and often overestimated. This study aims to assess reasonable expectations on the role of AI in robotic surgery, surgical technique/anatomy, and personalised surgical education/credentialing.
Method: Studies on the role of AI in surgical oncology were reviewed. Domains of application were listed and commented evaluating the future expectations and greatest needs.
Results: Whilst there is scope for automation of certain basic components of robotic surgery, there are certain ethical and governance measures that must be considered. A greater degree of intra-operative data collection can guide assessments on post-operative outcome, and this can be handled using AI. From a training perspective, AI-generated assessments can highlight specific areas of development and personalisation on training curricula. Bias mitigating strategies have been developed to limit overskilling and underskilling biases. Promising potential for combining AI with computer vision algorithms in haemorrhage and other hazard detection as well as automation of endoscope motion have been evaluated.
Conclusion: AI shows great promise in revolutionising several components of surgery, including automation, tissue recognition, hazard detection and optimised visualisation. There is scope for detailed, personalised intra-operative feedback that can be utilised for post-operative outcomes and to identify the role for AI in surgical credentialing. Ethical concerns

regarding the data protection of both patients and surgeons, as well as bias mitigation must be considered.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107215 LARGE RECTAL POLYPS REQUIRE SPECIALIST ASSESSMENT AND STAGING TO OPTIMISE MANAGEMENT OF EARLY RECTAL CANCER

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Background / Introduction: The SPECC Initiative defines Significant Rectal Polyps as those measuring 20mm or greater in size. However, national guidelines suggest size alone should not be used to assess risk of cancer in polyps, and classification of endoscopic appearances better reflects the degree of risk.
Method: Retrospective analysis of all patients with a rectal polyp measured at 15mm or greater in size at index LGI endoscopy in a NHS Trust over 2 years (01/09/2020-31/08/2022).
Results/Discussion: 175 polyps measuring 15mm or larger were identified.
55 polyps measured 15-19mm in size, and 3 contained cancers (5.5%). All were adequately endoscopically excised.
120 polyps measured 20mm or greater in size and 16 contained cancer (13.3%). Of these: 6/70 polyps measuring 20-29mm contained cancer (8.6%), 6/29 polyps measuring 30-39mm contained cancer (20.7%) and 4/21 polyps measuring 40mm or larger contained cancer (19.1%).
Recording of size and Paris Classification was excellent, but other risk factors such as Pit Pattern, Sano Capillary Pattern or NICE NBI Pattern were recorded in fewer than 10% of reports.
10/16 cancers had T1N0 final histopathological staging but 3 patients underwent unnecessary major surgery after inadequate endoscopic piecemeal resection.
Conclusion: Large rectal polyps are common and the risk of cancer is significant and likely under-recognised.
Suboptimal staging and excision in endoscopy can lead to over-treatment of T1 rectal cancer. Staging classifications based on endoscopic appearances are rarely reported, and a simple 20mm size threshold for specialist staging assessment prior to removal, could avoid unnecessary major resections for T1 rectal cancer.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107216 MRI-DETECTED EXTRAMURAL VENOUS INVASION (EMVI) RESPONSE TO LONG-COURSE CHEMORADIATION (LCRT) VERSUS SHORT-COURSE RADIOTHERAPY WITH SYSTEMIC CHEMOTHERAPY (SCRT) IN PATIENTS WITH LOCALLY ADVANCED RECTAL CANCER (LARC)

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Introduction: Locally advanced Rectal cancer (LARC) is treated with LCRT or SCRT with chemotherapy, followed by surgery. EMVI-positive patients on rectal MRI have a higher risk of recurrence. The aim of our study was to compare MRI response on EMVI between both modalities of neoadjuvant therapy.
Methods: In this retrospective study, 140 patients of LARC with EMVI on MRI who received neoadjuvant SCRT or LCRT were identified between 2018-2020. EMVI features assessed included a 5-point EMVI grade. MRI response of EMVI to treatment was assessed using a specific tumor regression grade (TRG) for EMVI (mr-vTRG). Multivariate regression analysis was performed to evaluate factors predicting CR/nCR of EMVI (mr-vTRG 1-2). The predicted probability of achieving mr-vTRG 1-2 was calculated.
Results: We included 81/140 cases (excluding metastatic and defaulters). 44/81(54.3%) patients received LCRT, while 37/81(45.7%) got SCRT with chemotherapy. 20/44(45%) LCRT patients and 18/37(49%) SCRT patients had mr-vTRG 1-2 on response MRI. After controlling for other factors that influence response to neoadjuvant therapy, the predicted probability of achieving mr-vTRG 1-2 was 15% in the LCRT arm, and 61% in the SCRT arm (statistically insignificant). None of the baseline tumor characteristics or EMVI features significantly correlated with higher EMVI response rate post-neoadjuvant treatment.
Conclusion: Patients receiving SCRT and chemotherapy had a non-significant but higher predicted probability of achieving complete/near-complete EMVI response compared to LCRT. Individual EMVI parameters on MRI did not predict radiation response. Larger studies are required to evaluate whether SCRT should be preferred in EMVI-positive patients.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107217 UPTAKE OF GENETIC TESTING IN A SYMPTOMATIC BREAST CLINIC BY PATIENTS WITH FAMILY HISTORY OF BREAST CANCER

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Background: Patients in a symptomatic breast clinic usually have concerns about cancer particularly when a first degree relative, a mother or sister has suffered from breast cancer. The NHS offers genetic testing to those with an eligible risk score. However, the majority do not meet the criteria. The prohibitive cost of private blood tests is unaffordable. Recent cheaper saliva assays open the possibility of offering genetic testing to this group.
Materials and Methods: 95 patients with breast symptoms and at least one first degree relative with breast cancer, were counselled about genetic testing. A qualified counsellor was also available. The 30 gene assay on a saliva sample was offered via the Colors Company USA. Those testing positive were booked back to the clinic to discuss implications and management.
Results: The test was taken up by 41(43%) of the 95 patients. Two cancelled the test and one submitted an unsatisfactory specimen. Of 38 patients who underwent the test, five (16%) tested positive. Mutations were identified as the APC variant in 2 patients, MITF, CHEK2 and BRCA2 in others. Two patients had previous cancer diagnosis, one was post mastectomy and two are now on extended surveillance. The BRCA 2 gene patient underwent risk reducing mastectomy on the contra-lateral side.
Conclusion: The study shows that nearly half of the patients in a symptomatic breast clinic took up genetic testing when offered. Private affordable testing has helped in informing management decisions in those with a positive family history whilst reassuring those testing negative.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107218 THE IMPACT OF ROUTE OF PRESENTATION ON COLORECTAL CANCER OUTCOMES

