METHODS This is a prospective study of 100 CLI patients from LAC+USC Medical Center and Keck Hospital from June 2014 to November 2016. All patients were on aspirin (81 mg daily) and clopidogrel (75 mg daily) for at least two weeks, and underwent VerifyNow ASA and P2Y12 platelet reactivity assays. HPRA was defined as aspirin reaction units (ARU) >550, and HPRC was defined as P2Y12 reactive units (PRU) >208. Major adverse cardiovascular events (MACE) included myocardial infarction, stroke, and death. Major adverse limb events (MALE) included repeat revascularization and unplanned amputation.

RESULTS Patients with HPRA+HPRC had numerically higher rate of MACE compared to those with appropriate platelet inhibition (API) to both drugs (11.1% vs. 2.0%, p = 0.28). Patients with HPRA had an increased rate of myocardial infarction compared to API to aspirin (11.8% vs. 2.7%, p=0.04). MACE occurred in 12.5% of HPRC patients compared to 4.48% in API to clopidogrel (p=0.4). HPRC was not a predictor of major adverse limb events (p=0.29).

CONCLUSION CLI patients with HPR to aspirin and clopidogrel are at increased risk of adverse cardiovascular events, particularly myocardial infarction in patients resistant to aspirin.

OTHER

CRT-200.06

Steerable Catheters For Intravascular Foreign Bodies: You Can Get There From Here

James W. Hansen, Thomas Piemonte, Gautam Gadey
Lahey Hospital and Medical Center, Burlington, MA

BACKGROUND Intravascular foreign bodies (IVFB) are a well-described complication of endovascular procedures with significant morbidity and mortality. Retrieval of the IVFB is indicated if at all possible. Retrieval of IVFBs can be complex based on the location and cumbersome nature of the embolized device. Technological advancements are already assisting with IVFB retrieval. Steerable catheters represent an advancement in the field of IVFB retrieval. In our lab, we have adopted the Dexterity steerable catheter (Spirus Medical, Bridgewater, MA, USA). We present three cases of IVFB retrieval using a steerable catheter.

METHODS Case 1: A 54-year-old male with a history of idiopathic pulmonary embolism on indefinite anticoagulation who required spinal surgery underwent inferior vena cava filter. During retrieval, the filter embolized into the pulmonary artery. The patient was referred to our facility for attempt at retrieval. Pulmonary angiography confirmed that the IVC filter was in the distal left lower pulmonary artery. The steerable catheter was directed toward the filter and successfully snared.

Case 2: A 54 y/o male suffered embolization of two self-expanding femoral venous stents. Snares were advanced from an internal jugular sheath and a femoral steerable catheter. The two overlapping stents were captured by the opposing snares and pulled apart. One stent was then snared at opposite ends. Traction was applied, which forced the stents to elongate and narrow to the point of fitting inside the steerable catheter, and the stent was removed. The process was repeated for the second stent.

Case 3: A 21 y/o female with no prior medical history underwent placement of a subcutaneous birth control device. Shortly after the procedure, she could no longer feel the device beneath her skin. Radiography showed that the device had embolized to a right subsegmental pulmonary artery. A steerable catheter was advanced into the right segmental pulmonary artery. A snare was advanced and the device was captured without vascular injury.

RESULTS Successful retrieval of 3 intravascular foreign bodies without vascular injury or major bleeding.

CONCLUSION Steerable catheters may represent a significant advancement over fixed-shape catheters in endovascular therapy, specifically retrieval of IVFBs, as shown in these cases.

CRT-200.08

Methamphetamine Use Is Associated With Increased Risk of Stroke and Sudden Cardiac Death: Analysis of the Nationwide Inpatient Sample Database

Jai D. Parekh,[1] Vishal Jani,[1] Urvish Patel,[1] Gaurav Aggarwal,[2] Abhishek Thandra,[1] Rohit Arora[3]
[1]Creighton University Medical Center, Omaha, NE; [2]Armed Forces Medical College, Pune, India; [3]University of Chicago School of Medicine, Chicago, IL

BACKGROUND Methamphetamine use continues to increase in the United States and remains one of the most commonly used illicit drugs worldwide. It has been linked to worse cardiovascular outcomes. We aimed to assess the association of methamphetamine abuse with stroke and sudden cardiac death using the National Inpatient Sample (NIS) Database.

METHODS We performed a population-based retrospective analysis of the NIS database (year 2014) using the ICD-9-CM codes 305.7x and 304.4x. Patients were divided into two groups - those who had a diagnosis of methamphetamine abuse or dependence and those who did not. Weighted univariate analysis by chi-square test and multivariate survey logistic regression analysis were performed to calculate odds ratios.

