

### 0232: PREDICTIVE VALUE OF PEAK SYSTOLIC VELOCITY FOR THE DEVELOPMENT OF GRAFT LIMB COMPLICATIONS AFTER ENDOVASCULAR ANEURYSM REPAIR

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**Aims:** Endovascular Aneurysm Repair (EVAR) is associated with a significant re-intervention rate, for which surveillance imaging is mandatory. Duplex ultrasound (DUS) provides velocity and waveform data, yet their relationship with stent-graft limb complications remains poorly understood despite the relatively common incidence of limb kink, stenosis and occlusion.

**Methods:** Of patients undergoing infrarenal EVAR between 2004 and 2010 those who developed a limb complication requiring re-intervention (occlusion, kinking, or DUS-defined stenosis) were identified on an intention-to-treat basis. The Peak Systolic Velocity (PSV) recorded from the proximal and distal region of each limb of the stent-graft, was extracted from serial postoperative DUS surveillance scans. Time-dependent Cox proportional hazards modelling was performed after risk adjustment.

**Results:** 478 patients were studied, of whom 38/478 (8%) developed a limb complication. After risk adjustment, increased PSV over time within both the proximal and distal segment of the stent-graft limb was significantly associated with the risk of limb complications (Proximal Hazard ratio 1.015, 95% C.I. 1.003-1.028,  $p=0.0139$ ; Distal Hazard ratio 1.010, 95% C.I. 1.001-1.020,  $p=0.0253$ ).

**Conclusion:** Increases in the peak systolic velocity in stent-graft limbs were associated with an increased risk of limb complication. This observation requires external validation and further investigation to define its clinical utility.

### 0246: TO DRAIN OR NOT TO DRAIN? – A PROSPECTIVE AUDIT OF 100 CAROTID ENDARTERECTOMIES

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**Aim:** Lack of evidence and controversy exists regarding use of drains following carotid endarterectomy. Despite this, routine drainage of neck wounds post-operatively is practised by many surgeons. We present a prospective audit comparing outcomes following carotid endarterectomy with and without routine drainage.

**Methods:** 100 consecutive endarterectomies of two vascular surgeons during 2007-2011 were compared. One always uses suction drains, and the other never does. Perioperative complications including bruising, non-explored haematoma and re-exploration were compared and statistically analysed. Perioperative antiplatelet use and duration of hospital stay were also analysed.

**Results:** There were 58 patients in the drain group (42 males; mean age 69.7yrs, SD 8.2) and 42 in the non-drain group (28 males; mean age 72.4yrs, SD 9.3). Both cohorts had similar distribution of indications and perioperative antiplatelet use. No statistically significant difference existed in incidence of bruising and haematoma formation between the two groups; 15 and 2 in the drain group compared to 11 and 1 in the non-drain group respectively. Median length of stay was 24hrs in the non-drain group compared to 48hrs in the drain group ( $p<0.001$ ).

**Conclusion:** This audit suggests routine use of drains following endarterectomy is not justified, possibly contributing to increased cost and hospital duration.

### 0262: AUDIT: CONTRAST INDUCED NEPHROPATHY – HOW DO VASCULAR SURGEONS AND THEIR PATIENT FARE?

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With increasing litigation in the health service and ever-increasing number of protocols in patient management, we conducted a prospective assessment of vascular surgeons in adherence to protocol in prevention of contrast-induced nephropathy (CIN) in a district general hospital (DGH).

Patients who underwent peripheral angiography (PA) and computerised-tomogram angiography (CTA) were audited. Patient demographic, risk factors, contrast volume and serial serum creatinine (SCr) were collected. DGH protocol required patients with pre-contrast SCr  $>120\mu\text{mol/L}$  to receive oral N-acetylcysteine (NAC) and intravenous fluids (IVI).

52 patients underwent PA (88%) or CTA. Mean age was  $69.4\pm 10.7$ , male to female ratio was 2:1. 67% were admitted with nephrotoxic medication(s), only 26% had it stopped before procedure. 83% had Optiray 300, 6% Visipaque 270 and 10% Visipaque 320. Mean volumes were  $155.69\pm 66.44\text{mls}$ ,  $85\pm 25.98\text{mls}$  and  $155.8\pm 84.56\text{mls}$  respectively. 77% had pre-contrast SCr of  $<120\mu\text{mol/L}$ , 33% of these patients received IVI and NAC (patients with age  $>70$  or with multiple risk factors). All patients with pre-contrast SCr of  $>120\mu\text{mol/L}$  received IVI and NAC. None of the patients developed CIN. Incidence of CIN is low. DGH protocol was safe but may over-treat patients. This probably reflects vascular surgeons are being over-cautious. Results warrant further study at the current SCr threshold.

### 0327: ROUTINE VS. SELECTIVE CEREBROSPINAL FLUID (CSF) DRAINAGE PRIOR TO THORACIC ENDOVASCULAR ANEURYSM REPAIR (TEVAR): A SYSTEMATIC REVIEW

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**Background:** The use of thoracic endovascular aneurysm repair (TEVAR) is increasing. Similar to open repair, TEVAR carries a risk of spinal cord ischaemia (SCI). We undertook a systematic review to determine whether pre-operative CSF drainage reduces SCI.

**Methods:** PubMed, the Cochrane Library and conference abstracts were searched using the keywords 'thoracic endovascular aortic repair', 'cerebrospinal fluid', 'TEVAR', and 'aneurysm'. Studies reporting SCI rates and CSF drain rates for TEVAR patients were eligible for inclusion.

**Results:** 78 studies (9226 patients) were identified. Overall, SCI developed in 381 patients (4.13%). Series in which prophylactic CSF drains were routinely rather than selectively placed had lower SCI rates (3.14% versus 5.76%;  $p = 0.0147$ ). Only eight studies in the selective group reported SCI rates according to the use of CSF drainage or not. In these eight series, 7.19% (39/542) of patients in the drain group developed SCI compared to 8.35% (103/1233) in the non-CSF drain group (pooled odds ratio 0.79; 95% CI = 0.445133 to 1.411427;  $p = 0.4299$ ).

**Conclusions:** These results suggest that routine prophylactic cerebrospinal drainage may reduce SCI following TEVAR.

### 0350: COMPLICATIONS FOLLOWING PERIPHERAL ANGIOPLASTY: A 2 YEAR RETROSPECTIVE REVIEW

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**Aims:** To determine our rates of complication over 2 year period for peripheral angioplasties, focusing on requirement for emergency surgical intervention post-procedure.

**Methods:** Retrospective analysis of all peripheral angioplasties attempted at a single centre between August 2009 and August 2011 was carried out. Radiology reports, clinic letters and discharge summaries were reviewed to identify complications. Where complications occurred, case notes were examined to determine management, including surgical intervention.

**Results:** 297 peripheral angioplasties were attempted in total. Emergency surgical intervention was required following 5/297 procedures (1.5%) due to acute limb ischaemia. Emergency bypass surgery was successful in two cases; two patients required amputation; remaining patient had successful femoral embolectomy. One of these five patients had subintimal angioplasty and remainder underwent transluminal procedures. Major medical morbidity complicated 3/297 (1%) procedures. Angioplasty was abandoned in 15/297 cases for reasons including perforation, calcification and pain; none required emergency surgical intervention. Groin haematomas occurred in 10/297 (3%) patients; all managed non-operatively. The overall incidence of medical complications and major complications requiring urgent surgical intervention was 2.5%.

**Conclusions:** Peripheral angioplasty is associated with low risk of major medical and surgical complications. A small centre can provide an effective peripheral angioplasty service, comparing favourably with larger units.