COATING STUDY: A RCT EVALUATING THE COATED FLOW DIVERTER P64-MW-HPC

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Introduction/Purpose Flow Diversion is increasingly used for the treatment of intracranial aneurysms due to its high efficacy. However its us is still restricted to unruptured and recanalized aneurysms due to the need of a dual antiplatelet therapy to prevent thromboembolic complications. P64-MW-HPC (phenoxy, Bochum, Germany) is a coated flow diverter. Hydrophilic Polymer Coating (HPC) is a glyocalyx-like glycan based polymer covalently bonded to the surface of the p64 flow diverter, which is supposed to reduce platelet aggregation. COATING is a RCT dedicated to the comparative evaluation of this coated flow diverter.

Materials and Methods COATING is a RCT comparing the rate of thromboembolic complications in patients treated with bare p64-MW under dual antiplatelet treatment and patients treated with coated p64-MW-HPC under single anti platelet treatment. The primary safety endpoint is the number of Diffusion-Weighted Imaging lesions depicted within 48 hours (+/- 24 hours) of the index procedure by 3T-MRI. COATING study is conducted in 14 Interventional Neuroradiology centers in Europe (France, Germany, Italy, United Kingdom). The population of the study will be 170 patients (85 per arm. An interim analysis will be conducted after inclusion of 50% of the population.

Results A detailed presentation of the COATING protocol as well as the status of inclusions at the time of presentation will be presented.

Conclusions COATING study is the first comparative study to properly evaluate a coated flow diverter. The results of this study will potentially change the indications of flow diversion of the endovascular treatment of intracranial aneurysms.

Disclosures L Pierot; 2; C; Balth, Microvention, Phenox, Perflow, Vesalio. S. Lamin: None. C. Cognard: None. L. Spelle: None.

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PREDICTORS OF FIRST PASS EFFICACY IN POSTERIOR CIRCULATION ACUTE ISCHEMIC STROKES

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Introduction First-pass efficacy (FPE), defined as achieving complete or near-complete revascularization of an occluded vessel with first attempt, has recently emerged as an important angiographic predictor of successful endovascular thrombectomy (ET) in acute ischemic strokes (AIS). There is growing evidence that FPE is associated with better clinical outcomes. However, its predictors and clinical outcomes in posterior circulation AIS (pcaIS) remain under-explored. In this study, we investigate the efficacy of ET and address the clinical, radiological, and procedural predictors of FPE in pcaIS.

Methods Patients with pcaIS from the Thrombectomy and Aneurysm Registry (STAR) were included. Baseline characteristics and clinical outcomes were evaluated by first-pass outcomes under two groups: FPE and non-FPE. FPE was defined as modified Thrombolysis and Cerebral Infarction (mTICI) score ≥ 2c after first pass of ET. Baseline characteristics...
included demographic, clinical and procedural variables, initial CT Angiogram (CTA) findings, composite scores for collateral circulation (BATMAN score) and clot burden (pc-CTA score). Clinical outcomes included 90-day modified Rankin Scale (mRS) score, National Institutes of Health Stroke Scale (NIHSS) score, distal emboli, symptomatic intracranial hemorrhage (sICH), and mortality. FPE predictors were assessed via univariate (UVA) and multivariate (MVA) logistic regressions.

**Results**

A total of 363 patients with pcAIS received ET between 2012 and 2020. 179 out of 354 (49%) patients achieved FPE. Mean time to revascularization (puncture to revascularization) was significantly shorter (40 vs 70.1 minutes; P <0.001) in the FPE group. Direct aspiration was more frequently utilized in non-FPE group (27.4% vs 34.2%; P=0.026). Patients with successful FPE showed higher rates of final angiographic revascularization represented by mTICI ≥ 2b in 88.6% (non-FPE: 72.6.1%; p < 0.001) and mTICI ≥ 2c in 94.4% (non-FPE: 73%; p < 0.001). Discharge mean mRS (4.5 vs 3.5; p < 0.001) and 90-day mRS (4.2 vs 3.1; p < 0.001) were significantly better in patients who achieved FPE. Complication rates among both outcome groups were non-significantly different, except for distal emboli rate, which was more common in the non-FPE (10.8% vs 3.2%; P=0.037). On UVA, prior history of AIS was associated with decreased odds (OR: 0.52; P=0.04) while atrial fibrillation was associated with increased odds (OR: 2.06; P= 0.005) of FPE, which remained significant on MVA (OR: 1.92; P=0.022).

**Conclusion**

FPE is a crucial predictor of successful ET in pcAIS, emphasizing the FPE and faster revascularization as role players in clinical outcomes of pcAIS. Atrial fibrillation and previous AIS independently predict FPE. The discrepancy in FPE rates by clot composition is illustrated by the higher rates of FPE in atrial fibrillation patients. Therefore, future histological and clinical studies are warranted to further address the clinical features of ischemic clots.


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RELATIONSHIP OF CEREBRAL AUTOREGULATION VIA PRESSURE REACTIVITY INDEX AND DELAYED CEREBRAL ISCHEMIA IN ANEURYSMAL SUBARACHNOID HEMORRHAGE

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**Background**

Patients with aneurysmal subarachnoid hemorrhage (SAH) continues to have poor functional outcome due to occurrence of delayed cerebral ischemia (DCI). Although vasospasm represent the primary therapeutic target for mitigating DCI, DCI largely occurs through multifocal etiologies that include cerebral dysautoregulation. Higher pressure reactivity indexes (PRx) which consists of a moving correlation coefficient between intracranial pressures and mean arterial pressures have been shown in isolated case reports to be associated with DCI.

**Clinical Presentation**

Two patients presented with high-grade SAH and comatose exams. However, patient one, a SAH from a ruptured right middle cerebral artery, continued having intact PRx values (average value of -0.07 during hospital days 9 –19), while having severe, refractory vasospasm that required intra-arterial verapamil and angioplasty. At the conclusion of his hospitalization, patient one was functionally independent, had negligible DCI, and was discharged to home. Patient two, SAH from a ruptured anterior communicating artery, had an improving PRx ranging from -0.1 to 0.1. However, upon developing severe vasospasm, her PRx increased to the 0.2–0.6 range (overall PRx from hospital days 4–16 was 0.3), and she suffered from extensive DCI in both middle cerebral and anterior cerebral artery distributions and ultimately progressed to brain death from her malignant cerebral edema. The figure...