**Results** The use of the EKOS catheter and TPA infusion restored sufficient venous drainage and ultimately the patient developed good collateral flow. The result was an excellent six-month post-operative neurologic outcome.

**Conclusion** CVST can be refractory to existing endovascular treatment options. We describe the use of an EKOS catheter, traditionally used in peripheral vascular and pulmonary emboli cases, as rescue therapy in a cerebrovascular case where traditional treatment options failed. Further evaluation is warranted to clarify its safety and efficacy versus other therapeutic modalities.

**Disclosures** N. Vivel: None. R. Ryan: None. R. Sanchez-Mejia: None.

### E-064 SURPASS EVOLVE FLOW DIVERSION FOR EMBOLIZATION OF UNRUPTURED INTRACEREBRAL ANEURYSMS: EARLY EXPERIENCE OF A SINGLE TERTIARY CENTER


10.1136/neurintsurg-2021-SNIS.159

**Introduction** Since initially developed, flow-diverting devices for intracerebral endoluminal reconstruction have rapidly evolved and multiple devices now exist, differing in materials and design. Recently, the Stryker Surpass Evolve flow-diverter (FD) has been approved as a 64-wire cobalt-chromium device with improved ease of deployment, flexibility and conformability compared to its predecessor.

**Objective** To analyze our institution’s experience with flow-diverting devices, with a focus on the Stryker Surpass Evolve FD.

**Methods** To analyze our institution’s experience with flow-diverting devices, with a focus on the Stryker Surpass Evolve FD.

**Results** Among the 36 patients treated with Surpass Evolve FD, 32 patients had an unruptured intracerebral aneurysm. Of these, 26 patients (81%) presented with symptoms, with 9 (28%) having a hemorrhagic presentation. The mean aneurysm size was 8.8 mm (range, 4.7–14.0 mm), with a median of 1 (range, 1–5) aneurysms per patient. The mean duration of follow-up was 118.9 months (range, 3–168 months). Among the 26 symptomatic patients, 25 (96%) presented with headache, and 24 (92%) with a focal deficit. The remaining patient presented with CVST. The median number of FDs per patient was 1.3 (range, 1–6). In 18 (77%) patients, the FD was deployed as a single device, with the remaining patients requiring multiple devices. The mean number of FDs per patient was 1.8 (range, 1–6). In 24 (92%) patients, the FD was successfully deployed to the target location. The median follow-up period was 118.9 months (range, 3–168 months). Among the 14 patients who underwent follow-up imaging, the median follow-up period was 120 months (range, 60–168 months). In 22 (88%) patients, the FD was successfully deployed to the target location. The median follow-up period was 118.9 months (range, 3–168 months).

**Conclusion** The use of the Stryker Surpass Evolve FD for the treatment of unruptured intracerebral aneurysms is safe and efficacious, with favorable long-term outcomes. Further study is needed to evaluate the durability and efficacy of this device in the treatment of ruptured aneurysms.

**Disclosures** N. Vivelo: None. R. Ryan: None. R. Sanchez-Mejia: None.

### E-065 STENTING AND FLOW DIVERSION FOR PEDIATRIC INTRACRANIAL ANEURYSMS


10.1136/neurintsurg-2021-SNIS.160

**Background** Pediatric intracranial aneurysms (IA) are rare. Literature highlights endovascular treatment yielding favorable outcomes, but long-term follow-up outcomes are lacking.

**Objective** To analyze our institution’s experience with endovascular management of pediatric cerebral aneurysms with long-term follow-up.

**Methods** In the past decade, 4 male and 2 female patients with nine IAs were treated with stenting or flow-diversion. We retrospectively reviewed the radiological, hospital, and outpatient clinic charts to document clinical presentation, diagnostic methods, treatment strategies, outcome and long-term follow-up for each patient.

