

PO1 UNCOVERING A NOVEL UPSTREAM REGULATOR OF RECEPTOR TYROSINE KINASE SIGNALLING IN BREAST CANCER

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Introduction: JAM-A is a transmembrane protein which regulates cell-cell adhesion. Its high expression in breast tumour tissue correlates with over-expression of HER2, whilst JAM-A knockdown in breast cancer cells reduces HER2 expression and signalling. HER2 drives tumorigenic signalling through homo- and hetero-dimerisation with other members of the HER family, yet it is currently unknown whether JAM-A might also influence their expression/function.

Method: A panel of breast cancer cell lines was used to analyse if changes in protein and RNA expression levels of JAM-A influenced those of HER1, HER3 and HER4 and its downstream signalling effector molecules.

Result: JAM-A gene silencing reduced HER3 mRNA and protein expression in estrogen receptor (ER)-positive MCF7 breast cancer cells, and concomitantly reduced the protein expression of its downstream effectors phospho-AKT and -ERK. This translated into a significant reduction in cell viability. Conversely, JAM-A overexpression increased mRNA and protein expression of HER3. Gene silencing of any HER family member did not affect JAM-A protein expression in those cells. In ER-low breast cancer cells which express negligible levels of HER3, JAM-A knockdown instead reduced HER1 and HER4 mRNA and protein expression.

Conclusion: Our results suggest that JAM-A regulates expression of HER receptor tyrosine kinases in a context-specific manner. Ongoing investigations will determine the mechanisms involved and explore the possibility of JAM-A as a future drug target to inhibit HER-dependent breast cancer tumorigenic signalling. JAM-A - Junctional Adhesion Molecule-A HER - Human Epidermal Growth Factor Receptor.

Take-home message: JAM-A protein regulates expression of multiple Human Epidermal Growth Factor Receptors in different breast cancer cell lines. JAM-A may act as a future drug target in breast cancer treatment.

PO2 SRC1 MEDIATES CANCER CELL REPROGRAMMING IN ENDOCRINE RESISTANT BREAST CANCER

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Introduction: Tamoxifen has been the goldstandard treatment of estrogen receptor (ER) positive breast cancer (BC) for almost 40 years. While its use significantly improves the outlook for BC patients, we are faced with a most pressing clinical issue wherein approximately 40% of patients relapse while on therapy and during this time their tumour has acquired resistance to Tamoxifen. Steroid receptor co-activator 1 (SRC-1) is a master regulatory protein which has been shown to be overexpressed in BC and is associated with high grade tumours, disease recurrence and is an independent predictor of disease-free survival.

Method: Utilising genomic sequencing we investigated whether SRC-1 can regulate transcriptional networks to mediate reprogramming in individual BC cells to induce survival adaptability and Tamoxifen resistance.

Result: Molecular 1ersonalized1ion identified seven key driver genes of SRC-1-mediated Tamoxifen resistance. Gene silencing experiments in a Tamoxifen-resistant cell model revealed their expression is necessary for an aggressive, de-differentiated tumour. High expression of one target gene, E2F7, was found to be a predictor of poor survival in tamoxifen-treated population (n=161, p=0.03). Furthermore using ER positive patient-derived xenograft (PDXs) models, E2F7 and NFIA were found to be expressed in PDXs with a history of endocrine resistance but not in treatment naïve PDXs.

Conclusion: Concerted activity of this SRC-1-mediated network is responsible for driving de-differentiation of BC cells and enhancing their stem-like, highly migratory and proliferative tumour initiation population. This study provides important information regarding the mechanism of cellular reprogramming in ER positive Tamoxifen resistant BC and may lead to potential novel therapeutic targets.

Take-home message: Understanding the molecular mechanisms behind breast cancer development will lead to improved 1ersonalized medical strategies.

PO3 A SYSTEMATIC REVIEW AND META-ANALYSIS ON THE ROLE OF MUSIC IN REDUCING ANXIETY AND DISCOMFORT DURING FLEXIBLE SIGMOIDOSCOPY

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Introduction: The use of flexible sigmoidoscopy is becoming more prevalent in bowel cancer screening, although uptake remains low. A meta-analysis of studies investigating the role of music in reducing anxiety and discomfort in patients undergoing screening flexible sigmoidoscopy was performed.

Method: A systematic review of comparative studies up to August 2016 were identified from MEDLINE, the Cochrane Controlled Trials Register (1960–2016) and EMBASE (1991–2016). Further searches were conducted using article bibliographies and conference abstracts. Medical subject headings used included, sigmoidoscopy, music, endoscopy and anxiety. Adult studies reporting the effect of music on anxiety or pain after flexible sigmoidoscopy were included. Two authors extracted outcome data independently using outcome measures defined a priori. Quality assessment was performed using risk of bias tables.

