Observatory, and 55 in WEBCAST2). Eighty-six out 169 aneurysms were located at middle cerebral artery (50.9%), 36/169 at anterior communicating artery (21.3%), 30/169 at basilar artery (17.8%), and 17/169 at internal carotid artery terminus (10.1%). Placement of the WEB device was feasible in 163/169 aneurysms (96.4%). Morbidity and mortality at one month were reported in 4/168 patients (2.4%) and 0/168 patients (0.0%), respectively. At 6 months, morbidity and mortality were reported in 1/99 patients (1.0%) and 3/99 patients (3.0%), respectively (there was no follow-up at 6 months in French Observatory).

Anatomical results at 6 months (WEBCAST and WEBCAST2) were complete aneurysm occlusion in 51/90 aneurysms (56.6%), neck remnant in 23/90 aneurysms (25.5%), and aneurysm remnant in 16/90 aneurysms (16.7%). Anatomical results at 12 months (WEBCAST and French Observatory) were complete aneurysm occlusion in 56/100 aneurysms (56.0%), neck remnant in 26/100 aneurysms (26.0%), and aneurysm remnant in 18/100 aneurysms (18.0%).

Conclusion This analysis in the large cumulated population of 3 GCP studies confirms the high safety of WEB treatment with low morbidity and mortality at one month and 6 months. At 6 and 12 months, adequate occlusion (complete aneurysm occlusion and neck remnant) was obtained in a high percentage of aneurysms (82.2% and 82.0%, respectively).

Disclosures L. Pierot: 2; C; Sequent. **A. Molyneux:** 2; C; Sequent. **J. Byrne:** 2; C; Sequent.

P-029 TURBULENT FLOW IN THE VENOUS OUTFLOW TRACT OF PULSATILE TINNITUS PATIENTS WITH SIGMOID SINUS DIVERTICULUM

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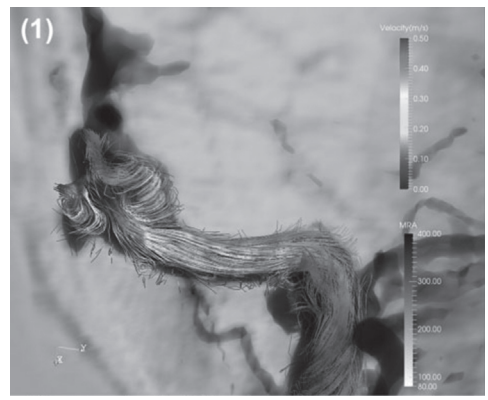
Introduction/purpose Pulsatile tinnitus (PT) has been linked to multiple anatomical variants of the venous outflow tract including sigmoid sinus diverticulum (SSD). We hypothesize that turbulence generated by the SSD, which is normally preceded by a transverse sinus stenosis (TSS), can explain the source of sound. Turbulent flow has a known association to vasculogenic bruit. Advanced magnetic resonance velocimetry (MRV) was performed in cerebral venous sinuses and internal jugular veins (IJV) to obtain both volumetric velocity and turbulence maps.

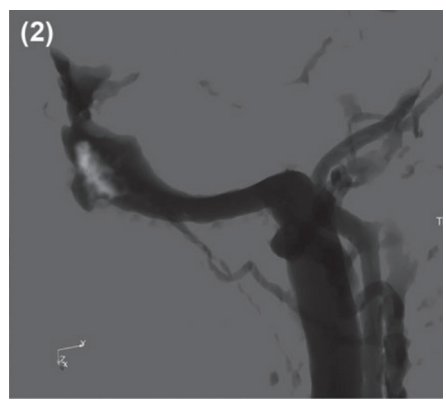
Materials and methods A series of MRI protocols was performed at 3 T for patients with suspected venous PT including contrast-enhanced MRA (CE-MRA) to delineate the anatomy and identify SSD, 4 D-flow MR to acquire time-resolved phase (velocity) and flow-encoded magnitudes in all three directions, as well as 2 D flow to obtain flow waveforms. Flow turbulence was quantified based on turbulence kinetic energy (TKE). Five SSD patients were evaluated, four of which had an associated TSS upstream from the SSD.

Results The TSS resulted in a jet of flow, the direction of which seemed to determine the position of the SSD downstream. The streamline visualization of the flow patterns revealed recirculation in the diverticulum. A helical flow pattern was also found adjacent to the jet flow opposite and downstream of the SSD (Figure 1). TKE mapping revealed a highly localized region of elevated TKE downstream from the stenosis extending to the opening of the diverticulum with a maximum value of 80 J/m^3 (Figure 2).

Discussion and Conclusion The unique flow patterns and the presence of turbulence introduced by the TSS and SSD may help explain PT in these patients. Treatment of TSS with PTA and stent implantation, or treatment of the SSD with coil embolization can potentially alter the TKE level and pattern.



Abstract P-029 Figure 1 A tilted anterior-posterior projection of the venous sinuses and IJV in a PT patient with the SSD and upstream TSS. MRV-based streamlines colored by the magnitude of the velocity are overlaid on to the geometry captured by CE-MRA (black)



Abstract P-029 Figure 2 MRV-based measurement of the TKE in the same PT patient as shown in Figure 1. The elevated TKE region is highly localized to the downstream of the stenosis and extends into the opening of the diverticulum

Disclosures S. Kefayati: None. **E. Kao:** None. **J. Liu:** None. **H. Haraldsson:** None. **F. Faraji:** None. **M. Ballweber:** None. **K. Meisel:** None. **V. Halbach:** None. **D. Saloner:** None. **M. Amans:** None.

