correlated. Eighteen animals have been studied to assess the rate of degradation of the drugs over 6 months’ duration.

Results: Whereas specimens of the 2 S. aureus-treated unbonded grafts had high bacterial counts (6.25×10^6 and 1.38×10^7 CFU/graft), specimens of the 2 S. aureus-treated bonded grafts showed no bacterial growth. Bacterial growth in the 2 control pigs’ grafts (1.8×10^3 and 7.27×10^3 CFU/graft) reflected direct accidental perioperative contamination. Although contamination was not S. cohnii, S. intermedius, and S. chromogenes. The histopathologic and clinical data confirmed the microbiological findings. Only pigs that received unbonded grafts showed histopathologic evidence of perigraft abscess.

Conclusions: The quantitative results of our studies showed that bonding 3 antimicrobial agents to aortic grafts prevented aortic graft infection by synergistically prolonging antistaphylococcal activity. After the safety and preventive effect of this graft have been further assessed, its use may be recommended for the in situ replacement of infected grafts and possibly for routine primary cases, especially in immunocompromised patients, patients with a hostile abdomen, and patients undergoing redo procedures.

TCT-126
Endurant US Pivotal Trial: 2-year outcomes
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Background: This study reports the 2-year outcomes of the United States (US) regulatory trial of the Endurant Stent Graft System (Medtronic Vascular, Santa Rosa, CA) for the treatment of abdominal aortic aneurysms (AAA).

Methods: This was a prospective, single arm, multicenter trial conducted at 26 sites in the US. From April 2008 to May 2009, 150 patients with AAA were treated with the Endurant. The main inclusion criteria were an AAA diameter ≥55 mm, proximal neck length ≥10 mm, bilateral iliac fixation length ≥15 mm, and a neck angulation of ≤60 degrees. The primary safety endpoint was freedom from major adverse events at 30 days. The primary effectiveness endpoint was successful aneurysm treatment at 12 months. Two years results are site reported.

Results: One hundred forty-nine patients (99.3%) had a successful implantation of the Endurant stent graft. The one failure was due to the inability to cannulate the contralateral gate. Patients within this trial were mostly male (91.3%), with a mean age of 73.1 and who had significant comorbidities. Mean estimated blood loss was 185 mL (range, 0-1450 ml), with one patient requiring a blood transfusion. The average hospital stay was 2.1 days. Through the 24 month follow up, there were no ruptures, migrations or conversions to open repair. The technical observations found no graft kinking or twisting, and no aneurysm sac and lumen volume modulation, patency of visceral branches, and freedom from stroke and paraplegia. Secondary Endpoints were technical success and all-cause mortality. Finite Element Analyses was achieved on aortic sac pressure, shear stress, wall displacement and blood flow velocities. All stents were deployed to their intended target. No Aneurysm-related death occurred within 18 Months. No peri-operative visceral or Renal insult occurred. There were no Cerebro-vascular accidents, paraplegia or loss of visceral branches patency. Two patients required reintervention because of device shortening.

Results: At 6 months there was decline in average total sac volume, thrombus volume and average diameter. Mean sac volume shrank by 8% with lumen volume reduction of 14%. Average thrombus volume increased but thrombus to lumen ratio decreased by 23%. Finite Element Analysis showed that graft occlusions were observed at the 2 year follow-up. The secondary effectiveness endpoint was successful aneurysm treatment at 12 months. Two years results are site reported.

Results: At 24 months, 97.4% of patients had a successful aneurysm treatment with 1 year and 3 after 2 years. Freedom from secondary stent graft procedures was 94.9% at 32% for OR (P<0.001). Thirty day mortality was 16% for REVAR vs 32% for OR (P<0.001). Total Emergency mortality rate decreased from 64% to 28.2%. Because of device shortening,

Conclusions: Mid-term results with the Valiant thoracic stent graft are acceptable and compare favorably to an older generation device implanted in an earlier series of similar patients. Long term results are needed to confirm this positive trend.

TCT-128
Disruptive Endovascular Technology with Multilayer Flow Modulator Stents (MFM) as a Therapeutic Option in the Management of Thoraco-abdominal Aortic Aneurysms. Early results from MFM Registry.
Sherif Sultan1, Niamh Hynes2
1Western Vascular Institute, Galway, — Please Select —, 2Western Vascular Institute, Galway, Ireland

Background: Out of 172 cases implanted worldwide we present the first 26 cases that were scrutinized. All were Crawford thoraco-abdominal AAA. 75% were male with median age of 73. Mean aneurysm diameter was 67mm with mean length of 167mm. Mean proximal neck length was 60mm and 10mm, bilateral iliac fixation length was 15 mm, and a neck angulation of ≤60 degrees. The primary safety endpoint was freedom from major adverse events at 30 days. The primary effectiveness endpoint was successful aneurysm treatment at 12 months. Two years results are site reported.

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by consultant radiologists as ‘unsuitable for EVAR’. 66 had OSR and 52 had Pararenal EVAR (PEVAR).

**Results:** PEVAR patients were older (74.3yrs vs. 70.8 yrs, p=0.014) with higher mean SSV co-morbidity severity scores (p=0.001). All procedures were within 14 days of diagnosis. Mean aneurysm diameter was larger in OSR (OSR 6.6cm vs. PEVAR 5.9cm, p=0.010). For PEVAR 83% of endografts were 34mm/36mm. 3-year aneurysm-related survival was significantly higher with PEVAR (100% vs. OSR 92.4%±4.37%), (p=0.045). PEVAR provided an incremental cost-effectiveness ratio of $129,586 saved per QALY gained. 3-year freedom from secondary intervention (PEVAR 83.4% vs OSR 94.6%, p=0.049) and all-cause survival (PEVAR 57.1% vs OSR 84.8%, p=0.195) were similar. 30-day morbidity halved with PEVAR (15% vs. 30%, p=0.09). Length of hospital stay (p=0.0007) was lower and number of patients fit for discharge to their home (p=0.006) higher with PEVAR.

