operatively with suturing of the graft proximally due to poor proximal seal without endoleaks.

Conclusion: Acute bEVAR of ruptured TAAA provides good results in the short-term suggesting it as a valid option in the acute setting.

Analysis of 100 Reported Deaths after Elective TEVAR/EVAR in 1 Year Reveals At Least Half were Preventable!

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Introduction:

Objective: To analyse the cause of deaths following elective TEVAR and EVAR as reported on manufactures and user facility device experience (MAUDE) database of US FDA and identify areas of concern.

Methods: The MUADE database was searched for deaths associated with the use of Aortic stent grafts. The search criteria used was 'System, Endovascular Graft, and Aortic Aneurysm'. Search was done retrospectively from 31 Jan 2015 for 100 consecutive death reports.

Results: Six different Aortic stent graft systems had been used. There was no report of device related death, all were procedure related with non IFU use in over 20% of cases. 30% deaths occurred in peri-operative period from causes like hypovolemia from aortic or iliac rupture, retrograde or antegrade dissections, air embolism. Difficulty in deployment of stents or accessories was reported in 15% and acute renal failure causing death in 25%. Open conversion was associated with death in over 90% of patients. Delayed rupture with or without sac expansion was noted in 20% of patients. No cause of death was identified in 10% of patients.

Conclusion: Deaths after elective TEVAR/EVAR are a reality that cannot be ignored. There is a need to take ownership of the reporting systems by physicians. Better sharing of adverse events may help prevent some of these deaths.

Intra-operative Analysis of Motor Evoked Potentials to Evaluate the Risk of Paraplegia during Branched EVAR for Thoraco-abdominal Aneurysm

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Introduction: Spinal cord ischemia (SCI) is a major complication after aortic repair of thoraco-abdominal aneurysms (TAAA). Recently, we introduced the concept of temporary aneurysm sack perfusion (TASP) to prevent paraplegia during branched EVAR for TAAA. These patients seem to have a reduced risk for post-operative SCI, but they need a second procedure for branch occlusion. Intra-operative assessment of the neurologic status using motor evoked potentials (MEPs) might allow an intra-operative decision for TASP and early or late side branch completion.

Methods: From 07/2007–01/2015, 105 patients with TAAA were treated with branched standard or custom made endovascular stent grafts. All patients received peri-operative spinal drainage. Temporary aneurysm sack perfusion (TASP) was performed for SCI prevention in n = 52 patients. Intra-operative assessment of spinal cord function using MEPs was performed in n = 27 (26%) patients. In n = 20 (19%) patients additional intra-operative balloon occlusion of the TASP branch was performed. Demographic data, comorbidities, neurologic symptoms and variables related to aneurysm or endovascular treatment were analyzed. Post-operative SCI was defined as motor deficiency (Tarlov 0–2) day 0–7 post-operatively and day 30.

Results: Post-operative transitory neurologic deficiency was observed in 21/105 (20%) patients and 13/105 (12%) patients had paraplegia after 30 days. In the TASP group 3/52 (5.7 %) patients had severe SCI after bEVAR, two of them after secondary branch occlusion. None of these 2 patients had intra-operative MEPs monitoring. Based on intra-operative MEPs monitoring with an additional side branch balloon occlusion test for 45 min 7/20 patients with low risk of spinal cord ischemia had intra-operative immediate side branch occlusion and no paraplegia. In 13/20 patients a decrease of motor evoked potentials was observed and these patients had TASP with secondary side branch occlusion.

Conclusion: Neurologic monitoring during bEVAR with MEPs is feasible and with relevant information regarding the risk of paraplegia and the therapeutic concept including TASP.

Definite Plaque Echolucency is Associated with a Higher Risk of Ipsilateral Ischaemic Stroke during Early Follow up in the Asymptomatic Carotid Surgery Trial-1 (ACST-1)

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Introduction: Several carotid plaque characteristics, including a thin fibrous cap, lipid necrotic core and intraplaque haemorrhage, have been suggested as potential markers to select patients at high risk for future stroke. On ultrasound, these "high risk" characteristics appear echolucent. The Asymptomatic Carotid Surgery Trial-1 (ACST-1) is the largest randomised controlled trial comparing carotid endarterectomy (CEA) with deferral of CEA in patients with severe asymptomatic carotid artery stenosis. We aimed to assess whether ultrasound characterized plaque echogenicity was a predictor for ischaemic stroke in asymptomatic patients randomized to deferred treatment in ACST-1.

Methods: 814 patients randomized to deferred surgery who had baseline plaque assessment confidentially classified as echolucent (>25% soft plaque) or non-echolucent (<25% soft plaque) were studied. Kaplan-Meier survival curves were used to calculate cumulative rates of ipsilateral ischaemic stroke in both groups.

Results: Life table analysis showed a significantly higher 5 year risk of ipsilateral stroke in patients with definite echolucent plaques (8.0%; 95% CI: 6.4 - 9.6) when compared to patients with definitely non-echolucent plaques (3.1%; 2.1 - 4.1) (p = 0.009). After adjustments of other risk factors, plaque echolucency was associated with a 2.5 times increased risk of ipsilateral ischaemic stroke (HR 2.52, 95% CI: 1.20–5.25; p = 0.014). The use of lipid lowering therapy was low in both groups during the first 5 years after randomization but rose significantly thereafter and during the later stages of follow up, and was more commonly prescribed in patients with echolucent plaques (p = 0.001). The risk of ipsilateral ischaemic stroke at 10 years was similar for both levels of echogenicity (p = 0.421) as was the risk of any stroke at 10 years (p = 0.632).

Conclusion: Definite plaque echolucency (>25% soft plaque) might be a predictor of ipsilateral stroke and is associated with a higher 5 year ipsilateral stroke risk in these trial patients with asymptomatic carotid disease. The similar stroke risk outcomes at 10 years for both groups could possibly be explained by a higher use of lipid lowering therapy during later follow up in patients with definite echolucent plaques.

Validation of a Risk Scoring System to Predict Life Expectancy after CEA in Patient with Asymptomatic Carotid Artery Stenosis

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Introduction: Recent guidelines regarding surgical treatment of asymptomatic carotid stenosis recommend exclusion of patients without a minimum life-expectancy of 3 –5 years. Purpose of this study is to validate a previously derived risk scoring system to identify factors associated with a higher mortality during long-term follow up after carotid endarterectomy (CEA).

Methods: The factors were derived from a cohort of 648 asymptomatic patients. According to the weight of each variable, the score system included age (<70 = 0 points, 70–79 = 4 points, ≥80 = 8 points), renal status (creatinine ≥1.5 = 4 points and dialysis = 8 points), chronic