0374: DOES SOCIO-ECONOMIC STATUS INFLUENCE AMPUTATION OUTCOMES?
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Aims: To analyse the effect of socioeconomic deprivation on amputation outcome. Currently, 5,000 leg amputations occur annually in England and Wales and have a 50% mortality rate at 2 years.

Methods: All patients undergoing major lower limb amputation from January 2005 to December 2009 were identified from a prospectively maintained vascular database. Patient’s postcodes were used to determine socioeconomic status using the ACORN classification system (1 highest group to 5 lowest). Non parametric analysis of data was performed using SPSS version 19.

Results: We identified 354 patients (218 men; 65.5%), median age 68 (IQR 58-78) years. 47 (14.8%) patients were ACORN grade 1, 56 (17.6%) were grade 2, 65 (20.4%) were grade 3, 56 (17.6%) were grade 4 and 146 (45.9%) were grade 5. Significant differences were noted for the cardiovascular risk factors; hypercholesterolaemia (p=0.034), diabetes (p=0.020), smoking status (p=0.006). No significant differences were noted between classes for gender, type of admission (emergency or elective) or mortality (perioperative or 1 year death rate) or blood test (haemoglobin, white cells, urea, creatinine, sodium and potassium).

Conclusions: Socio-economic status of amputees does not have an effect on mortality. However, their status does impact on their cardiovascular risk factors, therefore aggressive modification remains imperative.

0414: ASSOCIATION OF ANAEMIA IN PATIENTS WITH DIABETIC FOOT DISEASE
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Aims: Anaemia and inflammation have been shown to play a role in diabetic foot disease. We aim to explore the association between anaemia and inflammation particularly with stage of diabetic foot disease.

Methods: 175 patients with diabetic foot disease were studied retrospectively. Patients were stratified in groups according to severity of diabetic foot disease according to NICE guidelines; D1 to D4, the lowest risk was assigned; D1. Correlation with baseline haemoglobin, C-reactive protein (CRP) and creatinine was evaluated. Longitudinal analysis of stage of diabetic foot disease was analysed.

Results: Haemoglobin was 13.2, 12.3, 11.0 and 9.3 and CRP was 6.1, 22.8, 32.4 and 39.5 in patients stratified to group D1, D2, D3 and D4 respectively (P<0.0001). There was an inverse correlation between haemoglobin with CRP (p<0.001). Equally, evaluation of disease progression demonstrated that as the diabetic foot deteriorates (D1 vs. D4), haemoglobin declines (13.4 vs. 9.2) and CRP rises (7.6 vs. 41.2) (P<0.0001). No difference was found comparing creatinine levels to disease stage. There was no correlation between haemoglobin and creatinine.

Conclusions: Anaemia and inflammation are associated with diabetic foot disease stage. Anaemia was found to be independent of renal function which may be explained by an underlying inflammatory process.

0518: GIANT CELL ARTERITIS; REDEFINING THE ROLE OF TEMPORAL ARTERY BIOPSY (TAB)
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Purpose: TAB remains the definitive diagnostic test for giant cell arteritis, although its usefulness is often questioned. However given the morbidity of both the arteritis and longterm corticosteroid use, TAB may still be beneficial. We have reviewed our experiences with TAB to redefine its indications.

Methods: Between 2004 and 2011, 98 patients underwent TAB. We evaluated their demographics, histological findings and post-operative outcomes.

Results: There were 28 males and 70 females aged between 18 to 92 years. All biopsies were performed under local anaesthetic with positive histological findings in 17% (16/98) cases. Inflammatory marker, ESR was significantly raised in positive biopsies (P < 0.01), with a sensitivity of 100% and specificity of 81%. Furthermore raised inflammatory markers and strong clinical symptoms were seen in 100% positive biopsies compared with 27% (22/82) negative ones. Out of these 22 patients, 77% had been on steroid suggesting that steroid treatment may have masked 20% (17/82) of the results in the negative group. The size of biopsy specimen did not alter histological outcome. The biopsy result influenced the subsequent management in 5% cases.

Conclusions: We found that while TAB is helpful in some patients, more diagnostic importance should be given to biochemical and clinical parameters.

0534: AORTODUOUDENAL FISTULAE FOLLOWING ENDOVASCULAR ABDOMINAL AORTIC ANEURYSM REPAIR
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Aim: Aortoduodenal fistula (ADF) following endovascular abdominal aortic aneurysm (EVAR) repair is an exceedingly rare complication as there is no contact between the duodenum and the endograft. The aim of this study is to report an 8 year experience with ADF following elective EVAR.

Methods: Our prospective registry of elective EVAR (January 2004 - 2012, 1283 patients) was assessed to identify patients who developed an ADF.

