

ASIT SHORT PAPER PRIZE: 0936 WINNER OF ASIT/ETHICON SURGICAL EDUCATION PRIZE: A NOVEL APPLICATION OF LEARNING CURVE ANALYSIS FOR A BASIC TASK IN SINGLE-INCISION LAPAROSCOPIC SURGERY

Mikael Sodergren, Colleen McGregor, Hugo Farne, Sanjay Purkayastha, Thanos Athanasiou, Ara Darzi, Paraskevas Paraskeva. *Imperial College, London, UK*

Aims: There is currently no objective quantification of the temporal changes in performance associated with a novice surgeon learning SILS operative tasks. Analyzing learning curves allows us to objectively quantify performance.

Methods: 36 surgically-naïve medical students were randomized to complete the validated peg transfer task over 50 repetitions using either 1) conventional laparoscopic set-up 2) SILS set-up with straight instruments 3) SILS set-up with articulated instruments or 4) SILS set-up with articulated instruments after having reached proficiency using a conventional laparoscopic set-up. The data was analysed using univariate and multivariate regression models, and by fitting an inverse curve to derive measures for the asymptote and rate of learning of each group.

Results: There was a significant increased overall proficiency between the group trained in conventional laparoscopy and all other groups ($p < 0.01$), with no difference between the other groups.

Conclusions: The results of this study indicate that the proficiency reached using a conventional laparoscopic set-up cannot be matched using a SILS configuration for the novice surgeon, and that the choice of straight or articulated instruments as well as previous laparoscopic training does not confer an advantage in this basic task.

POSTER ABSTRACTS

Basic science including anatomy

0470: SRC KINASE: GOOD OR BAD IN PROSTATE CANCER?

Brian Stewart¹, Jenniffer Willder¹, Craig Robson², Paul Horgan¹, Joanne Edwards¹. ¹*Institute of Cancer Sciences, University of Glasgow, Glasgow, UK;* ²*Northern Institute for Cancer Research, Newcastle, UK*

Aim: To assess expression levels of c-Src and activated Src in 2 demographically separate hormone-naïve prostate cancer cohorts and determine their influence on patient survival.

Method: Immunohistochemistry using validated antibodies to c-Src and SrcY419 (the classical activation site) was used to determine expression levels of these proteins in prostate cancer tissue. The semi-quantitative weighted histoscore was used to assess expression levels and expression was correlated with survival.

Results: In cohort 1 ($n = 175$ patients), high levels of tumour membrane c-Src expression were associated with decreased cancer-specific survival (6.3 v 8.3 years, $p < 0.0001$). In cohort 2 ($n = 92$ patients) the reverse was apparent with patients with low levels of membrane c-Src expression exhibiting decreased cancer-specific survival (8.1 v 13.5 years, $p = 0.029$). Additionally in cohort 2, low levels of membrane SrcY419 were associated with decreased cancer-specific survival (8.8 v 14 years, $p = 0.031$).

Conclusions: The role of Src kinase in the oncogenesis of prostate cancer is complex and varying levels of activation may occur at different stages of the disease process. The differences observed in the relationship between patient survival and Src kinase expression in the two cohorts may be linked to demographic, epidemiological and clinical factors.

0502: THE ROLE OF OSTEOPONTIN IN PAPILLARY THYROID CARCINOGENESIS

Rohit Srinivasan^{1,2}, Zaruhi Poghosyan^{1,2}. ¹*Cardiff University, School of Medicine, Cardiff, UK;* ²*Cardiff University, Department of Medical Genetics, Haematology & Pathology, Cardiff, UK*

Aim: Papillary thyroid cancer (PTC) is the most prevalent form of thyroid cancer. OPN is thought to promote tumorigenesis by interacting with CD44, integrins and Met receptors. The study analysed the reasons for loss of tumour cell motility and invasiveness in a human PTC cell line (K1) with OPN knockdown.