Result: Data of 138 patients from 3 studies was analyzed using open metaanalyst. Patients who listened to music during flexible sigmoidoscopy had less anxiety compared to those without music [Random effects; SMD: 6.68(3.84,9.52), S.E=1.45, $p<0.001$]. No statistical heterogeneity identified ($Q=6.68$, $df=1$, $p=0.719$, $I^2=0$). Patients who listened to music during flexible sigmoidoscopy had less pain compared to those without music [Random effects; SMD:1.13(0.52,1.75), S.E=0.31, $p<0.001$]. No statistical heterogeneity identified ($p=0.528$, $I^2=0$). Patients who listened to music during flexible sigmoidoscopy found it more useful compared to those without music [RR:0.61(0.46,0.80), $p<0.001$]. No statistical heterogeneity identified ($p=0.318$, $I^2=0$).

Conclusion: Music was deemed a helpful intervention when undergoing flexible sigmoidoscopy and appears to reduce anxiety and pain. Music can potentially improve patient experience and screening test uptake. Further studies may consolidate our findings.

Take-home message: Flexible sigmoidoscopy is being increasingly used in bowel cancer screening, but uptake remains low. Music can be used to reduce anxiety and discomfort during the procedure, improve patient experience and test uptake.

PO4 PERFORMANCE REVIEW OF TEMS (TRANSANAL ENDOSCOPIC MICROSURGERY)/TAMIS (TRANSANAL MINIMALLY INVASIVE SURGERY) FOR EXCISION OF RECTAL LESIONS IN A DISTRICT GENERAL HOSPITAL

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Introduction: Bowel cancer screening programs have meant rectal cancers often are detected early. Existing treatments such as Total Mesorectal Excision (TME) carry significant morbidity and mortality. Alternative surgical options such as Transanal Endoscopic Micro-Surgery (TEMS) and TransAnal Minimally Invasive Surgery (TAMIS) may offer safer organ and function preserving therapy. Our study reviews a single centre experience with TEMS and TAMIS procedures managing rectal lesions.

Method: Retrospective analysis of patients who underwent TEMS/TAMIS procedures from August 2011-August 2016.

Result: 43 patients underwent transanal excision using TEMS (KARL-Storz) or single port TAMIS (Covidien) kits. All patients went through the colorectal MDT with standardized MRI reporting. Average age was 70yrs (range=40-87). Mean hospital stay was 2.8 days. Complications; 1 had post-operative bleeding that required repeat surgery; 1 developed a pre-sacral collection that necessitated antibiotics. 10 patients had tubulo-villous adenoma with high-grade dysplasia, 7 had invasive adenocarcinoma (4=T1SM1, 2=T1SM2, 1=T1SM3) and 1 had neuroendocrine tumor, others demonstrated benign dysplasia. All cancers had R0excision. The patient with T1SM3 and another with T1SM2 underwent adjuvant chemoradiation. All patients had flexible sigmoidoscopy at 3 months. 4 had recurrent benign polyps (2 underwent endoscopic resections, 2 repeat TEMS) with no cancer recurrence. No pain or continence disturbances were reported. Mean follow-up is currently 12.5 months.

Conclusion: TEMS/TAMIS excision offers a safe surgical option preserving organ and function in carefully selected early rectal lesions. Prospective randomised controlled trials comparing TEMS/TAMIS with TME incorporating longer-term follow-up are needed to confirm its place in the surgical armamentarium for early rectal cancers.

Take-home message: Carefully selected early rectal cancers may be treated by minimally invasive, organ and function preserving techniques.

PO5 WITHDRAWN

PO6 A SYSTEMATIC REVIEW INTO QUALITY OF LIFE FOLLOWING ENDOVENOUS INTERVENTIONS FOR VARICOSE VEINS

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Introduction: Endovenous interventions effectively treat varicose veins and improve patients' quality of life (QoL). The aim of this review was to understand the relationship between interventions and outcomes using validated QoL measures.

Method: MEDLINE, Pubmed, Cochrane and CINAHL databases and clinical trial registers were interrogated. Outcomes recorded: days taken to return to baseline (DTB), duplex patency (%), mean change in Venous Clinical Severity Score (mcVCSS) and mean change in Aberdeen varicose vein questionnaire (mcAVVQ) at 6 months post-intervention.

