Background Recent studies have demonstrated acceptable safety and efficacy of posterior circulation flow diversion for cerebral aneurysms. However, these studies have overwhelmingly included V4 segment and proximal basilar aneurysms (range 70–90%) and analyzed 48-wire devices (Pipeline, Silk, etc.) that have lower mesh densities. The Surpass flow diverter (Fremont, CA) with its 64, 72, and 96-strand designs is a high-mesh-density device that is known for its increased flow diversion and perforator preservation properties. We present here the first known dedicated series of upper basilar and basilar apex flow diverter cases using the Surpass device.

Methods We retrospectively reviewed a prospectively-maintained IRB-approved institutional database of the senior authors to identify all cases where the Surpass™ flow diverter (Streamline or Evolve) was implanted in the upper basilar or basilar apex. Case details were recorded including patient demographics, aneurysm type, device used, and periprocedural events and complications. Technical success was defined as successful implantation of the device without iniprocedural device removal.

Results Over the 20-month study period, 15 cases of Surpass flow diversion (9 (60%) Evolve, 6 (40%) Streamline) cases were performed where a device was placed in the upper basilar artery/basilar apex with the basilar apex being crossed in 11 cases. The aneurysms treated included 5 (33%) basilar apex, 5 (33%) superior cerebellar basilar, and 5 (33%) basilar trunk aneurysms. Dual antiplatelet therapy was established with ticagrelor 90 mg BID and aspirin 81 mg QD in each patient. Intraprocedural tirofiban bolus (1/2 cardiac dose) and subsequent drip was employed in 11 (73%) of cases regardless. Technical success was achieved in 100% of cases and there were no instances of in-stent platelet aggregation. No major strokes were observed in the first 30 days after each case, and all patients were discharged at their MRS baseline.

Conclusion The treatment of upper basilar and basilar apex aneurysms with the high mesh-density Surpass can be safely performed. Further studies are needed to evaluate occlusion rates and efficacy as well as the applicability of these results to lower mesh-density 48-wire implants.

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E-028  IMMEDIATE PROCEDURAL OUTCOMES OF HIGH MESH-DENSITY FLOW DIVERTER PLACEMENT IN THE UPPER BASILAR ARTERY/BASILAR APEX FOR THE TREATMENT OF CEREBRAL ANEURYSMS: EXPERIENCE WITH 15 CONSECUTIVE SURPASS™ FLOW DIVERSION CASES

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E-029  RESCUE INTRACRANIAL ANGIOPLASTY WITH OR WITHOUT STENTING IN ACUTE ISCHEMIC STROKE

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Introduction The appropriate management of acute ischemic strokes secondary to hemodynamic intracranial atherosclerotic disease refractory to the conventional mechanical thrombectomy remains unclear. We aimed to investigate the clinical outcome of the patients who underwent rescue intracranial angioplasty with or without stenting in the setting of acute ischemic stroke at our institution.

Method This is a retrospective single-arm observational study to evaluate the effect of acute rescue angioplasty with or without stenting on clinical symptom burden and functional outcome. We included all patients that underwent such rescue intervention within 7 days of presenting with acute ischemic stroke with large vessel occlusion between the years of 2017
to 2020. We evaluated the change in NIHSS from presentation to hospital discharge as well as mRS at discharge and 3 months. We further evaluated for stent or vessel reocclusion as well as symptomatic hemorrhagic conversion as the cause of clinical decline.

Results There were twenty procedures in nineteen patients during this time period. In three procedures acceptable caliber improvement was achieved using angioplasty alone (15%), with the other 17 procedures requiring a stent. Fourteen procedures (70%) resulted in improvement in NIHSS following the procedure and upon discharge. Out of the 6 procedures with worsening clinical outcome, 1 had reocclusion of the lesion, 2 with symptomatic hemorrhagic conversion, and 1 with perforator occlusion. Eleven cases resulted in mRS less than or equal to 2 at 3 months and 3 patients had passed away by 3 months.

Conclusion Even though rescue angioplasty with or without stenting can have a high rate of periprocedural morbidity, it leads to marked clinical improvement in the majority of the patients in this selected cohort.


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**E-031** VERTEBROBASILAR JUNCTION ANEURYSMS ASSOCIATED WITH SUBCLAVIAN STEAL PHYSIOLOGY: SHOULD AN ASYMPTOMATIC SUBCLAVIAN ARTERY OCCLUSION BE TREATED?

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Introduction/Purpose Verteobasilar aneurysms are infrequent accounting from 0.5% of all intracranial aneurysms. Subclavian steal physiology resulting in abnormal flow across the verteobasilar junction to supply the distal territory beyond a proximal subclavian artery occlusion or stenosis has been reported as a likely etiology for a subset of verteobasilar junction aneurysms. Moreover, subarachnoid hemorrhage due to ruptured verteobasilar aneurysms has been reported as a rare initial presentation of otherwise asymptomatic subclavian steal physiology. There are several case reports in the literature of endovascular treatment of verteobasilar aneurysms associated with subclavian steal syndrome. However, the long term risk of verteobasilar junction aneurysm re-growth and re-rupture in the setting of untreated subclavian steal physiology is unknown. Moreover, few specific recommendations for management of the underlying subclavian artery occlusion in patients with verteobasilar aneurysms exist in the literature.

Materials and methods We present two cases of patients with asymptomatic subclavian steal physiology initially presenting with ruptured verteobasilar junction aneurysms with differing clinical courses. Results Case 1 is a 70 year old female with a wide-necked 10 mm verteobasilar junction aneurysm successfully treated with stent-assisted coiling. Follow-up imaging demonstrated 1 year stability in complete occlusion of her aneurysm. Her left subclavian origin occlusion remained clinically asymptomatic and was managed conservatively. Case 2 is a 50 year old female presenting initially with a ruptured 4 mm verteobasilar junction aneurysm successfully treated with primary coil