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Background: Emergency presentations are reported to be associated with worse survival outcomes in colorectal cancer.
Method: A retrospective review of patients with a new diagnosis of colorectal cancer presenting to a tertiary referral center hospital between 2017−2018 was conducted. Cases were divided by route of presentation: 1) emergency admission, 2) suspected cancer referral (2-week wait (2WW)), 3) non-2WW wait referrals and 4) bowel cancer screening pathway. Data was collated on patient demographics, stage at diagnosis, treatment (surgery/radiotherapy/chemotherapy) and outcome.
Results: Three hundred and fifty cases were reviewed. Median age at diagnosis was 75 (range 30 to 97 years). The majority of tumours were left-sided (n=218) and 132 were right-sided. In total, 51% of patients (n=170) presented through 2WW referral pathways, 11% (n=38) as a result of screening, 13% (n=46) through non-2WW referrals and 25% (n=87) as emergency presentations. Stage at diagnosis was significantly associated with route at presentation, with 40% of emergency presentations having stage 4 metastatic disease at time of diagnosis compared to 22% for 2WW, 13% for non-2WW and 16% for screening routes ($p<0.001$). This finding was reflected in patient management with significantly fewer patients diagnosed as an emergency managed with curative intent (54%), compared to 76% for 2WW, 74% for non-2WW referrals and 97% for screen detected

cases (p<0.001).
Conclusions: Route of presentation has a significant impact on stage at diagnosis, patient management and survival. Further analysis of patient pathways is needed to identify potential opportunities for earlier diagnosis and improved uptake of screening.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107219 INHIBITION OF PEROXISOME METABOLISM AS A NOVEL APPROACH TO SELECTIVELY KILL HYPOXIC TRIPLE NEGATIVE BREAST CANCER CELLS

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Introduction: Regions of hypoxia (<1% O_2) are present in more than 50% of triple negative breast cancers (TNBC). Hypoxia is associated with resistance to chemotherapy and worse patient outcome. Identifying novel targets that sensitise hypoxic cancer cells is required to target the most resistant fraction of tumours. Peroxisomes are metabolic organelles involved in lipid metabolism. They share many features with mitochondria, but paradoxically have been overlooked and the functional effects of peroxisomes in cancer are poorly understood. This project aims to investigate if inhibition of peroxisomal genes can selectively kill hypoxic TNBC cells.
Methods: TNBC cell lines were exposed to 2% or <0.1% O_2 and were analysed for changes in PEX gene expression (RT-qPCR) and peroxisome number (ICC). siRNA knockdown and clonogenic assay was used to investigate the impact of PEX gene expression on cell-survival. PEX expression and correlations with hypoxic status was assessed via staining of breast cancer tissue microarrays.
Results: PEX gene expression and peroxisomes themselves were upregulated when exposed to hypoxia (<0.1% O_2). PEX expression was found to be under the control of the ATF6 arm of the unfolded protein response. Genetic inhibition of PEX2, 6 and 13 lead to a significant reduction in hypoxic cell-survival in TNBC cell lines and sensitised hypoxic cells to chemotherapy. Single agent treatment with Thioridazine (THZ), an FDA approved peroxisome metabolism inhibitor, led to a reduction in hypoxic cell-survival.
Conclusions: This work, for the first time, demonstrates that targeting peroxisome metabolism is a promising therapeutic approach for treating hypoxic TNBC.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107222 MINIMALLY INVASIVE PELVIC EXENTERATIONS – EXPERIENCE OF 160 CASES FROM A TERTIARY CANCER CARE CENTRE IN INDIA

Tejas Vispute, Avanish Saklani, Ashwin Desouza, Mufaddal Kazi, Ankit Sharma, Sanjay Singh, Prudviraj S, Nishant Yadav, Yogesh Bansod, Karthik Prakash. *Tata Memorial Center, Mumbai, India*

Introduction: Pelvic exenterations are performed for locally advanced rectal cancers involving contiguous pelvic organ not responding to neoadjuvant therapy. We assess feasibility of minimally invasive pelvic exenteration in patients presenting to our centre.
Methods: It is a retrospective study from prospectively maintained database. Parameters included are demographics, stage, treatment, pathological outcomes and short-term surgical and oncological outcomes.
Results: Between June 2014 to June 2023, 160 MIS pelvic exenterations were operated. 33 (20%) were robotic and 127 (80%) laparoscopic. 95 were total pelvic exenterations, 45 (28%) were posterior exenterations, 20 (12%) were bladder sparing. Conversion to open rate was <1%. 148 (93%) received neoadjuvant therapy. 99 (62%) received long course RT with oral capecitabine and 52 (32.5%) received short course RT. 91 (57%) received pre op chemotherapy. Pelvic lymph node dissection was done in 91 (57%). R0 resection was performed in 94%. Median age was 47 years with predominant population of males (66%). Signet ring histology was seen in 14.4%. Median blood loss was 700 ml. Median duration of surgery was 500 minutes. 43 (23.8%) developed morbidity Clavien Dindo III or more. Mortality was seen in 5 (3.1%). Perineal wound infection was seen in 39 (24.4%) and urinary leak in 17 (10.3%). Mean post op stay was 12.5 days. Empty pelvis syndrome was seen in 14 (8.8%). Pathological complete response was seen in 9.4%. 120 (75%) received adjuvant chemotherapy.
Conclusion: Minimally invasive exenterations are technically feasible with acceptable short term oncological and surgical outcomes.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107223 ARE PATIENTS WITH MALIGNANT MELANOMA OPERATED ON WITHIN NATIONAL CANCER WAITING TIMES STANDARDS?

