

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

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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



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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



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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.