Results: 76 patients underwent lung resection in the year prior to the ERP and 80 patients in the following year. Median age was 72 years (IQR 64-77) and 69 years (IQR 64-75) before and after programme commencement, respectively (p = 0.120). The proportion of patients undergoing VATS resection was 55.3% and 66.3% in the consecutive years (p = 0.160); LOS for all approaches prior to and following the introduction of ERP was 6 days (IQR 4-8) versus 5 days (IQR 3-8), respectively (p = 0.126). The non-significant reduction in LOS was observed in both open and VATS cases. Overall, the reduction in LOS represented a cost reduction of £26880 (14%).

Conclusion: The benefits of a thoracic surgery ERP may be difficult to measure in terms of hard end-points due to the staged nature of ERP implementation. A trend towards reduced LOS was observed following the introduction of the thoracic surgery ERP.

0308: A PROGNOSTIC INDICATOR IN RECTAL CANCER SURGERY: LYMPH NODE RATIO IN NEO-ADJUVANT CHEMO-RADIOOTHERAPY (CRTx)

K. Ong 1,2, S.S. Fong 1,2, G.S. Tay 1,2. 1 University of Glasgow, UK; 2 Tan Tock Seng Hospital, Singapore

Aim: This study aims to identify which variables -lymph node yield (LNY), LN ratio (LNR) and LN involvement (LNI)- are significant predictors of overall survival (OS) in patients who had neo-adjuvant CRTx for rectal cancer.

Methods: This is a retrospective study of patients who had surgical resection for rectal cancers from January 2006-December 2011 in TSSH (Singapore). LNY, LNI and LNR from histopathology are recorded. Correlation and multiple regression analyses were conducted to examine relationship between OS (≥3-year follow-up) and potential predictors (LNY, LNI, and LNR).

Results: A total of 200 patients were included, of which 80 had neo-adjuvant CRTx. A reduction in mean LNY and LNI were found in the neo-adjuvant group (from 23.4 to 15.0, p < 0.01 and 3.45 to 1.86, p = 0.163 respectively). There was no reduction in mean LNR (both 0.11). OS is negatively and significantly correlated with LNI (p = 0.019) and LNR (p = 0.011). The stepwise multiple regression model showed LNR as best predictor of survival (R2 = 0.072, F (1, 71) = 5.495, p < 0.05).

Conclusion: Neo-adjuvant CRTx reduces LNY and LNI but not LNR. LNI and LNR are inversely related to OS. LNR is the single best predictor of prognosis for patients who had neo-adjuvant CRTx for rectal cancer.

0339: A COMPARISON OF TWO DIGITAL MAMMOGRAPHY SYSTEMS AT BREAST TEST WALES – WHAT DOES IT MEAN FOR SURGEONS?

G. Devonish, T. Evans, B. Burilton, D. Bailey, K. Gower-Thomas. Breast Test Wales, UK

Aim: The Welsh breast screening service converted to wholly digital technology in 2012. This study aims to compare the performance of the two digital mammography technologies used (Sectra/Philips and Hologic); specifically number, type, size and grade of tumour identified?

Methods: A retrospective study of a prospectively collected database of 50,000 consecutive screening episodes; clients aged 49-88 (mean 61.9). All tumours were defined by type, size, grade and invasive or non invasive (DCIS). Performance was analysed for statistically significant differences.

Results: 500 cancers were found with no statistical difference in invasive cancer detection nor between ductal or lobular subtypes. Hologic detected 267 tumours, 72 (26.97%) were DCIS (2.88 per 1000), compared to Sectra with 233 cancers overall including 36 (15.45%) DCIS (1.44 per 1000). The difference in DCIS detection was significant p ≈ 0.001 with both showing 53% HNG lesions. There was no significant difference in DCIS size for the two technologies.

Conclusion: Hologic and Sectra/Philips seem comparable in terms of invasive cancer detection, with a statistically significant difference in DCIS detection, not reported in previous studies. If this difference is clinically significant we may perform unwarranted surgery on many women.