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Background: Malignant melanoma (MM) is the UK's most rapidly increasing type of cancer, with approximately 16,000 cases detected per year. Timely referral to a specialist is crucial for a quicker and more accurate skin cancer diagnosis. We evaluated the performance of the local melanoma referral pathway against national cancer waiting times, to identify limiting factors and find solutions to deliver service in a streamlined manner.
Method: Patients with MM referred to general surgeons between March and June 2022 were identified retrospectively. Patients with other skin cancers, concurrent malignancy, metastatic melanoma, or those declining surgery were excluded. The date of each step of the referral pathway was noted using Excel, and the difference between the dates was calculated. The percentage of compliance with the 31-day and 62-day wait was compared against the national operational standard.
Results: There were 59 referrals for patients with suspected MM, 22 patients were excluded. 83% of patients received their first treatment from diagnosis within 31 days, falling short of the 96% target. 60% of patients received surgery within the following 31 days. The average time from diagnosis to surgical treatment was 56.8 days, with a range of 15 to 101 days.
Conclusion: Overall, the average time to surgery for patients with MM was less than the target 62 days, however there was notable variation in the number of days patients waited for their operation. Further detailed analysis of cases with long wait times is required to reduce the risk of delaying vital cancer treatment.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107224 WAIT TIMES FOR PATIENTS WITH BLADDER CANCER FROM TRANS-URETHRAL RESECTION OF BLADDER TUMOUR TO CYSTECTOMY OR CHEMORADIOTHERAPY

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National Health Service guidelines state first definitive treatment for patients with suspected bladder cancer should be initiated a maximum of 62 days from referral, and 31 days following TURBT (Trans-urethral Resection of Bladder Tumour). However, patients often wait longer than this. TURBT is diagnostic and therapeutic in non-muscle invasive bladder cancers, but not definitive treatment for muscle-invasive bladder cancers (MIBC); this remains cystectomy, radiotherapy or chemoradiotherapy with neoadjuvant chemotherapy. We aimed to determine the wait for first definitive treatment for MIBCs after TURBT at a tertiary centre hospital.
All patients from 03/07/2017 to 29/06/2020 who had undergone a TURBT were included. Data were collected for demographics, date of TURBT, the date of their first treatment following this (cystectomy, chemoradiotherapy or radiotherapy). Inclusion criteria was patients who were not on palliative care, and had MIBCs with no metastases.
100 patients met the inclusion criteria. 76% were male. Median age was 74 years (interquartile range 16). 64% were referred via the two-week wait pathway. 28% had tumours that were pT3 and above (invades perivesical fat), with the remainder being pT2. 24% received treatment within 62 days

of their TURBT. 54% received treatment later than this. The remaining 22% received neither a cystectomy nor chemoradiotherapy or radiotherapy. Some patients received neoadjuvant chemotherapy.
Of those receiving treatment, the median wait time was 105 days (IQR 108). Patient mortality was 53%. There is a substantial delay from TURBT to treatment which may contribute to poor prognosis. Thus, interventions to improve outcomes would be useful.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107225 PROFILE THE INTRATUMOURAL BACTERIAL PROFILES IN PDAC SHORT TERM AND LONG-TERM SURVIVORS AND THEIR ASSOCIATION WITH TRANSCRIPTOMIC SUBTYPES AND DISEASE OUTCOMES

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Background: It is projected that by 2030, PDAC will become the 2nd leading cause of cancer-related death. There is a small subset of PDAC patients do remain disease-free several years post-resection, and the study of these long-term survivors (LTS) may reveal crucial factors that determine survival, and novel therapeutic opportunities to improve life-expectancy.
Method: We have macro-dissected the tumour and extracted DNA from 50 archived PDAC FFPE specimens (25 STS, mDFS <7 months vs. 25 LTS, mDFS >27 months) removed during Whipple's operation. We have performed full-length 16S ribosomal RNA gene amplicon analysis using Oxford Nanopore sequencing. As well as extracting total RNA from regions of interest for profiling from 24 archived PDAC FFPE specimens (12 STS vs 12 LTS).
Results: We have identified that the microbiome in samples with different survival time were significantly different, and the differential bacterial composition may be associated with the metabolic pathways in the tumour microenvironment. Nanostring nCounter PanCancer 360 Panel has provided gene expression data allowing an understanding of the vital components involved in the complex interplay between the microenvironment and immune response in PDAC.
Conclusion: This analysis defines the composition of intra-tumoural bacteria in PDAC in the UK and determines whether specific profiles are associated with favourable or worse disease outcomes. This will allow us to target UK specific LTS microbes for further investigation of the mechanisms of their tumour-suppressive effects (e.g. by producing anti-tumour molecules and/or by strengthening the host's antitumour immune responses).

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107226 CUSUM CURVE TO PREDICT LEARNING CURVE AND INFLECTION POINT OF SURGICAL FAILURE IN MINIMALLY INVASIVE INTER-SPHINCTERIC RESECTION

Sanjay Singh, Mufaddal Kazi, Ashwin Desouza, Avanish Saklani, Suman Ankathi, Ankit Sharma, Tejas Vispute, Yogesh Bansod. *Tata Memorial Hospital, Mumbai, India*

Introduction: Inter-sphincteric resection (ISR) when performed by minimally invasive surgery (MIS) is a technically challenging procedure. The aim of this study was to determine the learning curve of MIS ISR using positive margin, local recurrence and non-reversal of stoma beyond 1 year as surgical failures (SF) for assessment of performance.
Method: ISR performed for rectal malignancies from a single institution were analysed retrospectively. From year 2013 to 2022, total 381 patients underwent ISR, seventy-one patients of open surgery were excluded, and for final analysis 310 patients of MIS ISR were considered. All patients had minimum follow up of 1 year. Cumulative sum (CUSUM) control charts & risk adjusted (RA) CUSUM were plotted. Multivariable logistic regression was used for factors predicting SF. Separate CUSUM curves were generated for laparoscopic & robotic procedures. Group Sequential analysis of every 50 patients was done.
Results: CUSUM control charts detected an inflection point around 41st case. Sudden rise of SF was observed between 150 to 250 cases. To identify the cause of this rise, group sequential analysis was done. Stoma reversal rate was significantly reduced (72%) in both sets (150-200 and 201-250). Higher systemic recurrences (n=10) were observed which corresponds to higher number of pre-operative M1 patients (12%) undergoing ISR between 201-250 cases. SCRT & RT boost were not the cause as more patients received the same from 251-300.
Conclusion: Learning curve for competency was overcome after 41st case. SF between 150-250 were in Pre-COVID (low stoma reversals) and 200-250 in COVID year when more metastatic cases were operated.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107227 REAL WORLD OUTCOMES FOR RIGHT HEMICOLECTOMY, COMPLETE MESOCOLIC EXCISION AND D3 LYMPHADENECOTMY IN A DISTRICT GENERAL HOSPITAL FOR NODE POSITIVE COLON CANCER (NPCC). IS IT SAFE?

