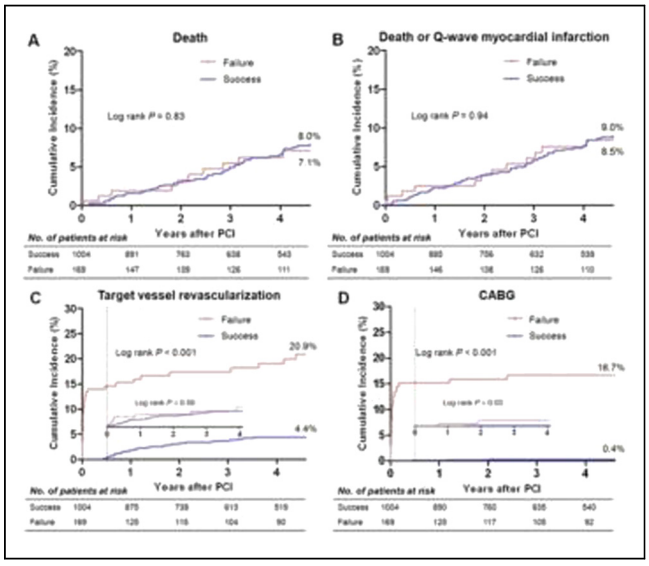

CATEGORIES CORONARY: PCI Outcomes

KEYWORDS Chronic total occlusion, Percutaneous coronary intervention

PERIPHERAL AND CEREBRAL VASCULAR DISEASE AND INTERVENTION

Tuesday, October, 13, 2015, 2:00 PM-4:00 PM

Abstract nos: 67 - 74

TCT-67

Comparison of endovascular aneurysm repair with open surgery for elective and ruptured abdominal aortic aneurysm: a Meta-analysis of randomized clinical trials

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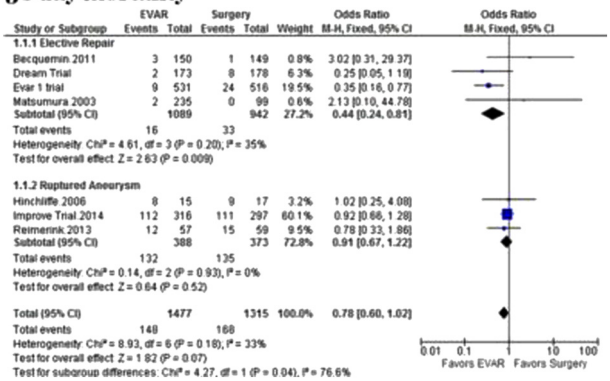
BACKGROUND EndoVascular Aneurysm Repair (EVAR) is a new treatment option for patients with abdominal aortic aneurysm (AAA) with suitable anatomy. The objective was to compare outcomes of EVAR and open surgery for the elective and emergent management of AAA.

METHODS We conducted a systematic search of the Pub Med and Cochrane databases for randomized clinical trials (RCTs) comparing the outcomes of EVAR and opened surgery for the elective and emergent management of AAA repair. We also combined the overall results of these two sub-analysis. The primary endpoint was mortality at 30 days post-procedure. The data were analyzed using the intention-to-treat principle. In addition, we applied random or fixed effect analysis according to the Cochrane-Handbook of Systematic Reviews and RevMan 5.2 for statistical analysis.

RESULTS The search produced 254 studies, of which only 7 were RCTs. 4 RCTS for AAA elective repair included 2031 patients (1089 EVAR; 942 surgery); and 3 studies on ruptured aneurysm included a total of 761 patients (388 EVAR; 373 surgical). There was significant less mortality in the EVAR group of patients treated for elective AAA in comparison to patients treated with surgery (1.4% vs. 3.5%; p=0.009). Among patients treated for ruptured aneurysm, there was no mortality difference (34 % vs. 36%; p=0.5). Overall analysis demonstrated a trend toward lower mortality rates in patients treated with EVAR (10% vs. 12.7%, p=0.07) (Figure 1).

Figure 1.
30 day mortality



CONCLUSIONS Our analysis suggests that the use of EVAR for patients with AAA can lead to good outcomes not only for elective repair but also for ruptured aneurysm. It is yet to be determined if these benefits are sustained in time. Therefore RCTs with longer follow-up are warranted.

