**Abstract E-028**

**Background and Purpose** Spinal epidural arteriovenous fistulas (SEDAVFs) are an increasingly recognized form of spinal vascular malformation. The aim of this study was to analyze the clinical presentation, imaging findings and treatment outcomes of spinal epidural arteriovenous fistulas in a contemporary single-center series.

**Materials and Methods** Consecutive patients diagnosed and/or treated for SEAVFs at our institution between January 2000 and November 2018 were included. Data were collected on demographics, clinical presentation, imaging findings and treatment outcomes. All cross-sectional and angiographic imaging were reviewed by a diagnostic and interventional neuroradiologist and endovascular neurosurgeon. All patients underwent at least 3 months of clinical follow-up.

**Results** Forty-nine patients were included. Median follow-up was 21 months. 29 patients (59.2%) were males and mean age was 63.5±14.8 years. The median time from symptomatic presentation to diagnosis was 12 months. The most common finding on lumbar spine MRI were T2 hyperintense signal in the conus (42 patients, 85.7%), perimedullary flow voids (34 fistulas, 69.4%) and cord enhancement (30 patients, 61.2%). Thirty-eight patients had a spinal MRA and 35 (92.1%) had a pouch of contrast/venous varix in the epidural space. All patients on DSA had a pouch of contrast in the ventral or lateral epidural space at the site of the abnormal fistulous connection (49 lesions, 100.0%). 40 SEAVFs (81.6%) were located in the lumbosacral spine. A total of 40 patients underwent endovascular embolization for treatment of their fistula. One patient suffered a treatment related complication (2.5%). Of the treated patients, 4 patients (10.0%) had residual fistula requiring additional embolization or surgery.

**Conclusions** SEDAVFs have similar findings to spinal dural arteriovenous fistulas on conventional MRI with high T2 cord signal, cord enhancement and perimedullary flow voids. However, they have a characteristic appearance on spinal MRA and DSA with a large pouch of epidural contrast. Endovascular embolization is safe and effective for treatment of these lesions.

**Disclosures** W. Brinjikji: None. H. Cloft: None. G. Lanzino: None.

---

**Abstract E-029**

**Background and Purpose** Delayed CNP can develop despite complete endovascular obliteration of the CCF. Long term follow-up is needed even after complete neurological and radiological recovery is attained in the immediate perioperative period.


---

**Abstract E-030**

**Introduction** Moyamoya disease causes progressive stenosis of the supraclinoid internal carotid arteries with subsequent development of moyamoya collaterals. The mainstay treatment is surgical revascularization using direct or indirect bypass techniques. The use of antiplatelet agents is advocated to facilitate blood flow, maintain bypass patency, and reduce thrombotic events. We searched published literature to determine the benefits of antiplatelet therapy in this patient population.

**Methods** We performed a literature search of published papers in the English language using EMBASE, PUBMED, and Web
of Science databases. With the assistance of a librarian, we used various combinations of keywords such as Moyamoya disease, ischemic stroke, hemorrhagic stroke, antplatelet, and the names of individual antplatelet agents. Titles and abstracts were screened by the first two authors (MAS and MEE), with a full-text review of relevant papers. Articles were included if they examined the effect of antplatelet therapy on ischemic or hemorrhagic stroke or survival in patients with moyamoya disease.

**Results** Out of 132 retrieved studies, we identified five eligible studies published between 2014 and 2019 and included 26,605 patients (9499 on antplatelet therapy, and 17106 controls) with follow up ranging from post-operative period to 6.3 years. Only one study had a prospective design and two studies were multi-center. Three of the studies included post-bypass patients, and one included only asymptomatic moyamoya disease. The antplatelet therapy regimens varied across the studies and included ASA, clopidogrel, or cilostazol. Three studies had a control arm that did not receive any antplatelet therapy. In these studies, the pooled risk for a composite outcome (any ischemic or hemorrhagic stroke, or death) was lower in the antplatelet group compared to controls (9% vs 11%; relative risk 0.85, 95% CI: 0.79 to 0.92).

**Conclusions** The use of antplatelet therapy in patients with moyamoya disease may confer better stroke-free survival. Multicenter prospective studies with a uniform antplatelet protocol are needed to elucidate the potential benefits of this intervention.

**Disclosures** M. Suheel: None. M. Eagles: None. M. Almekhlafi: None.

---

**Abstract E-031 Figure 1** Subgroup Kaplan-Meier survival analysis for treated type I dAVFs that achieved complete angiographic obliteration.