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Background / Introduction: CME and D3 LND has been proposed to ensure highest node clearance. Though this has been a standard guidance in the Japanese practice for decades, western patient cohorts have had Clavin-dindo complications of 3 and 4 of up to 15.8% reported in Danish series. We have developed a structured approach in our centre to CME and D2/D3 LND surgery over the last 4 years and present our real-world outcomes.
Method: We performed a retrospective analysis of our case series of CME with D3 LND and compared it with outcomes of D2 LND performed during the same period of time (2019-2023) at our trust. 41 patients underwent a D3 Lymphadenectomy by the 3 trained surgeons, when indicated. The remaining (n=174) underwent a standard CME and D2 LND.
Results/Discussion: The CME group were younger and had higher pre-operative nodal staging. We did not observe any increase in Clavin-Dindo 3/4 complication between both groups D2 vs D3 LND. N-positive status was more common in the D3 group (48.78 per cent versus 31.6 per cent in D2). A significant increase in nodal yield was noted 24 vs. 19(p=0.01). There was no difference in duration of surgery, estimated blood loss, postoperative haemoglobin, or transfusion requirement, R0 resection rate and anastomotic leak.
Conclusion: We believe that D3 LND is safe in right sided colon cancer with proximal nodal disease along the vasculature. Larger clinical trials are required to ascertain whether this should be the standard of care in node positive colon cancer

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107228 AN OBSERVATIONAL STUDY OF THE EFFECTIVENESS OF FIT TEST AS A RISK STRATIFICATION DIAGNOSTIC TOOL IN PATIENTS WITH IRON-DEFICIENCY ANAEMIA IN PRIMARY CARE.

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Background/Introduction: Faecal-immunochemical test (FIT) is traditionally used as a screening tool for patients for colorectal cancer. Our observational study looked at the early use of the FIT in primary care as a risk stratification tool in patients with anaemia, enabling reduction of unnecessary referrals for endoscopy.
Methods: A retrospectively analysis of the FIT risk stratification in patients presenting with anaemia was undertaken to decide which patients were to be referred for endoscopy. Records of 12000 patients over a 24-month period were studied to find patients presenting with haematological indices of iron deficiency anaemia. Patients were risk stratified based on

FIT results. Patients with positive FIT were referred for lower GI endoscopy versus those who were FIT negative were managed without bowel investigation unless there were other red flags like abdominal mass, changed bowel habits or family history of bowel cancer.
Results/Discussion: Of 125 patients over a 24-month period of these only 11 patients (8.8 %) were FIT positive and out of those 7 (5.6%) patients were on a direct oral anticoagulant (DOAC). We found that patients on DOACs were more likely to present with FIT positive.
Conclusion: Prior to the availability of FIT in primary care the majority of patients would have been referred for unnecessary invasive bowel investigations. The FIT as a risk stratification tool has reduced referrals into secondary care and has improved resource utilisation and reduced the potential for harm and enhanced the overall sensitivity and specificity of these investigations.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107229 "EVALUATION OF SURGICAL OUTCOMES IN A COMPREHENSIVE COLORECTAL CANCER CARE UNIT: A 30-DAY RETROSPECTIVE AUDIT"

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Objective: The primary objective of was to evaluate surgical outcomes among patients operated in our unit over a 30-day period.
Methods: We collected demographics and treatment details of patients operated from 10.07.23 to 10.08.23 under Colorectal Surgery, Tata Memorial Hospital, Mumbai, India with 3 lead surgeons as per NAPRC outcome measures.
Results: Overall 122 patients underwent 128 surgical procedures, with 76.5% elective surgeries. Mean age was 50.93 years with male predominance (1.5:1). Procedures are tabulated below.

Procedure	Number
Rectal resection	73
Colonic resections	21
Staging Laparoscopy/ Laparotomy + Stoma	11
Stoma closures	5
CRS + HIPEC	5
Re-explorations	8
Miscellaneous	5

67.3% elective surgeries were MIS with zero conversions. Elective surgical morbidity (CD>=III) was 14.8% without mortality, however in emergency setting 35% morbidity with 6.6% mortality occurred. Median hospital stay was 4-7 days. Patients with grade III and IV (11.1%) complications had prolonged stay (>12 days).
For rectal cancer, 94.5% surgeries were by MIS. Sphincter preservation rate achieved was 66.1%. 16 Beyond TME resections, 12 pelvic side wall clearances and 6 perineal reconstructions were performed with 5.4% anastomotic leak rate. 100% cases had lymph node yield >= 12. Seven patients had pathological complete response while 4.1% CRM positivity and zero distal margin positivity occurred.
38% colonic resections were laparoscopic with 1 ileal stump leak that recovered. CRS+HIPEC and 3 redo-resections were complex procedures performed with no mortality and 8.2% morbidity.
Conclusion: In conclusion, our high-volume centre consistently achieves favourable outcomes in substantial number of complex procedures meeting established standards.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107232 UNEMPLOYMENT AND ITS IMPACT ON MORTALITY AMONG ADULTS WITH BREAST CANCER