P-030 PRELIMINARY EXPERIENCE WITH THE NEUROFORM ATLAS STENT IN STENT-ASSISTED ANEURYSM COILING

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Background and purpose Expandable stents have broadened the spectrum of endovascular treatment of intracranial aneurysms. The Neuroform ATLAS, a nitinol self-expanding, hybrid/open-cell stent, is the evolution of the Neuroform EZ supposing to ease the navigability of the system into intra-cranial arteries, through a low-profile 0.017 inch delivery catheter. We present herein our initial experience in the treatment of intracranial aneurysms with this novel stent.

Materials and methods We compiled data from consecutive patients of our institution from July 2015 to Avril 2016 who underwent stent-assisted coiling with the Neuroform ATLAS. Clinical and angiographic results were analyzed retrospectively.

Results Twenty-seven intracranial saccular aneurysms (12 MCA, 9 AcoA, 4 ICA bifurcation, 1 basilar tip, 1 vertebral-PICA) in 26 patients (17 women, 9 men, mean age 59 years) were consecutively treated. The stent was used in 23 previously untreated aneurysms, and in 4 cases of recanalization. One single stent was used in 11 aneurysms while 16 aneurysms were treated with 2 stents in a "Y" configuration. The immediate post-treatment angiography showed a complete occlusion in 11 cases (40.7%), a residual neck in 3 cases (11.1%) and a residual aneurysmal contrast filling in 13 cases (48.1%). Two complications occurred (7.4%), the first due to an associated aneurysm perforation (mRs 2), and the second due to parent vessel perforation (mRs 6). Both of them occurred after the stent implantation.

Conclusion The Neuroform ATLAS Delivery System is an effective device for treatment of complex intracranial aneurysms, allowing good conformability and stability with a high level of navigability.

Disclosures G. Ciccio: None. **S. Smajda:** None. **T. Robert:** None. **H. Redjem:** None. **R. Blanc:** None. **C. Ruiz Guerrero:** None. **J. Desilles:** None. **H. Takezawa:** None. **P. Sasannejad:** None. **M. Piotin:** None.

Electronic Poster Abstracts

E-001 COMPARISON OF CLINICAL OUTCOMES IN PATIENTS WITH ANTERIOR CIRCULATION ACUTE ISCHEMIC STROKES TREATED WITH MECHANICAL THROMBECTOMY USING THE ADAPT TECHNIQUE ONLY VERSUS ADAPT WITH SOLUMBRA SALVAGE

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Purpose To compare procedural and clinical outcomes in patients with anterior circulation acute ischemic strokes treated with mechanical thrombectomy using ADAPT technique only or ADAPT with Solumbra salvage.

Materials and methods We restrospectively reviewed a consecutive cohort of patients with anterior circulation acute ischemic strokes treated with mechanical thrombectomy using ADAPT technique only or ADAPT with Solumbra salvage at our institution between March 11th, 2013 and December 31st, 2015. Baseline clinical and radiological characteristics and procedural variables were recorded. Clinical outcomes at 90 days were recorded using the modified Rankin Scale (mRS).

Results Fifty-nine patients were included, 33 male (56%). Mean age 67.1 years, mean admission NIHSS 19.1. Forty-six patients were treated with ADAPT only (78%) and 13 with ADAPT with Solumbra salvage (22%). Table 1 summarizes baseline clinical and radiological characteristics. There was a trend towards a higher proportion of patients with ICA terminus thrombi in the ADAPT with Solumbra salvage group (69.2%, p-value 0.054). Table 2 summarizes the procedural variables. There was a significantly-lower mean time from puncture to reperfusion in the ADAPT only group (29.5 minutes) compared to the ADAPT with Solumbra salvage group (85.1 minutes, p-value < 0.001). There was a significantly-higher number of mean thrombectomy device passes in the ADAPT with Solumbra salvage group (5.6) compared to the ADAPT only group (2.3, p-value 0.005). There are a significantly-higher rate of iatrogenic cervical vascular dissection in the ADAPT with Solumbra salvage group (15%) compared to the ADAPT only group (0, p-value 0.046). Table 3 summarizes the clinical outcomes. There was a significantly-higher rate of unfavorable clinical outcome (mRS 4–6) and death at 90 days in the ADAPT with Solumbra salvage group (61.5% and 38.5%, respectively) compared to the ADAPT only group

Abstract E-001 Table 1 Baseline clinical and radiological characteristics

	All patients (n = 59)	ADAPT only (n = 46)	ADAPT with solumbra salvage (n = 13)	p-value
Mean age, years	67.1	67.3	66.5	0.8
Admission NIHSS	19.1	19.1	19.2	1
iv-tPA	56%	59%	47%	0.5
Atrial fibrillation	39%	37%	46%	0.8
Male Sex	56%	57%	54%	1
Mean NCCT ASPECTS	9.1	9.1	9.2	0.9
M1 Thrombus	46%	50%	31%	0.4
ICA terminus thrombus	42%	35%	69%	0.054
Severe tortuosity (≥360 degrees)	31%	28%	39%	0.5

Abstract E-001 Table 2 Procedural variables

	All patients (n = 59)	ADAPT only (n = 46)	ADAPT with solumbra salvage (n = 13)	p-value
Number of devices passes	3.1	2.3	5.6	**0.005**
5 Max ACE use	70%	63%	92%	0.084
ACE 64 use	30%	37%	8%	0.084
TICI 2 b/3 reperfusion	90%	91%	85%	0.6
Carotid stent deployment	12%	13%	8%	1
Embolus to new territory	5%	4%	8%	1
Iatrogenic cervical dissection	3%	0	15%	**0.046**
Puncture to Reperfusion, minutes	41.7	29.5	85.1	**0.0001**
Last Known Well to Reperfusion, minutes	271	259	316	0.17