Results: Six patients (all men; mean age 68.8 years, range 60-75) developed an ADF 18 days to 2 years after successful EVAR. Haematemesis and abdominal pain were the main presenting symptoms. Contrast computed tomography (CTA) confirmed the diagnosis in all cases. Graft infection was the aetiology in 3 patients, 2 ADFs developed due to a type 1A endoleak, no cause has been identified in 1 case. All explanted grafts were macroscopically intact. All patients underwent emergency surgical exploration. Three patients died within 24 hours and 3 are well after 3 to 5 years.

Conclusion: This is the largest case-series of ADF following EVAR to date. ADF is a rare but dangerous complication of EVAR, secondary to infection or endoleak. Prompt diagnosis and intervention are crucial to avoid a fatal outcome.

0550: THE FATE OF PATIENTS REFERRED TO A SPECIALIST VASCULAR UNIT WITH LARGE INFRA-RENAL ABDOMINAL AORTIC ANEURYSMS OVER A TWO-YEAR PERIOD
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Introduction: The basic premise in managing patients with abdominal aortic aneurysms (AAA) must be to reduce overall mortality from the disease. Operative mortality is widely reported, but data on patients deemed unsuitable for repair are scarce. The purpose of the present study was to report the fate of patients referred with AAA, to define the proportion deemed unsuitable for surgery and to investigate the reasons for conservative treatment.

Methods: All patients who were referred to a regional vascular centre with large (>5.5cm) infra-renal AAA between 1st January 2008 and 31st December 2009 were included. Patients were classified into two groups; those managed non-operatively, or those offered elective repair. Survival was reported by Kaplan Meier analysis. Multivariate analysis investigated factors leading to non-operative management.

Results: 251 patients with a mean (SD) age of 75(8) years were assessed. Thirty-two(13%) patients were deemed unsuitable for repair, mostly because of medical co-morbidity (16/32), 219/251 (87%) patients underwent repair(25/251 (10%) open repair 194/251 (77%) EVAR(with 1/219 (0.5%) 30-day mortality. AAA repair was associated with significantly greater survival (p < 0.001,log-rank test) at 2years. In multivariate analysis Glasgow Aneurysm Score, female gender and respiratory disease were significant predictors of the decision to treat patients conservatively(p < 0.001).

Conclusion: Most patients were suitable for surgical intervention with low perioperative mortality. Data on “turndown” rates should be routinely reported to quantify the denominator for operative success.

0593: MULTI-LEVEL BYPASS GRAFTING – IS IT WORTH IT?
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Traditionally multi-level arterial disease has been treated with an inflow procedure only but simultaneous multi-level bypass graft procedures have
been attempted. However these procedures are potentially high risk. In many cases the only alternative is amputation. We ask whether the benefits justify the risks.

Using a prospectively compiled database we identified patients undergoing simultaneous aortoiliac and infrarenal aneurysm repairs between January 1996 and January 2011 at a single district general hospital. There were 38 multi-level procedures performed on 32 patients. Indication for surgery was acute ischaemia in 10 (26.3%), critical ischaemia without tissue loss in 10 (26.3%), with tissue loss in 10 (26.3%), and claudication in 2 (5.3%). In 26 (68.4%) cases infow was restored using a direct aortoiliac or aortofemoral reconstruction. In the remaining 12 (31.6%) an extra-anatomic bypass was constructed. 1 (2.6%) patient died within 30 days of surgery. 36 (94.7%) patients survived to discharge. 34 patients (89.5%) were alive 1 year after surgery. Limb salvage was 97.3% at 30 days, 85.3% at 1 year and 76.7% at 5 years. In total 12 (35.3%) patients required re-operation at a median of 1 year (range 1–5 years).

Our results demonstrate good long term results with acceptable levels of post-operative mortality.

0627: PATIENTS FROM DIFFERENT SURGICAL SPECIALITIES HAVE A UNIQUE PROFILE OF PREDICTED MORBIDITY

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Aim: POSSUM scores have been extensively utilised as an audit tool to compare predicted with actual outcomes. ‘Copeoland’s Risk Adjusted Barometer™ (CRAB) is a commercially available analysis tool which allows calculation of POSSUM risk profiles using validated surrogate markers. It is generally accepted that vascular surgery patients have a high frequency of co-morbidities however there is little data comparing predicted risk profiles of different surgical specialties. Data was analysed to compare predicted morbidity for vascular, colorectal, orthopaedic and general surgical procedures.

Methods: Central HES data for 8559 non day case procedures performed at a single district general hospital (March 2010 – August 2011) was analysed using CRAB software (Version 1.2.5.665). Procedures from each speciality were grouped as either: low risk (0-29% risk of complication), medium risk (30-69%) or high risk (70-100%).

Results: Vascular procedures tended to be high risk (25.2%, 30/119) compared to general (6.5%, 320/4932, p < 0.0001), colorectal (10.5%, 70/ 594, p = 0.0004) or orthopaedic surgery (8.8%, 250/2594, p < 0.0001).