Result: Of 2,709 papers reviewed, 109 were included. Endovenous laser ablation (EVLA)(6994 limbs, mean age 49.3±12.8 years) showed a mean DTB 5.5±2.0, mean patency 94.9±4.6, mcVCSS 3.22±1.10 and mcAVVQ 8.45±3.03. Radiofrequency ablation (RFA)(2493 limbs, mean age 50.52±11.9) showed a mean DTB 5.8±2.1, mean patency 91.3±9.1, mcVCSS 3.24±1.15 and mcAVVQ 9.06±3.61. Sclerotherapy (2970 limbs, mean age 50.06±16.7) showed a DTB 4, mean patency 76.7±19.6, mcVCSS 3.63±0.93 and mcAVVQ 0.30±5.33. Mechanochemical ablation (MOCA)(282 limbs, mean age 54.3±16.0) showed a DTB 3.5, mean patency 86.1±2.7, mcVCSS 3.22±0.99 and mcAVVQ 6.06±3.45. Cyanoacrylate embolization (CAE)(389 limbs, mean age 46.63±13.1) showed a DTB of 1, mean patency of 95.3±11.0, mcVCSS 1.96±0.62 and mcAVVQ 11.36±4.38. Steam ablation (3 studies, 225 limbs, mean age 54.5±14.0) no data on DTB, mean patency 95.0±1.56, mcVCSS 2.70±0.28 and mcAVVQ 3.99±1.68. There were no statistical differences (one-way ANOVA) in mean DTB(p=0.673), mcVCSS (p=0.157), mcAVVQ (p=0.131), however duplex patency was shown to be different (Kruskal-Wallis 20.448, p=0.001), most likely secondary to outcomes of sclerotherapy.

Conclusion: All endovenous interventions demonstrate an improvement in clinical and QoL outcomes, however no intermodality difference was noted. Duplex demonstrates poorer clinical outcomes from sclerotherapy.

Take-home message: Endovenous interventions including new modalities of MOCA and CEA are effective in treating superficial venous disease and improving patients QoL.

P07 A REVIEW OF FEEDBACK IN SURGICAL EDUCATION

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Introduction: The positive effect of feedback has long been recognized in surgical education. Surgical educators convey feedback to improve the performance of the surgical trainees. We aimed to review the scientific classifications and applications of feedback in surgical education, and to propose possible future directions for research.

Method: A literature search was performed using Pubmed, OVID, CINAHL, Web of science, EMBASE, ERIC database and Google Scholar. The following search terms were used: 'feedback', 'feedback in laparoscopic surgery', 'feedback in medical training' and 'feedback in surgery'. We limited our search to articles in English.

Result: This effort resulted in 1157 citations from which relevant studies were selected for this review. Twelve books and 41 papers from years 1967 to 2015 met the inclusion criteria.

Conclusion: Feedback comes in a variety of types and is an essential tool for learning and developing performance in laparoscopic education. Different methods of feedback application are evolving and future work needs to concentrate on the value of each method as well as the role of new technologies in surgical education.

Take-home message: Feedback is an essential tool for learning and developing performance in surgical education.

P08 IMPROVING QUALITY OF DOCUMENTATION DURING THE UROLOGY POST-TAKE WARD ROUND

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Introduction: During the daily post-take ward round (PTWR), it is important that discussions and plans are clearly documented to facilitate effective multidisciplinary communication and ensure quality care. This task is often the responsibility of the most junior members of the Urology team. We performed a local audit to improve the quality of documentation in medical notes among emergency admissions.

Method: A retrospective audit was performed of emergency admissions admitted under Urology over a 7 day period in January 2016 (n=20). PTWR documentation was assessed against standards suggested by GMC and RCS guidelines: date, time, lead clinician, relevant investigations, plan, DNAR/Escalation status and anticoagulation review. Findings were presented at the departmental meeting and a Urology PTWR proforma created. Following implementation of the proforma, re-audit was performed in May 2016 (n=20).

Result: Basic documentation of date, time, lead clinician and plans were well documented (100%) upon initial audit. However, documentation of relevant investigations, review of anticoagulation medications and escalation/DNAR status was poor. Introduction of the PTWR proforma was well received by staff and associated with considerable improvement in documentation of all variables to 95-100% compliance.

Conclusion: Implementation of the proforma improved quality of documentation on the Urology PTWR. Other factors incorporated into the proforma (VTE assessment, provisional TWOC date) aim to prevent omissions and facilitate discharge planning. Further re-audit will guide the optimisation of our proforma, which we hope to digitalise with the introduction of a paperless system in the Trust in 2017.

Take-home message: Utilising a standardised proforma, a simple and cheap intervention, improved the quality of written communication on the Urology post take ward round.