**Conclusions:** PEVAR granted our patients longer Q-TWiST and superior freedom from MACE up to three years. Despite 3-year survival rate of 57%, PEVAR is cost-effective with 30-day morbidity halved with PEVAR (15% vs. 30%, p=0.09). Length of hospital stay (p=0.0007) was lower and number of patients fit for discharge to their home (p=0.006) higher with PEVAR.

**TCT-131**

**Cerebral Ischemia After Thoracic Endovascular Aortic Repair: A Diffusion-Weighted Magnetic Resonance Imaging Study**

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**Background:** The risk of clinical apparent, periprocedural stroke after thoracic endovascular aortic repair (TEVAR) ranges between 2% and 6% and has been associated with increased postoperative mortality. Strokes after TEVAR is thought to be related to multiple emboli, which are shed off from the aortic arch and large artery wall. This study presents a comprehensive analysis of brain diffusion-weighted MRI in a pattern suggestive for periprocedural embolization. Although even small lesions per patients were found, these lesions were not associated with apparent neurological deficits during the in-hospital period. Further developments in TEVAR should be directed towards reducing the risk of periprocedural cerebral embolization.

**Results:** Twenty patients (12 male, 8 female) who underwent TEVAR were included into this descriptive study; exclusion criteria were a history of stroke, carotid artery disease, renal failure and contraindications for magnetic resonance imaging (MRI). Periprocedural apparent and silent cerebral ischemia was assessed by neurological testing and serial cerebral diffusion-weighted MRI (DW-MRI) at baseline and within the first 10 days (mean: 4.9 days) post procedure.

**Results:** TEVAR was successful in all patients without immediately clinically apparent neurological deficits. Post-interventional cerebral DW-MRI detected a total of 33 new foci of restricted diffusion in 13 of the 20 patients (65%). Lesions were usually multiple (1-6 lesions per patient) and ranged in size between 15 mm3 and 585 mm3. 17 lesions were found in the left middle cerebral artery and PICA territory, 10 lesions in the right middle cerebral artery and PICA territory. Overstenting of the left-subclavian artery was performed in 9 cases, but was not associated with lateralization of lesions. There were no additional apparent neurological events during the in-hospital period.

**Conclusions:** TEVAR resulted in a high incidence of new foci of restricted diffusion on cerebral DW-MRI in a pattern suggestive for periprocedural embolization. Although even multiple lesions per patients were found, these lesions were not associated with apparent neurological deficits during the in-hospital period. Further developments in TEVAR should be directed towards reducing the risk of periprocedural cerebral embolization.

**TCT-132**

**Abstract Withdrawn**

**Chronic Kidney Disease and Acute Renal Insufficiency**

**Hall D**

Tuesday, October 23, 2012, 8:00 AM–10:00 AM

**Abstract nos: 133-150**

**TCT-133**

**Role of arterial stiffness and impaired renal function in the progression of non-culprit coronary lesions after percutaneous coronary intervention**

Hidetoshi Kaneko1, Junji Yajima1, Yuji Okawa2, Shunsuke Matsuno3, Shingo Tanaka4, Daisuke Fukumachi5, Shinya Suzuki3, Tadamori Azawa1, Takeshi Yamashita6

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**Background:** In the era of drug eluting stent, progression of non-culprit coronary artery disease emerged as a new therapeutic target of coronary artery disease. We aimed to clarify the prognostic factors for the progression of non-culprit coronary lesion after percutaneous coronary intervention (PCI).

**Methods:** We retrospectively examined 401 patients who underwent PCI during February 2010 to January 2011 in our institute. Among them, 275 patients were performed follow-up coronary angiography (CAG) 6-12 months after PCI. Patients with target lesion revascularization (n=39) were excluded. Finally, total of 236 patients were included in this study. Progression of non-culprit lesion was defined as clinically driven PCI because of the development of coronary lesion which was not significant at initial PCI but significant at follow-up CAG, and was associated with ischemic symptom and/or abnormal results of functional study.

**Results:** Thirty three patients (14%) underwent additional clinically driven PCI to treat non-culprit coronary lesions. There was no difference in background clinical characteristics between patient with or without progression of non-culprit lesion PCI. Prevalence of chronic kidney disease (CKD) (61% vs. 31%, p=0.001) and multi-vessel disease (MVD) (55% vs. 35%, p=0.027) were significantly higher and statin use (61% vs. 72%, p=0.187) was tended to be lower in patients with non-culprit lesion PCI than those without. Brachial-ankle pulse wave velocity (baPWV) was significantly higher in patients with non-culprit lesion PCI than those without (1838±371 vs. 1509±513cm/s, p<0.001). High density lipoprotein cholesterol level at follow-up CAG was tended to be lower in patients with non-culprit lesion PCI than those without (54±15 vs. 58±16mg/dL, p=0.147). Multivariate analysis showed that higher baPWV, CKD, MVD, and lower HDL at follow-up CAG were independent determinants for progression of non-culprit coronary lesion.

**Conclusions:** In conclusion, higher baPWV, CKD, MVD, and lower HDL at follow-up CAG were independent determinants of non-culprit coronary lesion PCI, suggesting important prognostic role of arterial stiffness and impaired renal function in the progression of non-culprit coronary artery lesion.