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Background: Breast cancer and its subsequent treatment are known risk factors for unemployment due to disabilities induced by the disease or treatment. This study examines the associations between unemployment and cause-specific mortality in a large longitudinal nationally representative cohort of breast cancer patients.
Methods: An analysis was conducted using data collected from the National Health Interview Survey (NHIS) from 2005 to 2018, along with its linked mortality files. A multivariate generalized linear model assessed risk ratios for dichotomous outcomes, while survival analysis utilized Cox regression and the Fine Gray model for competing risks.
Results: A total of 7,159 breast cancer patients (99% female) were identified, with 71.94% found to be unemployed. Unemployed individuals with breast cancer faced an elevated risk of all-cause mortality (HR: 1.60, CI: 1.29−1.99, p<0.01). Further adjustments for factors such as financial distress, income, educational level, and insurance revealed a more than fourfold higher risk of all-cause mortality (HR: 4.28, CI: 1.81−10.10, p=0.01). Interestingly, unemployment was only associated with an increased risk of oncological mortality (HR: 3.16, CI: 1.47−6.81, p=0.03), with no significant impact on cardiovascular (HR: 1.63, CI: 0.22−11.82, p=0.63) or other-cause mortality (HR: 2.25, CI: 0.53−9.52, p=0.27).
Conclusion: These findings suggest that a significant proportion of breast cancer patients experience unemployment, potentially leading to adverse health outcomes. This result underscores the need for supportive measures such as social welfare and employment assistance programs for individuals facing unemployment.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107233 QUALITY OF CARE OF CUTANEOUS MELANOMA: AN ANALYSIS OF THE GLOBAL BURDEN OF DISEASE STUDY 2019

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Aims: In the pursuit of optimizing health outcomes, it is of paramount importance to formulate indices for gauging healthcare quality and accessibility. This significance is underscored by the limited availability of information regarding the healthcare quality index specific to cutaneous melanoma (CM). In this study, we implemented the novel Quality of Care Index (QCI) to estimate the quality and accessibility of care for patients with CM in 195 countries across Socio-demographic Index (SDI) quintiles, and sex groups.
Methods: This cross-sectional study extracted estimates on CM burden from the GBD 2019, from 1990 to 2019. Principal Component Analysis was used to calculate QCI. The QCI was scaled to the 0−100 range, with 100 indicating the best quality of care among countries. Gender Disparity Ratio (GDR) was defined as the female to male QCI ratio to show gender inequity throughout the regions and countries.
Result: The global QCI for CM was 93, increased from 84 in 1990. The global GDR was 1.003. QCI and GDR exhibited a proportional (r= 0.67; CI 95%: 0.59-0.74, p<0.01) and inversely proportional (r= -0.63; CI 95%: -0.70- -0.53, p<0.01) correlation respectively with SDI. Despite huge improvements compared to 1990, GDR in the African region and South-East Asian region remained higher than the other regions. The lowest QCI (Male: 17, Female: 24) and highest GDR (1.41) were both reported in the African region.
Conclusions: Fully understanding the causes of sex disparities in cutaneous melanoma is necessary for developing a comprehensive prevention strategy.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107234 INVESTIGATION INTO THE IMMUNE MICROENVIRONMENT AND MICROBIOME IN HEALTHY, NON-DISEASED BLADDER

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Introduction: Existing, limited knowledge about the immune microenvironment and microbiome in normal adult bladder is outdated and

derived from rudimentary immunohistochemical studies (IHC). 'Normal' bladder tissue is usually represented by normal adjacent tissue from radical cystectomy specimens, which is likely impacted by adjacent disease. Examination of healthy, normal bladder tissue is essential to gain insights into the immune and microbial dysfunction in cancer.
Method: We have collaborated with the National Disease Research Interchange (NDRI, USA) to procure disease-free, post-mortem tissue (<12 hours post-mortem interval) through an institutionally approved, ethical process. RNA and DNA extraction and histology slide preparation was performed from formalin-fixed paraffin-embedded (FFPE) 'normal' bladder tissue collected from 10 patients (5 males: 5 females). Bulk profiling (Nanostring® IO360), metagenomic sequencing and in-house multiplex IHC (PhenoImager HT) has been performed to profile immune composition and microbiome.
Results: Males (mean age 70.8 [SEM:4.2]) and females (mean age 64.2 [SEM:5.14]) demonstrated notable differences in bladder immune cellular profiles including significant differences in CD4+ T cell composition and a more potentially immunosuppressive environment in females through IHC and bulk profiling. Metagenomic sequencing from normal bladder demonstrates key bacterial and functional differences when comparing the gender-specific microbiome.
Conclusion: Through use of spatial biology technologies and multi-omics approaches this analysis will comprehensively profile the microbiome of normal bladder tissue and the corresponding immune microenvironment. We will address whether gender differences exist in normal bladder tissue and whether this knowledge can utilised in the evolving fields of disease prevention and immunotherapy in bladder cancer.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107235 POPULATION-WIDE ANALYSIS OF GLOBAL BURDEN OF CUTANEOUS MELANOMA IN MALE AND FEMALE

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Aims: The extent of sex-related disparities in the burden of cutaneous melanoma (CM) remains uncertain, creating challenges in comprehending the differing impacts on men and women. This study aimed to estimate the sex differences in the global burden of cutaneous melanoma.
Methods: We analyzed the incidence, temporal trends, mortality, and disability-adjusted life-years (DALYs) related to the burden of cutaneous melanoma using the methodology framework of the 2019 Global Burden of Disease study. This analysis was performed by sex, Socio-demographic Index (SDI) quintiles, and WHO regions.
Results: In 2019, the age-standardized incidence rate (ASIR) of CM was higher in females at 4.048 (95% UI 2.338-5.057) than in males at 3.202 (95% UI 2.177-3.902). Interestingly, the age-standardized mortality rate (ASDR) and DALYs (ASDALYs) were higher in males (ASDR: 0.979 (95% UI 0.603-1.175); ASDALYs: 24.825 (95% UI 16.208-30.761)) compared to their female counterparts (ASDR: 0.633 (95% UI 0.439-0.737); ASDALYs: 17.276 (95% UI 12.425-20.799)). From 2010 to 2019, the ASIR, ASDR, and ASDALYs for both males and females declined, with a steeper decline in females. The male population with CM also exhibited a higher mortality-to- incidence ratio (MIR). Female-to-male ASDR ratios demonstrated an inversely proportional relationship with SDI quintiles.
Conclusions: While the overall burden of CM was higher in females, males faced a disadvantage in disease outcomes. Further studies should delve into the mechanisms at play to better understand these disparities.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107236 BREAST IMAGING FOR INVASIVE LOBULAR CARCINOMAS: AN AUDIT OF NATIONAL GUIDELINE COMPLIANCE AT A DISTRICT GENERAL HOSPITAL