Method: K1 and a derivative stable lentiviral-mediated shRNA knockdown of OPN in K1 (OPNsh) cells underwent a regimen, either untreated or treated (hepatocyte growth factor (HGF), OPN or hyaluronan (HA)). Western Blot analysis was undertaken to analyse expression and phosphorylation events.

Results: OPNsh cells showed higher levels of Met receptor expression than K1 cells; Met showed phosphorylation in the absence of OPN. Paxillin phosphorylation was enhanced in all untreated and treated K1 cells compared to OPNsh cells. Phosphorylation of cofilin in both cell lines showed notable changes.

Conclusions: A decrease in Met levels in OPNsh cells does not seem to be the reason for loss of invasiveness but there may be impairment of Met receptor activation. The absence of OPN seemed to demonstrate an important effect on the activation paxillin and cofilin. This suggests a vital role for integrins in the loss of tumour cell invasiveness and motility in OPNsh cells.

0562: PARENTERAL NUTRITION IN ROUTINE SURGICAL PRACTICE – ROOM FOR IMPROVEMENT

Shi Ying Hey, Andrew J. Robson, Lesley-Ann Reekie, Satheesh Yalamarthi. *Department of Surgery, Queen Margaret Hospital, Dunfermline, UK*

Aims: Parenteral Nutrition (PN) administration in carefully selected surgical patients maximises recovery protocol. PN provision was compared against the European Society of Parenteral and Enteral Nutrition (ESPEN) 2009 guidelines to identify areas for improvement in clinical practice.

Methods: A prospective study based on collected PN referral forms was conducted between January and June 2011.

Results: Fifty-one patients received PN (29M: 22F). ESPEN criteria concluded 44/51 (86%) referrals were appropriate, whereas 7/51 (14%) were inappropriate since caloric intake were sufficient enterally. Of the 51 patients, 43/51 (84%) were postoperative cases where PN was used in: 23 with peri-operative complications, 12 who were unable to feed enterally, 5 as additional nutritional supplementation, and 3 with short bowel syndrome. In 8/51 (16%) non-operative individuals, gastrointestinal dysfunction led to PN use.

PN was administered centrally in 30/51 (59%) and peripherally in 21/51 (41%) of patients. The median range for duration of PN was 4-6 days. The overall complication rate of PN administration was 24%, including line infection in 11 (22%), and pneumothorax in 1 (2%).

Conclusion: Judicious usage of PN improves outcomes for surgical patients. As complication rates remain high, formal training on PN have been instituted locally and re-assessment of outcomes is awaited.

0707: IS THE RULER IN DIGITALISED RADIOGRAPHS ACCURATE? – A STUDY WITH QUESTIONNAIRE SURVEY

Vijay Rajamani, Vasanth Ramsingh, Russell Walker. *Nevill Hall Hospital, Abergavenny, UK*

Objective: The aim of this study is to assess the opinion of practicing orthopaedic surgeons and radiology consultants with regards to the use of the ruler in digitalised radiograph.

Methods: We compiled a questionnaire on the accuracy, magnification percent and positional variation of the measurements used in digitalised radiographs. Forty one orthopaedic surgeons and fourteen radiologists participated in our survey. We used digitalised ruler in the radiographs of 116 patients who undergone hemiarthroplasty of the hip and compared the head measurements with the actual size. To determine the positional variation, we compared the measurements of the nail diameter in radiographs of 33 patients taken on two different occasions.

Results: Sixty nine percent of the orthopaedic surgeons and fifty percent of the radiologists believed that the ruler measurement was not accurate. Measurements of the prosthesis head in radiographs have shown that there is a magnification of 18 to 32%. Thirty two percent of surgeons and 42% of radiologist believed that there is no positional variation.

Conclusion: Most of the orthopaedic surgeons believed that digitalized ruler is not accurate but half of the radiologist believed them to be accurate. Our study has shown that the digitalized ruler is not accurate and have variable magnification with positional variation.