CATEGORIES ENDOVASCULAR: Peripheral Vascular Disease and Intervention

KEYWORDS Aortic aneurysm, Endovascular therapy, EVAR

TCT-68

Safety and efficacy of stent retriever for the management of acute ischemic stroke. Comprehensive review and meta-analysis

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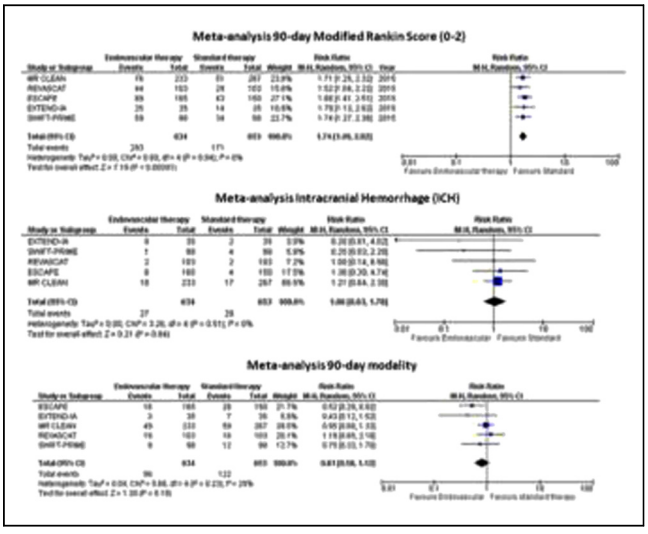
BACKGROUND Stroke is the third leading cause of death and the most common cause of disability in the United States. Early reperfusion has been associated with favorable outcomes. Stent retrievers are novel endovascular devices which provide vessel recanalization via thrombus retrieval mechanical thrombectomy.

METHODS We performed a literature search using PubMed, EMBASE, and Cochrane Central Register of Controlled Trials from May 2005 to May 2015. Randomized controlled trails (RCTs) comparing endovascular therapy (ET) with the use of retrievable stents against standard therapy (ST) for the management of acute stroke were included.

RESULTS Five RCTs (MR CLEAN, ESCAPE, EXTEND-IA, SWIFT-PRIME and REVASCAT) with 634 patients in ET group and 653 patients in ST group met inclusion criteria. The frequency of a low 90-day modified Rankin score (0-2) in the intervention group was 42.6% compared with 26.1% in the control group (OR 2.43 (1.9, 3.09); P<0.0001). The frequency of intracranial bleeding was 4.2% in the ET group compared with 4.4% in the ST group (RR 1.06 (0.63, 1.78); P=0.84) 90-day mortality was 15.1% in the ET group compared with 18.7% in the ST group (RR 0.81 (0.58, 1.12; P=0.19). There was no evidence of significant heterogeneity or publication bias for any of the endpoints.

Study Name, Year	Location	No of patients	Comparison	Primary Outcome	Use of Retrievable Stents
Mr Clean, 2015	Netherlands (16 centers)	500	Mechanical treatment, delivery of a thrombolytic agent, or both vs. conventional therapy	Modified Rankin Score at 90 days	97%
SWIFT-PRIME, 2015	International (90 centers)	196	IV t-PA + Solitaire vs. IV t-PA alone	Modified Rankin Score at 90 days	100%
EXTEND-IA, 2015	Australia and New Zealand (14 centers)	70	Endovascular thrombectomy with retrievable stent vs conventional therapy	Reperfusion at 24 hours Early neurologic improvement (≥8-point reduction on the NIHSS or a score of 0 or 1)	100%
ESCAPE, 2015	International (44 centers)	315	Mechanical treatment vs. conventional therapy	Modified Rankin Score at 90 days	86.1%
REVASCAT, 2015	Spain (4 centers)	206	Endovascular thrombectomy with retrievable stent vs conventional therapy	Modified Rankin Score at 90 days	100%



CONCLUSIONS Based on the results of this meta-analysis of RCTs, ET with stent retrievers appears as a safe and effective therapeutic option for acute ischemic stroke due to large vessel occlusion.

CATEGORIES ENDOVASCULAR: Stroke and Stroke Prevention

KEYWORDS Stent, Stroke, acute ischemic

TCT-69

Impact of stage 5 chronic kidney disease in patients undergoing percutaneous or surgical carotid artery revascularization: Insights of the Healthcare Cost and Utilization Project's National Inpatient Sample

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BACKGROUND Carotid artery stenting (CAS) has evolved into a viable alternative for the treatment of symptomatic and asymptomatic high-grade carotid artery stenosis, particularly in patients considered to be at a high surgical risk for carotid endarterectomy (CEA). There is limited data on the outcomes of patients with stage 5 chronic kidney disease (CKD) (GFR<15 mL/min/1.73 m2 or dialysis) undergoing CEA or CAS.

