Medtronic. Brad Bohnstedt, Richard Bellon, Harris Hawk: Nothing to disclose.

EP21 HOW FAR CAN WE GO? WEB TECHNOLOGY FOR THE TREATMENT OF SIDEWALL INTRACRANIAL ANEURYSMS: INITIAL SINGLE CENTER EXPERIENCE

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Materials and Methods Patients were carefully selected. IRB approved. Clinical, anatomical, angiographical, and technical considerations were analyzed. Procedure-related complications, procedural time, antiplatelet therapy requirements. Web Occlusion Scale (WOS) was used for the Follow-up.

Results From August 2017 and March 2021 a total of 14 wide-necked, sidewall, IA were selected for WEB treatment. Aneurysm mean size 5.3 mm in width and 5.8 in height.

Aneurysm Location: ICA 8 cases (five PComA, two Carotid-ophthalmic segment, one AChOA segment), Superior Cerebellar Artery SCA in 5 patients (35%), and one impressive case in posterior circulation associated with a basilar fenestration next to VBJ. Eight cases were unruptured (57%), and six cases with a history of SAH-acute setting. DAPT was used pre-operatively in all elective cases but no patient remained under antiplatelets after the procedure. Technical success of 100%. Mean procedure time: 24 min. None related procedure complications were recorded. Immediately angiographic occlusion was evidenced in 9 cases. Radiological Follow up (ranging 1 – 26 months) available in 9/14 showed a WOS adequate occlusion in all cases.

Conclusion In our early experience using WEB device to treat different conditions than bifurcation intracranial aneurysms, the results showed that the endosaccular approach was feasible in highly selected patients, the safety profile in agreement with previous bifurcation experiences, and very effective to treat challenge cases with a high probability of recurrence or therapeutic failure.

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Disclosure Boris Pabon proctorship con MEDTRONIC, Microvention Consultant MIVI

EP22 THE WALLABY AVENIR COIL SYSTEM: INITIAL EXPERIENCE WITH USE OF AVENIR COILS FOR TREATMENT OF INTRACRANIAL ANEURYSMS

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Introduction The Wallaby Avenir coil system is a novel generation of platinum embolic coil system indicated for endovascular embolization of intracranial aneurysms and other

neurovascular abnormalities. The coils come in framing, filling and finishing types in different sizes both in helical and three dimensional shapes. The unique feature of this coil is that it does not need a detacher and can be mechanically detached with fingers once optimal coil position is achieved. This is a new move in technology that has not been recommended for reliable detachment in other pre-existing coil embolization systems.

Aims To assess Wallaby Avenir coil embolization system detachment reliability, summarise intra-procedural outcomes in the treatment of intracranial aneurysms following its introduction in a tertiary centre.

Methods This prospective study reviewed total of 11 patients with 10 intracranial aneurysms and 1 carotico-cavernous fistula between January 2021 and May 2021. 7 acute and 4 elective aneurysms were treated. All patients with intracranial aneurysms treated with Avenir coil system were included in the study.

Results The average age of the cohort was 59.5 years. 85.8% (67/78) coils Avenir coils detached reliably. Good Raymond-Roy occlusion was achieved in 91% (10/11) aneurysms in the immediate post procedural run. There was no mortality or neurological deterioration in the series. There was no intra-procedural aneurysmal rupture from Avenir coils.

Conclusions The Wallaby Avenir coil system have excellent intraprocedural safety profile with no procedure related mortality or morbidity and good postprocedural aneurysm occlusion rates.

Disclosure Nothing to disclose

Brain AVM/AVF, spinal vascular malformations

EP23* ENDOVASCULAR TREATMENT OF ANTERIOR CRANIAL FOSSA FISTULAS: THE SIGNIFICANCE OF RETROGRADE TRANSVENOUS APPROACH

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Materials and Methods Between September 2016 and March 2019 a retrospective review was performed. A total of 9 Patients with DAVF of the anterior cranial fossa managed with embolization through the venous side with Onyx/PHIL were selected.

Results Nine patients were included in this study, patients were between 14 and 79 years old (mean 45.6). Six primarily presented with intracranial hemorrhage. All fistulas were fed by the bilateral ethmoidal arteries arising from the ophthalmic artery and by the anterior branch of the middle meningeal artery. One case with history of type D CCF. The abnormal shunt drained into the superior sagittal sinus with the interposition of the cortical veins in all nine patients. All of the cases had high-grade Cognard classifications (III-IV). 4 (44%) patients had been treated via transarterial embolization (TAE) via the AEA of the OA. All cases were treated via transvenous embolization (TVE), 8 of 9 (88%) were treated with the trans-SSS approach. A complete angiographic cure was achieved in all patients, without postprocedural complications. There were nearly no symptoms among the patients during follow-up.

