anatomical relationship to falx and the deep neurovascular structures make them amenable for being approached via a posterior interhemispheric (PIH) approach. We present the case of a ruptured Spetzler-Martin grade III, Spetzler-Ponce B mesial occipital AVM in a 49 year old male patient who presented to our institution. The patient had a small AVM nidus centered medial to the calcar avis of the left lateral ventricle who presented with hemorrhage within the splenium of the corpus callosum. The arterial supply to the AVM was from branches of the posterior cerebral artery and drainage was through a single vein to the vein of Galen. Given the patients young age, favorable AVM angioarchitecture and grading, multimodality treatment was indicated. He underwent preoperative onyx embolization prior to surgery. The AVM nidus had limited lateral extension, therefore we chose an ipsilateral PIH approach for resection. The ipsilateral approach allowed excellent exposure of the AVM nidus and draining vein without putting the uninvolved hemisphere at risk. Post operative cerebral angiography confirmed complete resection of the AVM. Understanding the angioarchitecture regarding the size of the nidus, the presence of AVM hemorrhage, and the degree of lateral extension can aid in deciding optimal patient positioning for this approach. Informed consent was obtained from the patient for the procedure and publication of his imaging.

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E-083 TRANSRADIAL VERSUS TRANSFEMORAL ACCESS FOR INTRAOPERATIVE CEREBRAL ANGIOGRAPHY: PROCEDURAL TIMES, TECHNICAL SUCCESS AND COMPLICATIONS

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Background The transfemoral access (TFA) represents the traditional route for diagnostic cerebral angiography (DCA). Over the last decade, the transradial access (TRA) has been demonstrated as a safe and effective alternative to the TFA for DCAs and neuroendovascular procedures. Intraoperative cerebral angiography (IOA) is a useful adjunct in open cerebrovascular surgery. It mostly differs from a standard DCA in a non-neutrally positioned body with the head fixed in a skull-clamp, and impaired maneuverability and fluoroscopy due to the surgical setup. The effectivenss of both access routes for IOA require further characterization.

Methods All DCAs performed as a diagnostic adjunct in surgically positioned patients undergoing open cerebrovascular surgery in a hybrid room by dual-trained neurosurgeons were considered as IOA. Between 07/2020 and 03/2023, 133/2462 DCAs met inclusion criteria for IOA. After TFA and TRA access, a sheath angiogram was performed. Sheath-run-time to primary target-vessel-run-time (STT in minutes), amount of contrast dye (CD in milliliters), and fluoroscopy-time (FT in minutes) were analyzed. Comparisons were performed between TRA and TFA groups. Technically challenging catherizations (TCC) were defined by anatomical characteristics such as aortic arch type and supraaortic arterial tortuosity in conjunction with access site and target vessel.

Results A total of 133 patients were included. One case required transitioning from TRA to TFA (1/51, 2.0%) due to a minute radial vasculature. Eventually, the TRA (n=50) and TFA (n=83) were used for IOA. The TRA compared to the TFA was associated with a trend towards longer STT (6 mins, IQR 5-7, vs. 5 mins, IQR 3-7, p=0.067), less CD (40 ml, IQR 36 - 56, vs. 44 ml, IQR 36-56, p=0.034) and similar FT (4.0 mins, IQR 3.3-5.8, vs 4.0 mins, IQR 2.8-5.7, p=0.278). Technically challenging catheterizations (TCC) were encountered in 5/50 (10.0%) of TRA and 7/83 (8.4%) of TFA cases. Overall., TCC were associated with significantly longer STT (p=0.015), more CD (p=0.045) and longer FT (p=0.004). In the TFA group, there were no differences for STT (p=0.522), CD (p=0.385) and FT (p=0.182) among technically challenging catherizations. However, in the TRA group, TCC were associated with significantly longer STT (p<0.001), significantly more CD (p=0.036) and significantly longer FT (p=0.003). One groin hematoma (1/83, 1.2%) was observed in the TFA group. No other access-site related complications were encountered.

Conclusions In the setting of distinct anatomical features, the TRA appears to be more challenging than the TFA. Still, the TRA and TFA represent equally effective and safe routes for IOA. Tailoring the IOA access to the patient´s individual anatomy and the surgeon´s need facilitates short IOA times.

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E-084 ENDOVASCULAR TREATMENT OF CAVERNOUS SINUS DURAL ARTERIOVENOUS FISTULA: A SINGLE CENTER EXPERIENCE

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Introduction The cavernous sinus dural arteriovenous fistula (CS-DAVF) is a vascular condition that is a result of an unusual connection between the carotid artery branches and the cavernous sinus. This condition could be the result of trauma, infection, or other medical problems. In the case that conservative therapy fails or patients need emergency intervention, endovascular treatment (EVT) has been proposed as a main option for the treatment of these patients. In this study, we aimed to investigate the outcomes of the patients who underwent EVT for CS-DAVF.

Materials and Methods To gather information on patient demographics, symptoms, clinical and imaging characteristics, as well as the type of EVT and their outcomes after EVT, we recruited records of patients of our center from 2007. We used descriptive analyses to assess the characteristics of the included cases. Besides, inferential statistics were used to develop univariate and multivariate logistic regression models to identify factors linked to procedural success and symptom resolution at the follow-up.