0353: NUTRITIONAL ENHANCED RECOVERY: POST-PYLORIC FEEDING AFTER DISCHARGE FOLLOWING OSEPHAGECTOMY

R.C. McLean, J. Sturrock, H. Jaretzke, L. Jones. Royal Victoria Infirmary, UK

Aim: Oesophagectomy is associated with pre- and postoperative nutritional difficulties, including protein-energy malnutrition (defined as >10% weight loss). Postoperative nutritional enhanced recovery (NER) aims to optimise nutrition with early reintroduction of enteral feeding by post-pyloric feeding (nasojejunal tube or surgical jejunostomy) and a period of overnight enteral feeding followed by discharge.

Methods: To investigate the postoperative weight changes in patients who received NER and those who did not, this retrospective audit reviewed case notes for 214 patients who underwent oesophagectomy between 1st January 2012 and 30th April 2014.

Results: Patients who had post-pyloric feeding continued following discharge (N = 32) had significantly less weight loss from discharge until 3-months postoperatively compared to those with no supplementary feeding (−4.6 kg [-5.4%] vs. −12.3 kg [-13.8%], p < 0.001). Weight loss in the post-pyloric feeding cohort was shown to increase following cessation of feeding (median duration postoperatively: 82 days [22-181]) however there remained a significant difference at 6-months (−8.05 kg [-10.6%] vs. −13.1 kg [-14.8%], p = 0.007) and by 12-months there was no significant difference (−11.3 kg [-14.1%] vs. −11.2 kg [-14.0%], p = 0.505).

Conclusion: Oesophagectomy is shown to be associated with substantial postoperative protein-energy malnutrition. Postoperative weight loss and malnutrition can be significantly reduced with post-pyloric feeding following discharge, and this audit supports NER implementation.

0532: PERINEURAL INVASION AND NEUROPATHY IN PANCREATIC CANCER: FROM HUMAN TISSUES TO A CELLULAR MODEL

W. Alrawashdeh 1,*, R. Jones 2, N. Wijesuriya 3, T. Crnogorac-Jurcevic 1, 1 Barts Cancer Institute, UK; 2 MS Bioworks Ann Arbor, USA; 3 Royal London Hospital, UK

Aim: Perineural invasion (PNI) is a common and characteristic feature of pancreatic ductal adenocarcinoma (PDAC). It is associated with poor prognosis, tumour recurrence and generation of pain. The molecular alterations underlying the neuro-epithelial interactions in PNI are poorly understood.

Methods: We performed Mass Spectrometry-based global proteomic profiling of laser microdissected PNI and non-PNI cancer, as well as invaded and non-invaded nerves from PDAC tissues. An in vitro model of PNI was developed using a co-culture system comprising PC12 cells, a rat pheochromocytoma cell line, as the neuronal element and PDAC cells.

Results: The overall proteomic profiles of PNI and non-PNI cancer appeared largely similar. In contrast, nerve samples demonstrated widespread molecular alterations characteristic of neuronal plasticity upon invasion by cancer cells. Immunohistochemistry confirmed the up-regulation of VGF in invaded compared to non-invaded nerves. Using the in vitro co-culture model, PDAC cell lines were able to induce PC12 cells neuronal plasticity including survival, neurite extension as well as VGF expression.

Conclusion: The proteomic data indicates a molecular pattern consistent with neuronal injury and provides potential molecular mechanisms for the widespread neuronal plasticity in PNI. The unique in vitro model recapitulates these changes and provides a versatile tool to investigate their roles.

0623: PATTERNS OF MELANOMA RECURRENCE FOLLOWING A NEGATIVE SENTINEL LYMPH NODE BIOPSY

E. O’Connell, P. O’Leary, Z. Khan, K. Fogarty, P. Redmond. Cork University Hospital, Ireland

Aim: Sentinel lymph node (SLN) status is a recognised prognostic indicator in melanoma. However, in the setting of a negative SLN there remains a high risk of disease recurrence. We aimed to analyse the predictors and patterns of recurrence in patients with a negative SLN biopsy.

Methods: Review of a prospectively maintained melanoma database. Patients with a negative sentinel lymph node were identified and we performed statistical analysis on their demographics, tumour histology characteristics and follow-up data.

Results: Of 164 patients studied, 40 (23%) had a recurrence of melanoma at a median of 39.5 months following diagnosis (range 1–92 months). Distant...