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Introduction: Invasive lobular carcinomas (ILC) pose challenges in accurate tumour measurement through clinical examination and traditional imaging, potentially leading to undesirable surgical outcomes. The Royal College of Radiologists (RCR) recommended in their 2019 guidelines that MRIs be used when planning breast-conserving surgery for tumours with lobular components. Contrast-enhanced digital mammography (CEDM) has been increasingly used as a replacement for MRI in breast imaging, including pre-operative sizing of ILC.
Methods: Our two-cycle audit began by examining ILC cases from January 2021 to October 2022, after the introduction of CEDM for pre-operative sizing. The subsequent cycle revisited ILC cases from January 2016 to October 2018 when MRI was the primary imaging choice. Each cycle's tumour size estimates via CEDM or MRI were juxtaposed against their respective final histology sizes. Re-excision rates were also compared between cycles.
Results: The first group (CEDM) includes 40 patients with ILCs, with an average predicted tumour size of 20.7 mm versus a histological size of 49.1 mm. The re-excision rate was 58.3%. In contrast, the MRI group included 50 patients, with a histological average size of 48.4 mm compared to the MRI estimate of 35.7 mm. The re-excision rate in this group was 43.3%.
Conclusion: Despite CEDM's advantages in cost-efficiency and accessibility, MRI remains the national recommendation for ILCs managed with breast-conserving surgery. Further research is needed to ascertain if CEDM is an accurate and reliable adjunct in the pre-operative sizing of ILCs.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107237 MEASURING METRICS IN SURGICAL ONCOLOGY -REFLECTIONS FROM A CAREER

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Background/Introduction: Provision of quality care is the essence of clinical practice. NHS provides a system where different clinicians treat same/similar condition, allowing the possibility of setting a comparable bench mark. There are measurable and other parameters
Method: Review of a single surgeon's measurable outcome provided by the organisation as a part of appraisal over a 12 year period, including mortality, 30 day readmission, length of stay, rate of day surgery.
Results: Over a 12 year period metrics that were measured from the Trust data -no mortality, <1% 30 day readmissions. The average length of stay was 1.4 days (lower than departmental and national average). There were no complaints or litigations or serious events
Discussion: There are measurable outcomes like mortality, length of stay, readmissions provided at the Trust level. However, key outcomes like local recurrence, survival, personalised care and outpatient care remain unmeasured/unmeasurable in the short or long term. There are also softer metrics like kindness/compassion/personalised care that are not quantifiable. Additionally, other socio-economic and workplace environment can confound the metrics of measurement such as poor socio economic status resulting in late presentations, supportive work place, undertaking 'high risk/complex' surgery, patient expectations.
Conclusions: Surgical oncology outcome measures need standardisation with reliable agreed metrics in order to improve and sustain quality of care for patients. Within surgical oncology, what measured metrics imply remains a point of debate.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107239 EVALUATION OF A PILOT OF COMMUNITY VIRTUAL TRIAGE FOR BREAST SYMPTOMS.

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Introduction: Breast pain alone is not a symptom of breast cancer and management outside of secondary care could increase capacity for more rapid cancer diagnosis.
Two GP clusters (population ~88,000) diverted women over 30 years with new breast symptoms to a virtual triage service. Triage was performed by specially trained nurses from the Rapid Investigation Service using a pro

forma designed in collaboration with primary and secondary care. The service responded within one working day and patients were allocated primary or secondary care appointments or given advice on self-management.
A significant advantage of this project was using staff out with current pathways.
Method: Outcomes in primary and secondary care were audited and patient experience independently monitored.
Results: In the first six months, 395 women were assessed virtually.

	Secondary care	Primary Care	Self management
First contact	201	112	56
Review	18	8	
Total	219 (55%)	120 (28%)	56 (17%)

Of 204 women seen in NHS secondary care, 11 were diagnosed with breast cancer, 5% conversion rate. It was considered that 69 could have been managed in primary care. 22/69 were for pain alone.
No cancers subsequently detected those triaged to self-management or GP review.
29 / 31 people contacted by Wessex Voices were satisfied with the pilot. Most would recommend it to others. Timely review gave people reassurance and allayed anxieties.
Conclusions: Breast pain only symptoms can safely be self-managed with appropriate advice and guidance. Refinement of the Triage process may reduce the number of women seen unnecessarily in secondary care.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107240 QUALITY OF RECOVERY FOLLOWING DAY CASE MASTECTOMIES, A SERVICE EVALUATION USING PATIENT REPORTED OUTCOMES

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Introduction: The Covid-19 pandemic forced difficult decisions onto hospitals providing oncology surgery. Due to the reduction in bed availability, many centres changed mastectomies to day case procedures. This continued post-covid, with studies showing similar outcomes and minimal readmissions. However, few evaluations looked at the patient experience or the holistic suitability of recovery at home.
Methods: We conducted a service evaluation of day case mastectomies. Patients were contacted one day post mastectomy and asked the Quality of Recovery 15 questionnaire (QoR 15). The QoR 15 encompasses variables, such as pain, psychological impact and ability to perform home activities. Further clinical information was gathered using the perioperative medical records.
Results: In total, 53 patients were included in the study. Of these, 75% required a surgical drain, 37% had sentinel node biopsies (SNB), and 34% underwent axillary node clearance (ANC). Patients reported minimal nausea, psychological distress and severe pain. They reported occasional sleeping disturbances and moderate pain. Patients reported reduced ability to perform home activities, with a median QoR score of 5. Patients appeared to tolerate SNB better than ANC, reporting reduced pain frequency (difference -2.0 p-0.027) and increased feelings of comfort (1.5, p-0.219). Patients with a drain reported lower wellbeing scores (-1.5, p-0.164), but reported less frequent pain (-2.0, p-0.046).
Conclusion: Overall, patients appeared to find recovery from day case mastectomies acceptable. Pre-surgical counselling should be tailored to cover potential pain, sleep disturbances, impact on ability to perform home activities and strategies to improve the patient's recovery.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107242 OPERATIVE MANAGEMENT FOR METASTATIC RENAL CELL CARCINOMA: EXPERIENCE FROM A TERTIARY REFERRAL CENTRE

