

Disclosure of Interest NO DISCLOSURE RELATED WITH THE PRESENTATION

P077/180 SILK VISTA BABY FLOW DIVERTER STENT FOR UNRUPTURED DISTAL BRAIN ANEURYSMS: A BRAZILIAN RETROSPECTIVE OBSERVATIONAL STUDY

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Introduction The Silk Vista Baby flow diverter is a stent deliverable via a 0.017 inch microcatheter and is specifically designed for distal brain aneurysms treatment.

Aim of Study Evaluate the safety and efficacy of the Silk Vista Baby in a Brazilian tertiary hospital.

Methods We performed a retrospective review to identify Silk Vista Baby cases at one tertiary hospital in Brazil. Clinical, procedural, angiographic and follow-up data were collected.

Results We treated 32 patients (28 female, 87.5%) of average age 69 (range 56–77) with 32 aneurysms, 29 (90.2%) located in the anterior circulation. All aneurysms treated were unruptured. An average number of 1 device were implanted. Coils were implanted in 4 aneurysms (12.2%). Treatment effect was assessed using the O'Kelly Marotta (OKM). At last angiographic follow-up 13,0 ± 4.5 months post-procedure, 20 aneurysms (62.5%) were graded as OKM D, and 7 patients were graded as OKM A (21.8%). All patients treated with FDS and coils presented OKM D after 12 months follow-up. Clinical complications, excluding death, were seen in 2 patients (6.2%) including symptomatic ischaemic events. Only one patient had permanent morbidity (mRS 1) due to a hemorrhagic stroke 3 months after the procedure. One patient died after the treatment (3.1%); due to distal branch perforation.

Conclusion The SVB has high rates of technical success and an acceptable safety profile. Distal aneurysms may occlude slower due to relative oversizing of the devices and coils could help to improve the occlusion rate.

Disclosure of Interest Nothing to disclose

P078/182 THE DERIVO 2 HEAL EMBOLIZATION DEVICE IN THE TREATMENT OF RUPTURED AND UNRUPTURED INTRACRANIAL ANEURYSMS: A RETROSPECTIVE MULTICENTER ANALYSIS

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Introduction The Derivo 2 Flow diverter has been previously described for the treatment of intracranial aneurysms. To overcome the risk of in-stent thrombosis and thrombo-embolism the device was modified by adding an anti-thrombogenic fibrin-heparin coating. The fibrin network aims at surface passivation, reduction of inflammatory reactions and endothelial healing. The covalently bound heparin reduces the thrombogenicity by inhibiting the platelet activation and the coagulation cascade.

Aim of Study To assess the safety and effectiveness of the Derivo 2 heal (D2H) Flow diverter.

Methods We performed a retrospective multicenter trial at seven neurovascular centers. Patients treated with the D2H for unruptured or ruptured intracranial aneurysms were included in the study. The primary endpoint was angiographic aneurysm occlusion at six months assessed by the O'Kelly-Marotta scale. Clinical outcome was evaluated after intervention and at six months, with major morbidity defined as modified Rankin Scale scores of 3–5.

Results 17 Patients with available follow-up were subjected to a preliminary analysis. All patients received standard of care antiplatelet therapy according to the respective institutions, with no deviations being reported. Mean aneurysm size was 12 mm. Sufficient aneurysm occlusion (OKM C-D) at six months angiographic follow-up was observed in 88.2%. Device displacement and proximal fish-mouthing occurred in 1 patient with no clinical sequelae. Neither in-stent thrombosis nor in-stent stenosis were detected.

Conclusion The Derivo 2 heal Flow Diverter is a promising antithrombogenic coated device for the treatment of intracranial aneurysms. Early post-interventional and long-term results will provide insight into the effect of antithrombogenicity and endothelial healing.

Disclosure of Interest Hannes Nordmeyer and Daniel Behme received speaker honoraria from Acandis. All other authors have nothing to declare.

P079/201 TRANS-CIRCULATION BAILOUT FOR PROLAPSED FLOW DIVERTING STENT IN ACUTE TREATMENT OF A GIANT BASILAR ARTERY ANEURYSM

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Introduction A 45-year-old female presented to the emergency department with a headache and reduced level of consciousness. CT scan revealed widespread acute subarachnoid haemorrhage with hydrocephalus, confirmed by CTA as a giant basilar artery aneurysm.

Aim of the Study Highlight complications of giant aneurysm treatment.

Methods The patient was transferred to a neuroscience centre for endovascular treatment. An EVD was inserted. A flow-diverting stent (Silk Vista Baby) and 9-XL coils were deployed. Post-deployment angiography showed satisfactory positioning. On day 1 post-procedure, the patient developed right arm weakness/aphasia. CT showed coil-streak artifact, however MRI/MRA indicated a small area of restricted diffusion and high T2 signal, indicating an acute infarct. Coil compaction and proximal stent displacement into the aneurysm sac were also observed.