METHODS The Healthcare Cost and Utilization Project's National Inpatient Sample was screened for hospital admissions of patients undergoing CAS and CEA from 2003-2012. Baseline clinical characteristics and outcomes were identified in patients with stage 5 CKD. The primary outcome was major adverse cardiac and cerebrovascular events (MACCE) (in-hospital death, acute myocardial infarction and acute cerebrovascular accident (CVA).

RESULTS Our study population consisted of 1,723 patients that underwent CEA and 544 patients that underwent CAS. Patients undergoing CAS were younger and had significantly lower rates of coronary artery disease, hypertension and hyperlipidemia (Table). CAS patients experienced significantly higher rates of MACCE compared with patients that underwent CEA, mainly driven by a higher rate of in-hospital strokes (Table). In a multivariable analysis, CAS (OR 1.53, 95% CI 1.19-1.98) was independently predictive of MACCE.

Table 1. Demographics, clinical characteristics and in-hospital outcomes

	CEA	CAS	p value
	n= 1,723	n= 544	
Age (years ± SD)	69.2 (±9.6)	66.7 (±12.0)	<0.001
Race: White (%)	1,007 (70.3%)	280 (60.9%)	0.004
Coronary artery disease	1,039 (60.3%)	296 (54.4%)	0.015
Peripheral vascular disease (%)	492 (28.6%)	155 (28.5%)	0.963
COPD (%)	329 (19.1%)	96 (17.7%)	0.431
Diabetes mellitus (%)	999 (58.0%)	320 (58.8%)	0.737
Hypertension (%)	1,646 (95.5%)	508 (93.4%)	0.047
Hyperlipidemia (%)	812 (47.1%)	217 (39.9%)	0.003
MACCE (%)	236 (13.7%)	106 (19.5%)	0.001
In-hospital AMI (%)	83 (4.8%)	31 (5.7%)	0.422
In-hospital stroke (%)	145 (8.4%)	77 (14.2%)	<0.001
In-hospital death (%)	33 (1.9%)	20 (3.7%)	0.014

CONCLUSIONS In patients with stage 5 CKD (GFR<15 mL/min/1.73 m2 or dialysis) undergoing carotid artery revascularization, CAS was associated with higher rates of in-hospital MACCE, driven by higher mortality and stroke rates when compared with CEA.

CATEGORIES ENDOVASCULAR: Peripheral Vascular Disease and Intervention

KEYWORDS Carotid artery stenting, Carotid endarterectomy, Chronic kidney disease

TCT-70

In-hospital Mortality and Peri-procedural complications of Percutaneous Peripheral Atherectomy of the United States: Influence of Hospital Volume

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BACKGROUND Although published studies have reported inverse association between hospital volume and outcomes of coronary interventions, there is sparse data on the impact of hospital volume on percutaneous non-coronary atherectomy. An aim of study is to see influence of hospital volume on the In-hospital mortality, discharge disposition, Amputation rates and peri-procedural complications of percutaneous peripheral atherectomy.

METHODS Using Nationwide Inpatient Sample database from Healthcare Cost and Utilization Project of 2012 year. We identified peripheral vascular disease of lower limbs for age >= 18 years. We sought for only peripheral atherectomy and its outcomes using validated ICD 9 codes. Annual hospital volume was calculated using unique identification numbers and then divided into tertiles for analysis. Multivariate logistic regression models were generated in order to identify the independent predictors of outcomes.

RESULTS We identified a total of 21,015 procedures with mean age 69.53 years, 56% male and 61% were whites. Results shown the mean Deyo's Modified Charlson score was 2.2, Hypertension (79%), Diabetes (54%), Congestive heart failure (18%) and 10% were obese. Results shown overall amputation rates (7.68%), In-hospital mortality (1.38%), and 22.25% were discharged to rehab/long-term facilities. Importantly, highest hospital volume tertile had a significantly lower in-hospital mortality (OR: 0.42, 95% CI 0.30-0.57, p<0.0001), combined end-point of mortality and complications (OR: 0.53, 95% CI