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Background: Destructive renal bone metastases are best treated by operative surgical management. We present our experience of surgery for metastatic Renal Cell Carcinoma (RCC) at a tertiary referral centre.
Methods: We prospectively reviewed the clinical outcomes of 54 consecutive procedures in 42 patients for the period July 2005 to March 2023. Surgical procedures were defined as simple fixation (either ORIF or Intramedullary Nailing); augmented fixation, excision, total joint replacement or Endoprosthetic Replacement (EPR).
Results: There were 26 male and 16 female patients. Mean age a time of surgery was 52 years (Range 32 – 84 years). Seven patients underwent multiple procedures - two for bilateral humeral metastases, four for progressive disease and one for multifocal metastases (clavicle / tibia). 11 patients underwent EPR of which two were for progressive disease. Around half of the patient cohort received adjuvant Radiotherapy with a similar number undergoing pre-operative Embolization. 35 patients died during the period of the current study with seven remaining under routine surveillance. The mean survival was 10 months from date of surgery (range 0-55 months).
Conclusion: Adjuvant radiotherapy is popular in the surgical management of bone metastases in RCC. Pre-operative Embolization may provide better surgical outcomes. Due to RCC's predilection for osteolytic and destructive lesions, EPR remains a viable management option. Operative management of metastatic RCC is likely to continue to be a key aspect of treatment as the incidence of the phenomenon increases globally.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107244 ENHANCING COMPLIANCE IN DAY 3 AMYLASE TESTING POST - PYLORUS-PRESERVING PANCREATODUODENECTOMY: AN AUDIT OF INTERVENTIONS AND OUTCOMES AT A TERTIARY CENTRE.

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Introduction: Pylorus-preserving pancreatoduodenectomy (PPPD) is a surgical procedure for pancreatic head tumours. Following surgery, ERAS recommends day 3 drain removal in patients with low risk of POPF compared to late (day 5 and beyond) as this was associated with a decreased rate of pancreatic fistula, and abdominal and pulmonary complications. Local practice in Morriston Hospital is to test drain amylase on day 3 and remove drains in suitable candidates.
Methods: PPPD patients were identified via local patient lists and data procured from the Welsh Clinical Portal. Interventions, such as staff training and documentation modifications, aimed to enhance compliance. Two sample z-score testing was used to compare day 3 amylase and discharge advice letter (DAL) compliance before and after intervention. Paired student's t-test was used to compare mean changes in the length of hospital stay.
Results: The initial cycle included 23 patients and the second cycle included 13. Day 3 amylase compliance was 26.09% ± 18.4% before intervention and 61.54% ± 21.78% therefore indicating compliance increase by 35.45% ($p < 0.05$). Length of stay fell from 27.94 ± 15.58 days to 16.82 ± 7.73. Discharge advice letter compliance also increased from 68.18% ± 28.56% to 90.81% ± 17.72%.
Conclusion: Post-intervention, there was a substantial rise in Day 3 amylase compliance, potentially contributing to reduced hospital stays and increased DAL compliance. While the results are promising, the sample

size necessitates caution in result interpretation. Further research and consistent efforts are vital for continued improvement regarding local guidelines in day three amylase testing.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107245 HAS THE COVID-19 PANDEMIC TRULY RESULTED IN STAGE MIGRATION IN UROLOGICAL CANCERS?

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Introduction: The COVID-19 pandemic has been heralded as having detrimental consequences on the cancer pathway, with a proven reduction in referrals, diagnoses and treatment. The purpose of this study was to investigate if evidence of stage migration at diagnoses was seen which could be attributed to COVID-19, focusing on bladder, kidney and prostate cancer.
Methods: This cross-sectional study retrospectively analysed the staging data in England based on rapid processing of cancer registration data sources, as collected and complied by the National Disease Registration Service. Data on cancer staging of new diagnoses from January to June in 2019 (pre-COVID-19 era) were compared with January to June 2022 (post-COVID-19 era).
Results: January to June 2019 resulted in a total of 32,416 new diagnoses being made, and 34,040 cases were noted January to June 2022. This difference in incidence was statistically significant with a p-value <.00001. Total numbers of new diagnosis of bladder and renal cancer were reduced in the post-COVID era by 404 and 168, respectively; however, it increased by 2196 for prostate cancer. The only statistically significant difference for staging was for stage 1 prostate cancer diagnoses.
Conclusion: The data in this study demonstrates that despite the difficulties for cancer patients that resulted from the COVID-19 pandemic, there may not be significant evidence to support the anecdotal evidence of stage migration that we expected to see. That being said, with the huge number of unknowns involved with such a vast dataset, these figures do become difficult to interpret.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107246 POST-SURGICAL COMPLICATIONS FOLLOWING SQUAMOUS CELL CARCINOMA EXCISION IN IMMUNOCOMPETENT VS IMMUNOSUPPRESSED PATIENTS

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Background: The UK has around 25,000 new squamous cell carcinoma cases per year, with immunosuppressed patients being at a higher risk. This service evaluation aims to look at if there are higher rates of post-surgical complications in immunosuppressed patients
Method: This is a retrospective review, completed using patient data from EPIC electronic records. The review investigates the presence of three post-operative complications (infection, graft failure and delayed healing), in patients treated in Addenbrookes hospital in 2019. The data from 605 patients was used in this study, of which 137 were immunocompromised. Of these patients, 195 were female and 410 were male. The age range was from 40 years old to 100 years old, and the average age was 79 years old. The varying reasons behind patients being immunosuppressed were use of steroids or other immunosuppressive drugs, autoimmune conditions, certain cancers, chemotherapy, diabetes and HIV/AIDS .
Results and discussion: The data shows that the rates of infection in immunocompromised patients were 5.97 times higher and the rates of graft failure were 4.55 times higher. Of the non-immunosuppressed patients, 233 patients had grafts and of the immunosuppressed patients, 76 had grafts. The service evaluation also looks at varying rates of such complications and considers that if grafts are not effective it may not be worthwhile to do them in these patients. It also allows for a greater awareness of risks in such patients, which may impact other aspects of the treatment plan, such as use of prophylactic antibiotics prior to surgery.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107247 BENIGN SCHWANNOMAS, GIANT SCHWANNOMAS AND PLEXIFORM SCHWANNOMAS