Results A rescue/re-treatment was performed. A trans-circulation approach via the PCOM was attempted due to unsuccessful antegrade catheterisation through the vertebral artery. The stent was dislodged into the aneurysm sac, enabling re-treatment of the aneurysm neck with a new device. A Pipeline flow diverter was deployed, and additional coils were placed within the compacted coil mass. Dual antiplatelet therapy was initiated. The patient demonstrated near-complete recovery,

with aneurysm occlusion and improved mass effect on follow-up MRI/MRA at 6 months.

Conclusion In conclusion, careful planning is necessary for endovascular treatment of giant aneurysms. Consideration of larger inflow volumes and longer stent landing-zones can prevent complications. In cases of complications, trans-circulation rescue therapy may facilitate stent re-catheterisation allowing for repositioning, or stent displacement allowing for deployment of a new device.

Disclosure of Interest No conflicts of interest.

Dr S Kular – Nothing to disclose.

Dr R Dyde – Nothing to disclose.

Dr G Tse – Nothing to disclose.

P080/209 MULTICENTER EXPERIENCE WITH SELECTFLEX ACCESS CATHETERS FOR THE EMBOLIZATION OF ANEURYSMS USING INTRA-SACULAR AND ENDO-LUMINAL FLOW DIVERSION

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Introduction The SelectFlex guide catheters (Q'Apel Medical, Fremont, CA) are novel, dual-mode next generation 7fr. 072' distal access guide catheters with a proprietary flexible stent embedded within the distal wall of the catheter. This enables physician-controlled modulation of the catheter between track and support modes.

Aim of Study We present a multicenter experience which investigates the safety and efficacy of these catheters in the treatment of intracranial aneurysms that traditionally require tri-axial support, namely intrasaccular and endoluminal flow diversion.

Methods A retrospective review of consecutive cases utilizing the SelectFlex guides was performed at 4 institutions from February 2020 – October 2022 under IRB approval.

Results A total of 366 consecutive Selectflex cases were identified. Of those, 150 flow diversion cases were performed (121 endoluminal, 29 intrasaccular); 95 via radial access and 55 via femoral access. 78% of cases were performed bi-axially. The Selectflex catheter was most commonly placed in the posterior genu of the cavernous internal carotid. There was no incidence of vascular injury or dissection. Three adverse events identified were identified: an intraprocedural rupture during WEB placement, epistaxis two weeks post op, and metabolic encephalopathy unrelated to the procedure. Utilizing MSRP data, using Selectflex in a bi-axial approach versus a tri-axial construct can save up to \$800/case.

Conclusion Use of the Selectflex catheters was found to be safe, efficacious and cost effective for intra-saccular and endoluminal flow diversion. We found that using this catheter can simplify procedures, standardize device usage across program, decrease inventory constraints, and reduce cost per procedure.

Disclosure of Interest This manuscript was developed, researched, analyzed, and written independent of financial or industry support or involvement.

The following potential COI are Q'Apel Medical
Siemens Healthineers

Medtronic
Integra Lifesciences
Cerenovus
Stryker
Penumbra
Microvention
Balt

P081/218 MORPHOMECHANICAL ANALYSIS OF INTRACRANIAL ANEURYSMS

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Introduction It is unknown why aneurysm rupture occurs at a specific location in the aneurysm wall.

Aim of Study Perform a comprehensive analysis of brain aneurysms. This includes aneurysmal wall enhancement (AWE), computational fluid dynamics (CFD) and finite element analysis (FEA) of different areas of the aneurysm.

Methods Forty-seven unruptured saccular aneurysm were included in the study. 3T high resolution vessel wall imaging was performed. 3D Segmentations of the aneurysms were generated with 3D Slicer to assess: AWE using post-contrast signal intensity (SI) heatmaps; Wall Tension (WT) calculated from FEA; time-averaged wall shear stress (TAWSS), oscillatory shear index (OSI), and wall shear stress gradient (WSSG) from CFD. A detailed compartmental analysis was performed.

Results Eighteen aneurysms were irregular and eleven had blebs. WT, TAWSS, and WSSG were higher in the neck compared to the dome ($p < 0.001$, $p = 0.02$ and $p < 0.001$, respectively). Conversely, AWE and OSI were higher in the dome compared to the neck ($p = 0.01$ and $p = 0.03$, respectively). In aneurysms with blebs, WT, WSSG, and AWE were significantly different between the bleb, neck, and aneurysm body ($p < 0.001$, $p = 0.04$ and $p = 0.03$, respectively). Blebs had the highest AWE in the aneurysm. However, the lowest points of WT and WSSG in the aneurysms were in the bleb.

Conclusion A comprehensive morphomechanical assessment may identify high risk areas of rupture within the aneurysm. Unstable areas, such as blebs, had a high AWE and low WSSG and WT. The morphomechanical features also differed in the aneurysm neck compared to the body.

Disclosure of Interest Nothing to disclose

P082/226 EFFICACY AND SAFETY OF PIPELINE SHIELD STENTS AND FLOW-DIVERTING STENTS WITHOUT MODIFIED SURFACES IN PATIENTS WITH INTRACRANIAL ANEURYSMS

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