Aim: Review mortality, infections and CSF sampling in EVD patients.

Methods: Theatre shunt register and laboratory results were used to collect data from August 2012 to b2014.

Results: 141 EVDs were inserted in 117 patients. The mortality rate within 2 months of operation was 36%. Mortality was highest in patients with intra-ventricular haemorrhage (69%) and malignant tumours (67%). 258 CSF samples were taken for analysis costing £4,987.14. 38% of patients had an intra-operative sample sent, none of which grew an infective organism without pre-existing shunt or infection. The iatrogenic infection rate was 7% however 4 of these were potential contaminant organisms (coagulase-negative staphylococcus), and a further 4 contaminants were not treated. Neither the number of samples taken from EVDs, nor the CSF cell counts were associated with infection.

Conclusion: We have demonstrated the high mortality associated with patients requiring EVDs, knowledge of which has been incorporated into our practise when counselling patients and families. We have also highlighted the lack of value of cell count intra-operative sampling in predicting infection. To improve efficiency our microbiologists are reviewing use of routine cell counts, favouring culture only. We also recommend only sampling patients with a high index of suspected infection to avoid overtreating contaminants.

0562: OPPORTUNITY FOR CARDIOVASCULAR RISK FACTOR REDUCTION IN AAA SURVEILLANCE PROGRAMS: A SYSTEMATIC REVIEW AND META-ANALYSIS OF CARDIOVASCULAR MORTALITY IN PATIENTS WITH SMALL AAA

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Aim: Screening for abdominal aortic aneurysm (AAA) has dramatically reduced the rate of AAA-rupture, yet cardiovascular mortality remains a major cause of death in this patient group. A diagnosis of AAA is a powerful marker of cardiovascular risk, yet only 12.4% of patients use statins. The aim of this study was to assess the cardiovascular risk in patients with small AAA.

Methods: Standard PRISMA guidelines were followed. A meta-regression analysis was performed for cardiovascular mortality in small AAA patients and a qualitative synthesis of the prevalence of concurrent cardiovascular diseases.

Results: A total 2323 patients with small AAA were identified (median follow-up 5 years). A total of 335 cardiovascular deaths occurred, 37 of which from AAA-rupture, showing a cardiovascular mortality risk of 3.00% per year in small AAA patients (R2 = 0.902, p < 0.001). The prevalence of ischaemic heart disease (44.9%), myocardial infarction (26.8%), heart failure (4.4%) and cerebrovascular disease (14.0%) were high in this patient group.

Discussion: There is high cardiovascular risk in patients with small AAA, yet many may not be taking advantage of optimal cardiovascular risk factor modification. The diagnosis of a small AAA should be seen as a red-flag sign, triggering lifestyle change and pharmaco-vigilance against cardiovascular risk factors.

0726: PATTERNS OF DISEASE PERSISTENCE AND RECURRENCE IN RE-OPERATIVE PARATHYROIDECTOMY

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Aim: Parathyroidectomy is the definitive cure for primary hyperparathyroidism. Re-operative parathyroidectomy is required when the first operation has been unsuccessful, however, re-operative surgery has a higher complication rate and a higher rate of failure to cure. Our study looked at our departmental experience of re-operative parathyroidectomy.

Methods: Using an internal database we identified all patients who had undergone re-operative parathyroidectomy between 2006 and 2014. We reviewed results from the pre-operative work up, the operative note, and the post-operative biochemistry and histology for the initial and re-operative procedure.

Results: During this time period over 700 parathyroidectomies were performed. Of these, we identified 46 re-operative patients for whom we had the relevant data to include them in the study. A large proportion of patients had negative, equivocal or discordant conventional imaging and therefore went on to have more invasive localisation studies. Most abnormal parathyroid glands were found in eutopic locations. Of the ectopic glands, the most common locations were: intra-thyroidal, intrathyroidal, and medistinal. 10 patients were found to have multiple adenomas and 4 patients had supernumerary parathyroid glands. 28% of the patients had concurrent thyroid disease.

Conclusion: This study has identified patterns of disease persistence and recurrence in patients who have undergone re-operative parathyroidectomy.

0911: EXPRESSION PATTERNS OF HUMAN EPIDERMAL GROWTH FACTOR RECEPTOR PROTEINS IN EARLY GASTRIC CANCER

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Aim: The human epidermal growth factor receptor (HER) molecules are therapeutic targets in epithelial derived cancers. This study investigated their co-expression in early gastric neoplasia.

Methods:Specimens from 22 suspected early gastric cancer patients were selected. Tissues were immunostained for EGFR, HER2, HER3 and HER4 overexpression on the Bond immunostainer. EGFR and HER2 were evaluated by intercellular (ICD) and extracellular binding (ECD) antibodies. Interpretation was performed as per clinical HER2 and EGFR scoring criteria.

Results: ICD EGFR overexpression was seen in 9% (2/22) of samples but no overexpression against the EGFR ECD epitope. 13.6% (3/22) showed ECD HER2 overexpression and 9% (2 of 22) showed overexpression against the HER2 ECD epitope (3/3 with gene amplification). 50% (1 of 2) of overexpressing showed co-expression of EGFR and HER2. The co-expressed case showed significant disease progression. The pattern of distribution was heterogeneous in all EGFR cases but uniform in all of the HER2 cases. HER3 and HER4 overexpression was not seen in any cases.

Conclusion: This pilot study suggests a relationship between EGFR and HER2. Interestingly, HER3 and HER4 lacked correlation with either of these in contrast to reported relationships. The prognostic utility EGFR and HER2 co-expression to predict an aggressive early gastric cancer phenotype warrants further investigation.

Society of Academic & Research Surgery Short Paper Session

0021: EFFECTS OF PLASMA SURFACE MODIFICATION ON SURFACE PROPERTIES OF POLYHEDRAL OLGOMERIC SILSESQUIOXANE POLY(CARBONATE-UREA) URETHANE (POSS-PCU) FOR NASAL RECONSTRUCTION

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Aim: An unmet need exists for the development of tissue-engineered materials for biomedical applications, particularly in the field of nasal reconstruction. This study aims to alter the surface properties of poly-hedral oligomeric silsesquioxane poly(carbonate-urea) urethane (POSS-PCU), using plasma surface modification.

Methods: The surface of porous POSS-PCU was modified using the plasma surface modification (PSM) technique with ammonia (NH3) and carbon dioxide (CO2) gases. Surfaces were analysed by comparing the water contact angle and using attenuated total reflectance—Fourier transform infrared (ATR–FTIR) spectroscopy.

Results: Both NH3 and CO2 gases using PSM significantly changed the surface characteristic of POSS-PCU from hydrophobic to hydrophilic (p < 0.05), with NH3 making the surface more hydrophilic than CO2 (control; 83° CO2; 61° NH3). Comparison of ATR–FTIR spectra post PSM demonstrated no changes in material characteristics compared to controls.

Conclusion: This study demonstrated the ability of PSM to alter the surface of POSS-PCU for desirable characteristics. By achieving the desired surface...