**Results** Headache was the presenting symptom in all of the patients except one, which had a traumatic injury. Two of these patients had a ruptured aneurysm. Two patients had multiple aneurysms - 2 and 3 respectively. The aneurysms were most frequently located in the anterior circulation, with the exception of two basilar. Four of the aneurysms were treated with stenting, while 5 with Pipeline flow-diversion. All cases, except one, had a good outcome after the procedure; the latter having a hemorrhage, requiring hematoma evacuation, and later developing in-stent stenosis, for which balloon angioplasty was done and another pipeline flow-diverter was deployed. Long-term imaging follow-up demonstrated no issues regarding the durability of flow-diverters and stents, with 0 modified Rankin Score (mRS) reported for 5 patients and a baseline of 2 for one patient.

**Conclusion** This series demonstrates the safety and effectiveness of endovascular treatment of pediatric aneurysms, with no issues regarding the durability of flow-diverter and stents at continued long-term follow-up.

**Disclosures** H. Rai: None. F. Almayman: None. M. Waqas: None. A. Kalanovic: None. A. Monteiro: None. A. Baig: None. M. Recker: None. A. Siddiqui: 1; G. NIH/NINDS 1R01NS091075. 4; C; Amnis Therapeutics, Aparna Medical, Blink TBI, Buffalo Technology Partners, Cardinal Consultants, Cerebrotech Medical Systems, Cognition Medical, Endostream Medical, Imperative Care, International Medi. E. Levy: 2; C;
Claret Medical, GLG Consulting, Guidepoint Global, Imperative Care, Medtronic, Rebound, StimMed. 4; C; NeXtGen Biologics, RAPID Medical, Claret Medical, Cognition Medical, Imperative Care (formerly the Stroke Project), Rebound Therapeutics, StimMed, Three Rivers Medical.

E-066 STRUCTURED REPORTING OF ANEURYSM RUPTURE RISK UTILIZING GEOMETRIC AND HEMODYNAMIC ANALYSIS (STARR) – A SOPHISTICATED APPROACH TOWARDS PATIENT COUNSELING

Introduction/Purpose Counseling of patients harboring unruptured intracranial aneurysms (UIAs) has remained challenging despite the availability of several risk scores assessing the aneurysm rupture risk for individual patients. However, besides aneurysm size and simple morphological features no advanced hemodynamic or geometric factors have been used in every patient counseling so far, although recent research has identified several of these factors to be associated with aneurysm rupture risk. The structured report of several geometric and hemodynamic aneurysm features was developed to amend counseling of patients with UIAs in everyday clinical practice.

Material and Methods Based on current state-of-the-art and experiences from daily clinical practice a selection of morphological and hemodynamical parameters (5 parameters each, figure 1) that have been associated with aneurysm rupture risk was generated. Next, a structured report was designed such that these parameters are presented in an intuitive and clear manner. Color legends from red to green are used to visualize patient specific rupture risk. Special care was taken to account for non-uniform parameter distributions. The design study was evaluated with a clinical expert. For the extraction of these parameters customized software tools were used that can be carried out remotely. The patient image data is semi-automatically processed yielding the structured report.

Results We developed a semi-automatic workflow to incorporate current state-of-the-art aneurysm rupture risk analysis into a structured report such that the information is available in the daily clinical use without dedicated hardware or engineers required at the hospital. All listed parameters were extracted based on recent literature.

Conclusion Structured reporting of geometric and hemodynamic analysis of IAs is feasible and can be combined for an aneurysm specific rupture risk stratification amending a more sophisticated tool to patient counseling harboring UIAs. Figure legend: Illustration of the structured report comprising patient specific information (e.g. age, sex, ...), the PHASES and UIATS scores as well as five different views showing the shape of the aneurysm from different angles as well as the aneurysm and its parent artery. Five morphological parameters are combined, as well seven hemodynamical parameters. All parameters are presented in a structured manner. Tool tips allow for explanation for the clinical expert as well as the patients.


Abstract E-066 Figure 1

E-067 IMPORTANCE OF FIRST PASS REPERFUSION IN ENDOVASCULAR STROKE CARE – INSIGHTS FROM STAR


10.1136/neurintsurg-2021-SNIS.162