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

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 5/4RS was utilized. A 5Fr JB1 glide catheter (Terumo) was utilized in all 50 cases and a SIM2 (Terumo) was utilized in 12 (24%). Kinking of the 5/4RS occurred in 5 (10%) patients, which was managed by restoring the lumen with the 5Fr diagnostic catheter, did not preclude technical success. Each of the incidents of kinking occurred in patients with BMI > 30. Exoovascular non-dilating groin closure (Mynx, Cardinal) was performed in 32 (64%) cases and manual compression in 18 (36%). All patients were discharged from recovery with 4 hours of total flat time with no symptomatic groin hematoma.

Conclusion The safety of trans-femoral cerebral angiography can be enhanced using a 4Fr groin access with a radial 5/4 slender sheath with the known benefits of utilizing 5Fr diagnostic catheters.

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Rescue Intracranial Angioplasty with or Without Stenting in Acute Ischemic Stroke

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...