PO9 SUGGESTED GUIDELINES FOR MANAGEMENT OF LIS FRANC INJURIES

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Introduction: Lis franc injuries are under-reported, treated in many different ways and have a high morbidity. If managed appropriately, patients can return rapidly to pre-morbid function. If managed inappropriately this can lead to long term pain and foot deformity life long.

Method: In our unit we performed a 5 year retrospective analysis of lis franc injuries. We discovered 7 different methods of fixation, which included percutaneous fixation, different varieties of open reduction internal fixation and k wire fixation. We also found evidence of patients who had been managed conservatively who continued to have ongoing pain for many years after the injury. We have suggested a pathway including a thorough history and examination for any patient who presents with a foot injury, no matter how low energy the mechanism. This pathway includes suggested diagnostic pathway starting with weight bearing x-ray, ct scan if there is evidence of bony injury (and if there is still doubt of unstable lis franc injury), or mri if there is no bony injury. If there is evidence clinically and radiologically of injury, we recommend an open reduction and internal fixation. This in most cases will require a lag screw between the medial cuneiform and second metatarsal head with further assessment of the tarsometatarsal joints. If these are unstable we recommend locking plating across the joint. Metalwork should be removed after 4 months as appropriate.

Take-home message: Have a low threshold for open reduction internal fixation of lies franc injuries.

PO10 A TALE OF TWO DISTRICT GENERAL HOSPITALS: A MIXED METHODS INVESTIGATION OF THE TRAINING AND BARRIERS TO LEARNING OF FOUNDATION YEAR ONE DOCTORS IN GENERAL SURGERY

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Introduction: There is concern that future General Practitioners and non-surgical hospital doctors will have a reduced education in surgery as the number of surgical posts during the Foundation Programme is reduced. The aim of this study was to compare the emergency surgery experience of Foundation Year 1 doctors (FY1) during their surgical rotations between two similar hospitals.

Method: Questionnaires were sent to all FY1 doctors at the end of their 4 month General Surgery rotation at one of two District General Hospitals (DGH). A quantitative and qualitative analysis of the responses was undertaken. Thematic analysis was used to explore qualitative survey responses. The questions asked focused on exposure to theatre, surgical history taking and examination of common emergency surgery admissions.

Result: 100% of the 43 FY1s returned survey questionnaires. There were no significant differences between FY1s at either of the two DGH hospitals in either the number of patients clerked for emergency surgical patients or attendance in theatre. Overall 37% did not clerk a patient and 42% did not attend theatre for emergency surgical patients. FY1s cited time constraints and lack of senior support as the main reasons they were unable to see emergency surgery patients.

Conclusion: There are many FY1s missing key learning experiences during their General Surgery rotation. There was no significant difference between the two DGH hospitals. Fewer FY1s will have General Surgery rotations in the future, so it is paramount that surgical educators provide opportunities to teach and inspire their FY1s.

Take-home message:

FY1s are not getting enough clinical or surgical experience in general surgery which will have detrimental effect on their overall training and understanding of surgery as both a specialty and career.

PO11 PRE-OPERATIVE CT SCAN: A TOOL TO PREDICT INCISIONAL HERNIA OUTCOMES

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Introduction: Abdominal incisional hernia is a common complication of abdominal surgery, with a risk of recurrence of 20%. Incisional hernia repair has a failure rate estimated at 25% to 45% which represents a dramatic cost, and an increase in morbidity and mortality of patients. The high recurrence rate shows inadequate patient management. We looked for predictors of incisional hernia recurrence following incisional hernia repair using pre-operative thoraco-abdominal CT scans in order to improve outcomes.

Method: Retrospective comparative cohort study on patients who underwent abdominal wall reconstruction from 2009 to 2014, with primary musculo-fascial closure. Five CT measurements performed: Abdominal fat thickness (AFT) at the level of 1.xiphoid process, 2.umbilicus and 3.pubic tubercle, and the abdominal defect 4.width and 5.length.

Result: Thirty-seven patients with open ventral hernia repairs and primary fascial closure (w/o component separation). 57% had previous hernia repair. Post-repair hernia incidence was 16%. Post-operative general complications occurred in 13.5% of patients. Surgical site occurrence occurred in 30% of our patients. AFT at the level of the umbilicus, smoking, and VHWG grading (grade III-IV) were significantly correlated with post-repair recurrence. Abdominal fat thickness at the level of the pubic tubercle and enterotomy were significantly correlated.

Conclusion: AFT umbilicus was predictive of hernia recurrence. AFT pubic tubercle and enterotomy were significantly correlated. Further studies need to be done to validate our results.

Take-home message: Pre-operative CT scan used as a visual tool for the surgeon, could be a quantitative tool for individually-adjusted abdominal wall reconstruction and outcomes improvement.