

1.1 HAEMORRHAGIC – Aneurysms

P051/3 INSTANT STUDY: A RECENT EVALUATION OF ANEURYSM COILING

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Introduction Coiling is still the first-line endovascular treatment for the management of intracranial aneurysms. This treatment was not evaluated in recent, large series. ARETA study has evaluated the safety and efficacy of aneurysm coiling but the recruitment took place roughly 10 years ago (2013/2015).

Aim of Study The European study INSTANT is evaluating endovascular treatment of intracranial aneurysms with OPTIMA coils (Balt, Montmorency, France).

Methods INSTANT study included patients with ruptured, unruptured, or recanalized aneurysms treated with OPTIMA coils. The primary endpoint was evaluation of safety (morbidity and mortality at one-month). Several secondary endpoints were further evaluating safety and efficacy. All adverse events and anatomical results were independently evaluated.

Results The study population for this analysis consisted of 294 patients (56.3 ± 12.0 years, 186 women, [63.3%]) included in 18 European centers during the period (04/2019 – 04/2022). Aneurysms were sacciform in all patients, ruptured in 133/294 patients (45.2%) and unruptured or recanalized in 161/294 patients (54.8%). Aneurysm location was anterior communicating artery in 126/294 patients (42.9%), middle cerebral artery in 52/294 (17.7%), carotid siphon in 95/294 patients (32.3%) and vertebrobasilar system in 21/294 (7.1%).

Mortality at 1-month was 0.0% in patients with unruptured aneurysms and 3.0% in those with ruptured aneurysms, all related to subarachnoid hemorrhage and its complications. Morbidity at 1-month was 1.2% in patients with unruptured aneurysms and 21.1% in those with ruptured aneurysms.

Conclusion INSTANT study provides a recent evaluation of safety and efficacy of coiling in the management of ruptured and unruptured/recanalized aneurysms.

Disclosure of Interest Laurent Pierot is consultant for Balt.

Other authors have nothing to disclose.

P052/6 LONG-TERM FOLLOW-UP AFTER ANEURYSM TREATMENT WITH THE FLOW REDIRECTION ENDOLUMINAL DEVICE (FRED) FLOW DIVERTER

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Introduction The Flow Re-Direction Endoluminal Device (FRED; MicroVention) and its version dedicated for smaller vasculature FRED Jr. (MicroVention) belong to the worldwide most frequently used FD. Several studies showed a good efficacy of the FRED and FRED Jr. with a good safety profile in the short and mid-term. However, to date there are no targeted long term-follow-up data covering more than five years for these devices.

Aim of Study This study focuses on long-term outcomes after aneurysm treatment with either the FRED or the FRED Jr. to investigate the durability of treatment effect and long-term complications.

Methods Patients treated with either FRED or FRED Jr. between 2013 and 2017 at our institution, and thus a possibility for ≥5 years of follow-up, were retrospectively analysed. Aneurysm occlusion rates, recurrence rates, modified Rankin Scale score shifts to baseline, and delayed complications were assessed.

Results 68 patients with 84 aneurysms had long-term follow-up with a mean duration of 57.3 months. 44 patients harbouring 52 aneurysms had a follow-up ≥5 years with a mean follow-up period of 69.2 months. Complete occlusion was reached in 77.4% at two years and increased to 84.9% when the latest available imaging result was considered. After the two-years threshold, there were three reported symptomatic non-serious adverse events.

Conclusion This long-term follow-up study demonstrates that the FRED and FRED Jr. are safe and effective for the treatment of cerebral aneurysms in the long-term, with high rates of complete occlusion and low rates of delayed adverse events.

Disclosure of Interest Nothing to disclose.

P053/29 CASE SERIES OF 52 INTERNAL CAROTID ARTERY ANEURYSM

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Introduction Treatment of Paraclinoid aneurysms remains a technical challenge because they occupy a tiny region packed with critical structures, including the C5 and C6 segments of ICA, their branches, and the optic apparatus, cavernous sinus.

Aim of Study Compare endovascular and microsurgical treatment of internal carotid artery aneurysms

Methods In the last 2.5 years, we treat 52 patients with ICA aneurysms.

18 (34%) patients underwent endovascular treatment and in 34 patients (66%), microsurgical clipping was done.

Results CTA images with 3D reformatting can very helpful in evaluating the association of aneurysm with ACP and the need for clinoidectomy during a microsurgical approach.

In cases of microsurgical clipping, if clinoidectomy is essential for proximal control or aneurysm exposure, therefor cervical carotid must be prepared for proximal control.