RESULTS A total of 35,354,148 patients were included in the analysis, out of which 184,039 patients had a diagnosis of methamphetamine abuse or dependence. After multivariate analysis adjusting for various demographic factors and co-morbidities, there was a significant increase in the risk of stroke (OR: 1.19, 95% CI: 1.10-1.28; p<0.001) and sudden cardiac death (OR: 1.27, 95% CI: 1.12-1.44; p<0.001) in patients with methamphetamine abuse.

CONCLUSIONS In our study we found increased risk of stroke and sudden cardiac death with methamphetamine use. With increasing use of methamphetamine nationwide, potential cardiovascular and cerebrovascular effects need to be further investigated.

CRT-200.09

Preoperative Use of Statins in Carotid Artery Stenting: A Systematic Review and Meta-analysis

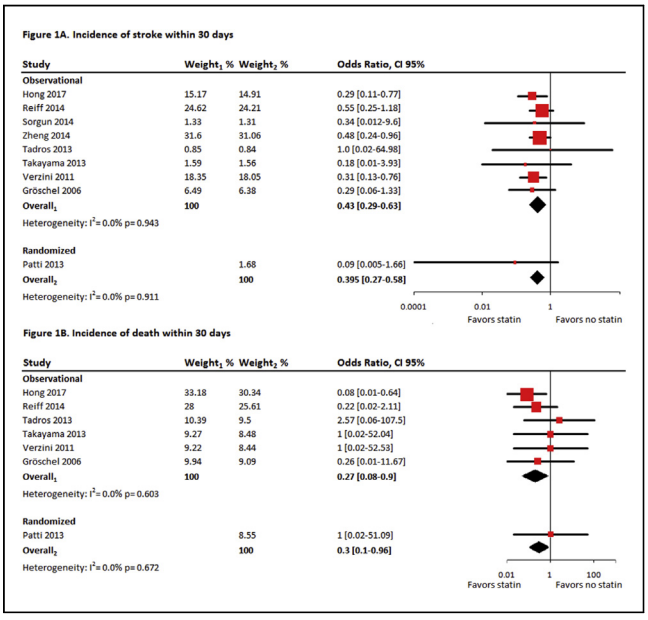
Anil Kumar K. Jonnalagadda,[1] Pavlos Texakalidis,[2] Stefanos Giannopoulos,[3] Ehrin J. Armstrong,[4] Damianos G. Kokkinidis[4]
[1]MedStar Washington Hospital Center, Washington, DC; [2]Division of Neurosurgery, Emory University, Atlanta, GA; [3]Division of Vascular Surgery, 251 Air Force Hospital of Athens, Greece; [4]Division of Cardiology, Denver VA Medical Center, University of Colorado, Denver, CO

OBJECTIVE Carotid artery stenting (CAS) is a reliable alternative to carotid endarterectomy for carotid artery stenosis but can be associated with periprocedural adverse events. Our objective was to investigate whether the preoperative administration of statins before CAS can decrease perioperative and 30-day adverse events.

MATERIALS & METHODS This study was performed according to the PRISMA and MOOSE guidelines and eligible studies were identified through a comprehensive search of PubMed, Scopus and Cochrane Central until August 19, 2017. A meta-analysis was conducted with the use of random effects model. I-square was used to assess for heterogeneity.

RESULTS Eleven studies involving 4088 patients overall were included. Patients who received statins prior to CAS had a significantly lower risk for stroke (OR: 0.39; 95% CI: 0.27 - 0.57; I^2=0%) and death (OR: 0.30; 95% CI: 0.09 - 0.95; I^2=0%). Statin use was not associated with reduced risk of transient ischemic attack (TIA) or myocardial infarction (MI).

CONCLUSIONS Statin therapy prior to CAS confers protection for perioperative stroke and death without decreasing TIA or MI rates. Additional randomized trials are needed to reach safer conclusions on this topic.



