Results: 51 genes were differentially expressed by at least 1.5-fold (p<0.05); some of which had previously been recognized as regulatory factors during bone development. Dpt, Osrl, Nov, Dkl1 and Rera are downregulated up to 3.5-fold in the Mut suture, raising their candidature for the observed synostosis. Furthermore, in situ hybridization for these genes at E15.5 to E18.5 in murine coronal suture sections reveals complementary spatio-temporal expression in dura and periosteum.

Conclusions: Novel genes potentially involved in the pathogenesis of coronal suture synostosis are identified in a Crouzon mouse model. Molecular pathways in craniosynostosis syndromes are further elucidated, offering targets for genetic diagnosis and potential pharmacotherapy.

ASIT ORAL POSTER: 0949: WII “TRAUMA CENTRE” VS. LAPSIM: ARE MODERN GAME CONSOLES COMPATIBLE TO SIMULATORS FOR THE DEVELOPMENT OF LAPAROSCOPIC SKILLS?

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Aims: We aim to determine if the WII game “Trauma Centre” is able to improve performance on the LapSim “tubotomy” task providing a less costly and more accessible option for improving skills required for laparoscopic surgery.

Methods: A non-randomised prospective cohort intervention study was conducted. A questionnaire calculating a “potential dexterity score” was created using previously defined dexterity measures. Medical students (n=8) were recruited. Participants had completed at least two clinical rotations and had no prior surgical training. Participants undertook the LapSim “tubal occlusion” prior to the Lapsim “tubotomy”. The intervention group had 15 minutes of gaming before repeating the “tubotomy” task, the control group had a 15 minute break.

Results: There was a positive trend between potential dexterity score and baseline score. There was improvement in the intervention group (P=0.1214) and the control group (P=0.1501). The intervention group had a higher final mean weighted score (94 vs. 86.5).

Conclusion: Playing the WII game “Trauma Centre” results in a increase in performance on the LapSim “tubotomy” and may provide a cheaper and more accessible way to improve skills required for laparoscopic surgery than the LapSim simulator. A larger study is required to determine the significance of this finding.

ASIT ORAL POSTER: 0956: ASIT-EDUSURG SHORT ORAL PRESENTATION

Prize Winner: Identifying Highly Angiogenic Colorectal Tumours – A Predictor of Treatment Response?

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Aim: Angiogenesis is a well known chemotherapeutic target in colorectal cancer. Hypoxia is a strong driver of angiogenesis through the mediator of Vascular Endothelial Growth Factor (VEGF). The effectiveness of anti-VEGF monoclonal antibodies is mixed. One hypothesis is that the effectiveness of this agent is limited to highly angiogenically active tumours. There is no predictive marker to identify tumours that will respond. This study aims to examine the angiogenic gene profile from a cohort of colorectal tumour samples.

Method: Using a primary colorectal tumour cell culture exposed to hypoxia the angiogenic gene profile was analysed using the 84 gene Human Angiogenesis RT2 Profiler PCR Array (SABiosciences). Results were normalised to normoxia and the fold change compared between different tumour samples.

Results: 10 colorectal cancer tumour samples were analysed. Angiopeptin-like 4 (ANGPTL4), Ephrin A3 (EFNA3), Hepatocyte Growth Factor (HGF) and the VEGF receptor-1 FMS-like tyrosine kinase (FLT-1/VEGFR1) were upregulated in >50% of the samples analysed.

Conclusion: There are clearly differences in angiogenic gene expression between human colorectal tumours that may explain the mixed response of anti-VEGF monoclonal antibody treatment. These genes may prove to be useful markers of highly angiogenic tumours which may respond to this form of treatment.

ASIT ORAL POSTER: 1017: Hyperaldosteronism and Abnormal Glucose Tolerance Following Colectomy in Patients with Familial Adenomatous Polyposis (FAP) – A Pilot Study

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Aim: There is evidence that the colon is an active metabolic organ, removal of which leads to sodium and water depletion, chronic activation of renin-angiotensin-aldosterone system(RAAS), hyperaldosteronism and abnormal glucose tolerance. Previous studies have investigated patients after colectomy for inflammatory bowel disease. We investigated patients with FAP, a group chosen to avoid bias resulting from impact of inflammatory disease and medication on metabolism. We aimed to determine the prevalence of metabolic disturbance following colectomy.

Methods: 25 FAP patients who had undergone either colectomy and ileo-rectal anastomosis or restorative proctocolectomy were recruited. Fasting urine and blood samples were collected to measure sodium loss, hydration and RAAS activation. Oral glucose tolerance test was performed. Health-related quality of life was assessed using SF-36(Version2) and FACT-G(Version4).

Results: Twelve patients(48%) demonstrated fasting hyperaldosteronism (>250pmol/L) leading to higher urinary losses of potassium(p=0.03) and creatinine(p=0.01).Twelve patients 48% demonstrated postprandial hypoglycaemia(<3.9mmol/L). Patients with hypoglycaemia had a significantly higher early insulin secretion(p=0.04) without the expected reduction in tissue insulin sensitivity, resulting in inappropriately low blood glucose levels. Patients exhibiting hypoglycaemia had significantly lower BMI(p=0.005), lower energy levels with increased fatigue.

Conclusion: Prophylactic colectomy in FAP patients may result in metabolic disturbances resulting in a negative impact on the quality of life.

ASIT ORAL POSTER: 1039: The Surgical “Five Minutes” versus the Anaesthetic “Five Minutes”

Esther Platt, Kenneth Keogh, Andrew Gee. Royal Devon and Exeter Hospital, Devon, UK.

Aim: Surgeons often state that anesthetic time is excessive, particularly for straightforward procedures. Anaesthetists may be as equally scathing about surgical time, especially for laparoscopic procedures. The purpose of this study was to assess the reliability of both specialties in predicting average time taken for anaesthetic and surgery, for the commonly performed laparoscopic and open appendicectomy.

Methods: 14 surgeons and 14 anaesthetists (consultant - core trainee) were surveyed via a 6 point questionnaire with set categories of response. Results were compared to durations obtained for 100 consecutive appendicectomies via the theatre PLATO system (converted procedures and those in which appendicectomy performed as part of more extensive resection excluded, laparoscopic =42, open =39).

Results: Overall surgeons more accurately predicted the average duration of both laparoscopic (64% correct, anaesthetists 29% correct) and open appendicectomies (43% correct, anaesthetists 14% correct). Interestingly, 50% anaesthetists underestimated the duration of open appendicectomies. Anaesthetists more accurately predicted the average duration of anaesthetic for both procedures (50% correct for both), with surgeons over-predicting duration in both instances (64% over prediction).

Conclusion: Anaesthetists and surgeons are equally inaccurate. Anaesthetic complaints about laparoscopic surgery may in part be related to an underestimation of open surgery.

ASIT ORAL POSTER: 1063: Feasibility of Smartphone Speech Recognition for Communication with Deaf Patients

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Aim: Visual communication aids, such as handwriting or typing, are often used to communicate with deaf patients in clinic. These tools may be impractical on hospital wards or recovery areas. This study aimed to establish the feasibility of communicating through smartphone speech recognition compared with writing or typing.