THE VALUE OF LONG-TERM ANGIOGRAPHIC FOLLOW-UP FOLLOWING PIPELINE EMBOLIZATION OF INTRACRANIAL ANEURYSMS

Introduction/Purpose Flow diversion of intracranial aneurysms with the Pipeline embolization device is commonly performed, but the value of long-term angiographic follow-up has not been rigorously evaluated. Here, we examine the prevalence of actionable findings of aneurysm recurrence and development of in-stent stenosis in a cohort of patients that underwent long-term angiographic follow-up at multiple timepoints.

Materials and Methods Angiographic data from eligible patients was retrospectively assessed for aneurysm occlusion, in-stent stenosis, and aneurysm regrowth or recurrence. Aneurysm occlusion was determined using the O’Kelly-Marotta grade. Patients were included in this study if they underwent angiographic imaging at 6 months post-treatment and at least one later timepoint. Pertinent findings of aneurysm occlusion status and presence of in-stent stenosis at final follow-up were stratified based on findings on 6 month angiography.

Results 100% (132/132) of aneurysms occluded at 6 months remained occluded at final follow-up. Of those not occluded at 6 months, 85.7% (67/79) with an entry remnant, 56.3% (26/46) of Pipeline embolization device constructs demonstrating no in-stent stenosis at 6 months developed in-stent stenosis on final angiography, while 44.4% (8/18) of PED constructs demonstrating in-stent stenosis at 6 months developed in-stent stenosis at 6 months to demonstrate subtotal filling at later follow-up (figure 1).

Conclusions Pediatric cerebral angiography has a low rate of major or permanent complications. Children with history of hypertension, history of ischemic stroke, or female sex are at higher risk of complications, while use of femoral access carries lower risk of complications.

Disclosures D. Lauzier: None. J. Osbun: 2; C; Medtronic, Microvention. A. Chatterjee: None. C. Moran: 2; C; Medtronic, Cerenovus. A. Kansagra: 2; C; Penumbra, Microvention, iSchemaView.

Abstract E-146 Figure 1 Preoperative angiogram showing a 9.1 mm saccular aneurysm at the petrous-cavernous junction of the left internal carotid artery (a). 6-month post-treatment angiography showing an entry remnant at the site of the treated aneurysm (b). 20-month post-treatment 3D rotation angiography showing a 3.4 mm saccular regrowth of the treated aneurysm (c). 3D rotation angiography after a second Pipeline embolization device treatment showing complete aneurysm occlusion (d).

Late-breaking oral abstracts

FIRST IN-HUMAN TREATMENT OF COMMUNICATING HYDROCEPHALUS USING THE CEREVASC ESHUNT™ MINIATURE BIOMIMETIC ENDOVASCULAR CSF SHUNT

Surgical ventriculoperitoneal shunting remains standard treatment for communicating hydrocephalus, despite significant infection and revision rates. A new minimally-invasive endovascular cerebrospinal fluid shunt has been developed (Cerevasc eShunt™) to mimic arachnoid granulation function. This implant is intended to be deployed via femoral transvenous approach across the inferior petrosal sinus dura mater into the cerebellopontine angle cistern. We hereby present the first