Conclusion Embolization of DAVF of the anterior cranial fossa via retrograde using a transvenous approach with embolic agents is safe, effective, and a good choice for the management of this rare condition.

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Disclosure Boris Pabon: proctorship con MEDTRONIC, Microvention Consultant MIVI

EP24 ROLE OF CONE-BEAM CT IN THE STUDY OF CEREBRAL AND SPINAL DURAL ARTERIOVENOUS FISTULAS: QUALITATIVE ANALYSIS

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Introduction Dural arteriovenous fistula (DAVF) are a rare vascular pathology with variable symptoms and localizations. Treatment of DAVFs with endovascular treatment and/or microsurgical disconnection requires a precise understanding of the angioarchitecture and anatomic delineation to apply safe and effective treatments.^{1 2}

Aim of the Study This study aims to assess the role of Cone-Beam CT (CBCT) in the endovascular or neurosurgical management of the DAVFs.

Methods In this retrospective study were recruited 20 consecutive patients with DAVFs. All of them underwent 2D digital subtraction angiography (DSA), completed by angio-Cone-Beam-CT (A-CBCT). Data obtained by 2D DSA and A-CBCT were independently and retrospectively reviewed by two expert interventional neuroradiologists.

Results From the comparison between DSA and A-CBCT both the observers assigned higher scores to A-CBCT ($p < 0,001$). A-CBCT demonstrated its superiority especially in identifying the fistula site (observer 1: $p < 0,001$, observer 2: $p = 0,003$) and adjacent anatomic landmarks ($p < 0,0001$). Interobserver agreement between the two readers for the A-CBCTA was good ($\tau = 0,60$, $p = 0,004$), while it was fair for DSA ($\tau = 0,32$, $p = 0,005$). This resulted in fair agreement ($\tau = 0,34$, $p = 0,01$) in the relative A-CBCT efficacy value with no significant difference seen between the two observers ($p = 0,2$).

Conclusions A-CBCTA, in addition to 2D DSA represents a technique that has the potential to improve the anatomic landmarks and localization of DAVFs and therefore treatment planning.

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Disclosure Nothing to disclose

EP25* A RETROSPECTIVE CASE SERIES OF TECTAL ARTERIOVENOUS MALFORMATIONS: CLINICAL CHARACTERISTICS, ANGIOARCHITECTURE DESCRIPTION AND THERAPEUTIC MANAGEMENT

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Introduction Tectal arteriovenous malformations (TAVMs) are rare lesions deeply located close to eloquent structures making them challenging to treat.

Aim of Study To present clinical revealing conditions, angiographic features and treatment strategies of TAVMs through a single center retrospective case series.

Methods TAVMs were defined as a nidus located in the parenchyma or on the pia mater of the posterior midbrain. Records of consecutive patients admitted with TAVMs over a 21-years' period were retrospectively analyzed.

Results Thirteen patients (1.63% of the complete cohort; 10 males), mean age 48 years, were included. All patients presented with intracranial hemorrhage. Two patients (15%) died after an early recurrent bleeding. Mean size of the TAVMs was 10.1 ± 5 mm. Multiple arterial feeders was noted in every cases. Eleven patients underwent an exclusion treatment; 8 via embolization (6 via arterial access and 2 via venous access) and 4 via stereotactic radiosurgery (SRS) (1 patient received both). Overall success treatment rate was 7/11 patients (64% overall; 63% in the embolization group, 25% in the SRS group). Two hemorrhagic events lead to a worsened outcome, one during embolization and one several years after SRS. All other patients remained clinically stable or improved.

Conclusion TAVMs are rare but stereotypic lesions found in a hemorrhagic context. Multiple arterial feeders are always present. Endovascular therapy seems to be an effective technic with relatively low morbidity; SRS had a low success rate but was only use in a limited number of patients.

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Disclosure Nothing to disclose

EP26* RADIONECROSIS AS A CONSEQUENCE OF CUMULATIVE EFFECT OF ENDOVASCULAR AND RADIOSURGICAL TREATMENTS FOR INTRACRANIAL AVMS

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The aim of the study is to investigate the late occurrence of cerebral radiation necrosis after Radiosurgery for intracranial