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Background / Introduction: Schwannomas are slow-growing nerve sheath tumours derived from well-differentiated schwann cells in the peripheral nervous system. Schwannomas are mainly benign with only about 1% of cases having malignant potential when associated with NF1. Although they commonly occur in the head and neck region (eg, vestibular schwannomas), they have also been found in the retroperitoneal space, pelvis and extremities. They can be slow growing, often presenting as small tumours (<5cm), rarely presenting as large/giant tumours. They can also present as multiple lumps along the same nerve. Depending on the location and symptoms, they can be treated conservatively or with surgery.
Aim: To review a single surgeon series of schwannomas, giant schwannomas plexiform schwannomas and schwannomatosis.
Method: Retrospective review of patients with a histological diagnosis of Schwannomas diagnosed over a 12 year period. (2010-2022)
Results: There were 75 patients with a histological diagnosis of schwannomas.
10 patients had giant (>5CM) schwannomas. 5 patients had plexiform schwannomas. One patient had schwannomatosis involving tibial nerve.
72 Patients who underwent surgical excision did not have residual motor deficit. Four patients had minor paraesthesia. One patient with schwannamatosis presented with further lesion 2 years after index surgery. Asymptomatic schwannomas, can be monitored with long term surveillance. No malignant transformation has been seen in biopsy proven benign schwannomas so far.
Conclusion: Schwannomas are not uncommon benign soft tissue tumours. If symptomatic, they can be safely excised, preserving the main nerve and function. Asymptomatic schwannomas can be monitored with serial imaging and clinical assessment.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107248 THE BURDEN OF BREAST CANCER IN SUB-SAHARAN AFRICA: A SYSTEMATIC ANALYSIS FROM THE GLOBAL BURDEN OF DISEASE 2019 STUDY.

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Background: The burden of breast cancer has been increasing in the low and middle-income countries especially in sub-Saharan Africa. The epidemiology burden and trends need to be updated. This study aimed to update the burden and trends of female breast cancer incidences, deaths, and disability-adjusted life-years (DALYs) in sub-Saharan Africa from 1990 to 2019, using the Global Burden of Disease 2019 study.
Methods: The data of incidences, deaths, DALYs, and age-standardized rates were extracted. Estimated annual percentage changes were used to quantify the trends of age-standardized rates. The burden estimable to the risk factors of breast cancer were also estimated.
Results: In sub-Saharan Africa, the incidences of breast cancer increased by 247% to 83,133 in 2019. Nigeria had the highest incidence cases with a declining trend in age-standardized incidence rate. In 2019, the deaths and DALYs of breast cancer in sub-Saharan Africa increased to 54,878 and 1,781,708 respectively. From 1990 to 2019, the age-standardized mortality rates and age-standardized DALY rates increased throughout the region, especially in middle SDI quintiles. Although, the trends varied from different regions and countries. Mortality and DALYs of breast cancer attributable to alcohol consumption and high fasting plasma glucose increased throughout the region, and alcohol consumption was the greatest contributor to the breast cancer deaths.
Conclusion: The burden of breast cancer in sub-Saharan Africa is on the rise. Policy and health care resources allocation is necessary at national scale is essential to contain this healthcare challenge.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107260 A SYSTEMATIC REVIEW ON THE MANAGEMENT OF PATIENTS WITH MODERATE PENETRANCE BREAST CANCER GENE MUTATIONS.

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Introduction: Hereditary (familial) breast cancer accounts for 5% of all breast cancer diagnoses. This review discusses the management of patients with mutations in the moderate penetrance genes - ATM, CHEK2, and PALB2.
Methodology: This is a systematic review of recommendations for the management and screening of patients with moderately penetrant breast cancer susceptibility genes. This study aims to compare the treatment modalities offered to patients with ATM, PALB2, and CHEK2 gene mutations, with and without breast cancer. It also aims to compare international guidelines for the screening and management of patients with moderate-penetrance gene mutations.
Results: PART 1: 14 papers were included. Of the 1809 patients with moderate-penetrance gene mutations included in this study, 1094 had breast cancer, with 58% (n=634) undergoing surgery, and 26.7% (n=292) receiving adjuvant radiotherapy. Of the 39.5% (n=715) carriers for moderate-penetrance gene mutations who did not have breast cancer, 17 patients (2.4%) underwent risk-reducing mastectomy (RRM), and 56.5% (n=404) patients received enhanced breast screening.
PART 2: 8 papers reviewing guidelines from 18 countries were included. Recommendations varied drastically from the choice of imaging modality to the timing of screening or which part of the population is eligible for screening.
Conclusion: There appears to be little agreement about the management of women with moderately penetrant breast cancer gene mutations. Available data is confusing and difficult to interpret, making it extremely challenging to differentiate patients who had cancer from those who did not. Recommendations for the management of carriers with ATM, CHEK2, and PALB2 mutations have been made.

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EUROPEAN JOURNAL OF SURGICAL ONCOLOGY 50 (2024) 107141 107261 PATIENT PERCEPTIONS OF AND POSTOPERATIVE SATISFACTION WITH COLORECTAL ROBOTIC SURGERY: A QUALITATIVE INSIGHT

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Aim: This study assesses preoperative perceptions and postoperative satisfaction amongst patients undergoing robotic-assisted colorectal surgery, in order to optimise preoperative information provision and improve patient experience.
Methods: A structured quantitative and qualitative questionnaire was designed, to include questions on preoperative perceptions and prior knowledge about robotic surgery, and postoperative experiential feedback. All patients who had robotic colorectal resection at the host institution were included and had previously consented to potential inclusion in future research. Patients were contacted postoperatively. Quantitative outcomes were assessed using descriptive statistics and qualitative analysis was conducted using a thematic approach.
Results: Of 151 eligible participants, 108 provided complete responses. All underwent colorectal resection between November 2019 and August 2022.The mean±SD age of respondents was 63.1±15.2 years and 55% (n=59) were male. Prior knowledge varied; 73% (n=79) knew nothing about robotic surgery and 9% (n=10) reported apprehension, although others were intrigued (16%) or excited (14%). Four percent (n=4) of patients thought the robot was autonomous. After clinic review 81% (n=88) felt well informed about the robotic aspect. Positive feelings towards robotics were based on a perception of new technology as “better” and trust in surgeons’ advice.
Post-surgery feedback was positive; 71% (n=77) were extremely satisfied and only 14% (n=15) had a neutral or negative experience. Ninety-three percent (n=100) would recommend robotic surgery to others.
Conclusions: Improved patient information leaflets may alleviate preoperative concerns about robotic surgery, but generally this innovation is well received by patients and may indicate that patients actively seek out this modality in future.