In our endovascular group, according to the aneurysm neck and aspect ratio, we treat a patient with primary coiling, stent assists coiling, and flow diverting stent.

In Our case series, Pcom is the most location for aneurysm formation and rupture.

While more than 90% of ICA aneurysms are microsurgically treated, 70% of ophthalmic aneurysms are treated with an endovascular approach.

In long-term follow-up, 90% of our patients have GOS 4 and 5, 2% have GOS 3 and 8% have GOS 1 or 2; that is not different in the endovascular or microsurgical group.

Conclusion Treatment of ICA aneurysms requires precise anatomical evaluation and a multi-disciplinary approach.

Both endovascular and microsurgical approaches are effective and have the same result.

Disclosure of Interest Nothing to disclose

P055/49 **COMPARISON OF NEUROFORM ATLAS STENT ASSISTED COILING AND COILING ALONE IN RUPTURED INTRACRANIAL ANEURYSMS: A PROPENSITY SCORE MATCHING ANALYSIS**

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Introduction Although Neuroform Atlas stent is commonly used in stent-assisted coiling (SAC) to treat ruptured intracranial aneurysms (RIA), its safety and efficacy remain controversial.

Aim of Study To assess the safety and efficacy of SAC using Neuroform Atlas for treating RIA compared with coiling alone by performing a propensity score matching analysis.

Methods RIA treated with coiling alone and SAC between January 2017 and May 2021 were retrospectively reviewed. Demographics, periprocedural complication rates, angiographic outcomes, and clinical outcomes of the SAC using Neuroform Atlas group and the coiling-alone group were analyzed with 1:1 propensity score matching.

Results A total of 375 aneurysms were enrolled, and 274 (63.1%) aneurysms were treated with coiling alone. In total, 101 (26.9%) aneurysms were treated with SAC, and Neuroform Atlas stent was used in 71 aneurysms. In propensity score matching, the SAC using Neuroform Atlas group showed higher incidence of complete occlusion (69.0% vs 56.3%, $P = .029$), lower rate of recanalization (11.3% vs 25.4%, $P = .011$), and lesser need for retreatment (7.0% vs 16.9%, $P = .016$) compared with the coiling-alone group. However, there were no significant differences in periprocedural complications such as intraprocedural thrombosis or postprocedural cerebral infarct between the 2 groups.

Conclusion The use of Neuroform Atlas is safe and effective for SAC in RIA with comparable procedure-related complication rates but better angiographic outcome in comparison with coiling alone.

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P056/52 **WIRELESS MICROCATETER PULL BACK TECHNIQUE (REVERSE PARKING TECHNIQUE) FOR MORE STABLE AND SAFE CEREBRAL COIL EMBOLIZATION**

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Introduction Cerebral aneurysm coiling is a complex procedure that requires precise placement of the microcatheter into the aneurysm.

Aim of Study We examined the use of a new technique called the Wireless Microcatheter Pulled Back Technique (the Reverse Parking Technique), to improve the stability and safety of microcatheter placement.

Methods From July 1, 2022 to December 31, 2022, a total of 76 cases at a tertiary hospital underwent cerebral aneurysm coiling, with 51 cases utilizing the Reverse Parking Technique. The technique involves using a roadmap technique to guide the microcatheter over the microwire and into position within the parent vessel adjacent to the aneurysm, slightly passing the aneurysm. The microwire is then pulled into the microcatheter, and any slack or redundancy in the microcatheter is removed by gently pulling back on it. The microcatheter is slowly pulled back, allowing the tip to flip into the aneurysm.

Results Of the 51 cases that used the Reverse Parking Technique, 46 cases (90%) were successful, with no intraprocedural aneurysm perforation. In 5 cases, the technique failed, and the push technique was used instead. In one case, a thromboembolic complication occurred, but there was no neurological sequela. Two cases experienced unexpected premature microcatheter kicks back, but they were repositioned into the aneurysm relatively easily.

Conclusion The Reverse Parking Technique is a safe and reliable method for placing the microcatheter inside the aneurysm, particularly for small and ruptured aneurysms. It may help improve the success rate and reduce complications during cerebral aneurysm coiling procedures.

Disclosure of Interest Nothing to disclose

P057/53 **ENDOASCULAR TREATMENT OF THE MIDDLE CEREBRAL ARTERY HILLTOP ANEURYSM**

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Introduction 1 segment of middle cerebral artery (MCA) aneurysm is a relatively rare clinical condition. However, due to its complex geometry and deep location, microsurgical treatment is challenging.

Aim of Study We performed this study to define a specific form of M1 aneurysm that can be safely and effectively treated through EVT as M1 hilltop aneurysm, and to report our treatment results.