CRT-200.10

Increased Functional Exercise Capacity Following Balloon Pulmonary Angioplasty in Chronic Thromboembolic Pulmonary Hypertension: Single-center Experience

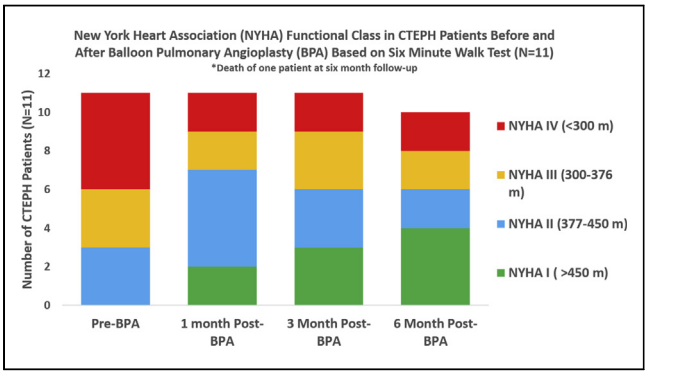
Arslan Mirza,[1] Vladimir Lakther,[2] Pravin Patil,[1] Yousi Toyota,[2] Vikas Aggarwal,[1] Anjali Vaidya,[1] Paul Forfia,[1] Riyaz Bashir[1]
[1]Lewis Katz School of Medicine, Philadelphia, PA; [2]Lewis Katz School Of Medicine, Philadelphia, PA

INTRODUCTION Balloon pulmonary angioplasty (BPA) is an alternative therapy for those patients with chronic thromboembolic pulmonary hypertension (CTEPH) who are not surgical candidates for pulmonary thromboendarterectomy (PTE). Currently, most of the BPA reports are from outside the United States. We sought to evaluate the effects of BPA on functional exercise capacity in CTEPH patients at our center.

METHODS We performed a retrospective review of all CTEPH patients who underwent BPA at Temple University Hospital in Philadelphia, PA, from June 2016 to July 2017. Patients' functional exercise capacity was assessed using serial six-minute walk tests before and at 1, 3, and 6 months after BPA. Invasive hemodynamics immediately before and after BPA were also evaluated.

RESULTS A total of 11 patients underwent BPA in 21 sessions. The mean age was 58 ± 20.1 years, 82% were males, 36% were Caucasians and 46% were African-Americans, with a mean ejection fraction of 57.7% ± 20.1. The hemodynamic data pre-BPA and immediately post-BPA were not significantly different. At 1, 3, and 6 months following BPA, there was marked improvement in functional exercise capacity (See Figure 1). There were no procedure-related deaths and one patient required brief intubation for less than 12 hours.

CONCLUSION Our study showed that BPA improves functional exercise capacity in those CTEPH patients who are ineligible for surgical thromboendarterectomy.



PERIPHERAL VASCULAR INTERVENTION

CRT-200.14

The Use Of Bioresorbable Scaffold Stent for Treatment of Peripheral Vascular Disease

Mohammad M. Ansari,[1] Daniel Garcia[2]
[1]Texas Tech University, Lubbock, TX; [2]Ochsner Heart and Vascular Institute, New Orleans, LA

INTRODUCTION Drug-eluting stents have been used for treatment of peripheral vascular disease of patients with symptoms refractory to optimal medical therapy. Novel stents using bioresorbable vascular scaffolds (BVS) can overcome the constrictive remodeling and natural endothelial elastic recoil. We aimed to analyze clinical and procedural ouctomes of BVS for treatment of symptomatic PAD.

METHODS We searched PubMed and Cochrane for all the clinical data that used BVS for symptomatic PAD. Primary outcomes of interest were amputation and clinically driven target lesion revascularization (TLR). Secondary outcomes included death, bypass surgery, definite or probable stent thrombosis (ST) and pseudoaneurysm. We calculated the number of events for each outcome and reported the percentage as well.

RESULTS Out of 25 articles, three clinical case-control studies were included. The pooled data provided 79 patients treated with BVS. Mean follow-up was 12 months. Lesions were located mainly in the femoro-popliteal area followed by iliac artery. There was no amputation in any of the patients. There was 8% clinically driven TLR. There was 1 (2%) bypass surgery due to an occlusion on a previous bypass that led to stent thrombosis as well. There were 8 TLRs (5%), 4 ST (5%), and 1 pseudoaneurysm (2%). There were no reported deaths.

CONCLUSION This is the first analysis of all available clinical data to evaluate the use of BVS for PAD. BVS is safe and feasible for treating PAD. Lesion size and length might lead to different outcomes. In-deep analysis of different anatomical lesions should be pursued.

Outcomes n (%)	Lammer.2016 35	Peeters.2005 20	Varcoe.2015 14	Total 79
Death	0	0	0	0
Amputation	0	0	0	0
Bypass Surgery	0	0	1 (14)	1 (2)
TLR	4 (13)	1 (5)	1 (14)	8 (5)
Scaffold Thrombosis	1 (3)	1 (5)	2 (14)	4(5)
False Aneurysm	-	1 (5)	0	1 (2)