Results Overall, 59 patients with a mean age of 64.37 years, a female-to-male ratio of 2.71, and a mean follow-up time of

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42.64 months were included. Chemosis, ptosis, and diplopia were the most frequent symptoms, and most of the patients were classified as Barrow classification type D based on angiographic features (30/58). In terms of EVT, most of the patients (54/59) underwent transvenous embolization, and liquids (Onyx 34 and 18) were the most frequent materials that were used for embolization (55/59). Also, in 34 cases, additional coiling was performed. Overall, the procedural success rate was 84% (50 out of 59), and a complete resolution of symptoms was observed in 46 cases at the follow-up, with the occurrence of eight complications overall (13.5%), including two strokes, two alopecia, one seizure, one cranial nerve palsy, one diplopia and one worsening of symptom events. Multiple logistic regression showed that the use of Onyx 34 was associated with procedural success.

Conclusion Our results showed that EVT might be a safe and effective option for the treatment of patients with CS-DAVF. Also, the results showed that the application of Onyx 34 might associate with the procedural success rate.

Disclosures A. Mowla: 2; C; Cerenovus, Stryker, Wallaby Medical, RapidAI , BALT USA,LLC.. 3; C; Cerenovus, Stryker, Wallaby Medical, RapidAI , BALT USA,LLC.. **S. Abdollahifard:** None. **M. Nakayama:** None. **E. Taherifard:** None. **A. Takayanagi:** None. **F. Liang:** None. **V. Szeder:** None. **S. Tateshima:** None. **M. Nour:** None. **G. Colby:** None. **R. Jahan:** None. **F. Vinuela:** None. **G. Duckwiler:** None. **N. Kaneko:** None.

E-085 THE SCEPTER MINI CATHETER ALLOWS FOR IMPROVED PENETRATION OF FINE VASCULAR NETWORKS AND FACILITATES CURATIVE EMBOLIZATION IN VEIN OF GALEN MALFORMATIONS

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Introduction Patients with Vein of Galen malformations (VOGM) can develop significant angiogenesis leading to hemodynamic and structural remodeling. This results in an extensive fine angiogenic network with fistulous connections to the vein of Galen. In patients with angiogenic networks, transarterial embolization (TAE) with liquid embolic agents (LEA) is challenging due to poor penetration and access, while transvenous approaches carry a risk of hemorrhage from pathologic vasculature. Dual-lumen balloon microcatheters such as the Scepter Mini (Microvention, Aliso Viejo, CA) improve navigability and distal pedicle access in small vessels. Here, we report on the novel use of the Scepter Mini for TAE of angiogenic VOGM.

Methods A single-institution retrospective chart review identified all patients with VOGM treated with Scepter Mini balloon microcatheters. Clinical data, angioarchitecture pre-embolization and post-embolization, and technical parameters including complications and embolization success were reviewed.

Results 17 Scepter Mini catheters were used in 12 embolizations of seven patients with VOGM. The median patient age at embolization was 2.10 years old. Patients presented with hydrocephalus (n=7, 100%) and gross motor and speech delays (n=4, 57.14%). Anatomically, fine vascular networks developed extra-axially into the subependymal zone from the posterior choroidal, posterior cerebral, and thalamoperforator arteries. Distal access to the network and VOGM was most commonly achieved within posterior choroidal branches (n=5/17, 29.41%). Successful embolization with Onyx-18 was achieved in 17/17 (100%) uses with all patients angiographically demonstrating significant network penetration. Near tip entrapment of the Scepter Mini with concurrent significant LEA cast displacement on removal occurred in 1/17 uses. One patient experienced postprocedural intraventricular hemorrhage requiring third ventriculostomy without permanent neurologic deficit.

Conclusions The Scepter Mini provided excellent distal access with penetration to the fistula and subsequent extra-axial network reduction with few complications. The Scepter Mini provides a means for successful treatment of angiogenic VOGM who present early and symptomatically, facilitating curative embolization.

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E-086 THE EFFECT OF COVID-19 VACCINES ON STROKE OUTCOMES: A SINGLE-CENTER STUDY

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Background One of the defining narratives of the COVID-19 pandemic has been the acceptance and distribution of vaccine.

Objective Compare the outcomes of COVID-19 positive vaccinated and unvaccinated stroke patients.

Methods This is a single-center retrospective study of COVID-19-vaccinated and unvaccinated stroke patients between April 2020 and March 2022. All patients presenting with stroke regardless of treatment modalities were included. NIHSS was used to assess stroke severity. The primary outcome was functional capacity of the patients at discharge.

Results The study cohort comprised 203 COVID-19 positive stroke patients divided into 139 unvaccinated and 64 fully vaccinated patients. At discharge, the mRS score was significantly lower in the vaccinated cohort (3[1-4] vs 4[2-5], OR=0.508, p=0.011). At 3 months of follow-up, the median mRS score was comparable between both cohorts.

Conclusion Although vaccination did not show any significant difference in stroke patient outcomes on follow-up, vaccines were associated with lower rates of morbidity and mortality at discharge among stroke patients during the pandemic.

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