Conclusions: Vascular surgical procedures are at higher risk of POSSUM predicted morbidity than general, colorectal or orthopaedic procedures at this hospital. Individual specialties would appear to have unique profiles with respect to predicted complication risk.

0634: DESIGN AND VALIDATION OF AN ERROR CAPTURE TOOL FOR QUALITY EVALUATION IN THE VASCULAR AND ENDOVASCULAR SURGICAL THEATRE

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Introduction: The unique and complex vascular/endovascular theatre environment is associated with significant risks of patient harm and procedural inefficiency. Evaluation is crucial to improve quality. This study attempted to design an efficient, reproducible tool for error capture and categorisation.

Method: Relevant published literature and field notes from over 250 hours of complex arterial surgery were analysed. A comprehensive log of errors was compiled and twelve vascular experts graded these for their potential to disrupt procedural flow and cause harm. This led to the development of the Imperial College Error CApTure (ICECAP) tool. ICECAP was validated (21 consecutive arterial cases) as an observer-led error capture record (two observers) and as a prompt for surgical teams.

Results: Six primary categories and 20 error sub-categories were determined as the most frequent and important vascular procedural errors. Using the ICECAP record, the number of errors correlated well between observers (Spearman rho=0.984, p<0.001). Both observers correctly identified all moderate and severe errors and categorised these identically. Self-reporting without prompts identified 24.4% of errors, whereas surgical teams reported 60.7% of errors using ICECAP error-categories.

Conclusion: The ICECAP tool may be useful for capturing and categorising errors that occur during vascular/endovascular procedures and as an error recall prompt for self-reporting by vascular teams.

0635: PREDICTING THE POST-OPERATIVE PATHWAY: DO CLINICAL TEAMS IN VASCULAR SURGICAL UNITS HAVE A SHARED MENTAL MODEL?

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Aim: To ascertain if surgeons, anaesthetists, ward doctors and nurses share a mental model of anticipated post-operative patient outcomes following major vascular surgery.

Method: The mental models of clinicians from two units were assessed, shortly after the surgery, by asking them to rate the likelihood of patient complications in the first 72 hours post-operatively using a Likert scale. They also indicated their source(s) of information. Routine documentation was examined for information on patient outcomes. Kappa Analysis was used to measure agreement and Logistic Regression to analyse predictive value.

Results: 58 clinicians caring for 23 patients participated (92.5% response rate). Mental model agreement was moderate across the theatre team, but poor in the ward team and the team as a whole. Participants reported their views were informed from their own specialty’s documentation. Prior experience and handovers were also important for the ward team. Only the nurses’ mental model was predictive of patient outcomes (K = 0.009).

Conclusion: Situation awareness is essential for post-operative planning, management and ultimately patient outcomes. These findings suggest that the shared mental model of key clinicians caring for post-operative vascular patients is incomplete. Further work is required to explore methods for sharing mental models across clinical teams.

0710 – WINNER OF ASIT-ROULEAUX CLUB PRIZE: EVAR – PATIENT DECISION MAKING. HOW WELL INFORMED ARE YOUR PATIENTS?

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Introduction: EVAR technology is pushing the boundaries of medicine and patients are increasingly using the Internet to obtain medical information. This study assesses the quality of medical websites with information on EVAR.

Methods: We searched the keywords “endovascular aneurysm repair” and “evar” in Google, Yahoo and MSN/Bing and the top 150 websites were evaluated. Exclusion criteria were irrelevant information, repetition or inaccessibility.

Readability was assessed using the Gunning-Fog Index (GFI, measure of years of schooling needed to understand content) and the Flesch Reading Ease Score (FRES, index rating-score/100). We then used the LIDA tool to assess the accessibility, usability and reliability of the websites.

Results: Twenty six websites were analysed: mean GFI = 12.12 (S.D:1.98) showed the average website was similar to reading the Wall Street Journal. The mean FRES was 50.53 (S.D. 10.02), below the universally recommended target of 60-70. The results of the LIDA medical website validation tool were; accessibility 76.85%, usability 60.23% and reliability 52.27%.

Conclusion: We have shown that readability scores of the websites are poor suggesting that they may not be clearly understood. In addition, we have found the reliability to be very variable and generally poor. It is essential that we guide and help patients identify reliable sources of information.

0735: SUCCESSFUL PREDICTION OF ENDO-VENOUS ABLATION (EVA) OF GREAT SAPHENOUS VEIN (GSV) OUTCOMES AND THE REQUIREMENT FOR STAB AVULSIONS WITH THE TOURNIQUET TRENDELENBERG TEST

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Aims: The aim of this study was to assess the predictive value of the tourniquet test for EVA of GSV outcomes and the requirement for stab avulsions.

Methods: 19 patients (10 men, 9 women) with GSV reflux and no short saphenous or deep system venous disease were prospectively recruited in the study; mean age 52 yrs (range 32-84). All patients presented with visible varicosities and skin changes; mean CEAP score was 3.36 (range 2-5).

Pre-EVA