

Abstract P081 Table 1

Unadjusted multivariate Prediction model for Vasospasm			
	Odds Ratio	[95% Conf. Interval]	p
Age	0.97	0.96 - 0.98	< 0.001
Female Sex	0.69	0.51 - 0.94	0.019
Hunt & Hess scale	1.17	1.04 - 1.31	0.007
GCS	0.97	0.95 - 1.00	0.067
WFNS	1.08	0.99 - 1.17	0.087
Fisher	1.33	1.00 - 1.78	0.050
BNI	1.22	1.04 - 1.43	0.015
IVH	1.02	0.76 - 1.35	0.908
ICH	1.48	1.07 - 2.05	0.019
Surgical Clipping	1.52	1.14 - 2.04	0.004
Craniectomy	2.44	1.65 - 3.59	< 0.001
EVD	1.88	1.37 - 2.57	< 0.001

Note. — GCS = Glasgow coma scale. WFNS = World Federation of Neurological Surgeons Grading. mFisher = modified Fisher Scale. Barrow Neurological Institute Grading Scale (BNI) BNI = IVH = Intraventricular hemorrhage. ICH = Intracerebral hemorrhage. EVD = External ventricular drainage.

occlusion. CVS was defined as a blood flow velocity of >200 cm/s in large intracranial arteries or the occurrence of secondary neurological deficits without competing causes. Cohort differences were included as predictors in a multivariate analysis to address confounding. Logistic regression models were used to determine odds ratios (OR) for the presence of CVS for each predictor.

Results 32% developed CVS. CVS was associated with age, female sex, aneurysm location, mFisher score, Barrow Neurological Institute (BNI) score, and surgical interventions in univariate analysis. Multivariable regression analysis identified BNI score (OR: 1.33, $p = 0.002$), decompressive craniectomy (OR: 1.93, $p = 0.005$), and aneurysm clipping (OR: 2.22, $p < 0.001$), as only independent risk factors after correction for age, sex, aneurysm site, and clinical severity.

Conclusion Young patient age, female sex, high BNI scores, and surgical interventions are associated with an increased likelihood of developing CVS after SAH.

Disclosure of Interest no.

P082 HEMODYNAMIC ANALYSIS OF PCOM ANEURYSMS – FLOW CHANGE DEPENDING ON ANATOMICAL VARIATION

^{1,2}Roland Schwab, ^{2,3}Janneck Stahl, ¹Rebecca Janiszewski, ^{2,4}Philipp Berg, ^{1,2}Daniel Behme.
¹University Clinic for Neuroradiology, University Hospital Magdeburg, Magdeburg, Germany;
²Research Campus STIMULATE, University of Magdeburg, Magdeburg, Germany;
³Department of Fluid Dynamics and Technical Flows, University of Magdeburg, Magdeburg, Germany;
⁴Department of Medical Engineering, University of Magdeburg, Magdeburg, Germany

10.1136/jnis-2024-ESMINT.118

Introduction The flow characteristics of bifurcation aneurysms of the posterior communicating artery (PCOM) have rarely been studied. Especially in the presence of a fetal posterior circulation (FPC), the likelihood of complete PCOM aneurysm occlusion after endovascular treatment is reduced. Due to this, PCOM aneurysms in anatomical variations of the posterior circulation represent a major challenge.[1]

Aim of Study Investigating variations in fetal and non-fetal configurations and its hemodynamic impact on PCOM aneurysms.

Methods 3D-DSA data of 18 patients harboring bifurcation aneurysms at the PCOM are collected. 11 patients demonstrate a FPC and 7 patients a non-FPC. Patient-specific 3D models containing at least one bifurcation distal the aneurysm in the anterior circulation as well as the PCOM itself are extracted. Using image-based blood flow simulations, hemodynamics of all aneurysm models are calculated. The outflow of the PCOM is artificially varied representing fetal and non-fetal conditions for every model.

Results PCOM aneurysms generally exhibit a lower wall shear stress on the aneurysm wall compared to the surrounding parent vessels. Due to the increase of the PCOM outflow, indicating a fetal state, higher local wall shear stresses are detected at the distal aneurysm side. Furthermore, fetal configurations show higher velocities in the PCOM itself as well as a slightly higher flow distribution in the aneurysm sac.

Conclusion The presence of posterior anatomical variations affects the hemodynamic parameters of PCOM bifurcation aneurysms. In particular, the presence of an FPC has an unfavourable effect on the intraaneurysmal flow dynamics.

Disclosure of Interest no.

P083

ANEURYSM WALL ENHANCEMENT AND RADIOMIC FEATURES COULD HELP IDENTIFYING THE SYMPTOMATIC ANEURYSM IN PATIENTS WITH MULTIPLE INTRACRANIAL ANEURYSMS

Andres Gudino, Elena Sagues Sese, Carlos Dier Melo, Navami Shenoy, Connor Aamot, Rodrigo Jaramillo, Daniela Molina, Edgar Samaniego. *University of Iowa, Iowa City, USA*

10.1136/jnis-2024-ESMINT.119

Introduction Identifying the symptomatic aneurysm in patients with multiple intracranial aneurysms (MIAs) can be challenging. Aneurysm wall enhancement (AWE) is a potential tool for assessing intracranial aneurysms (IAs).¹ Radiomic features (RFs) offers detailed voxel-imaging analysis.² AWE and RFs can offer a novel approach in the assessment of symptomatic aneurysms in patients with MIAs.

Aim of Study Analyze AWE and RFs of symptomatic aneurysms in patients with MIAs.

Methods Patients with MIAs underwent high resolution 3T MRI. Manual segmentations of the aneurysm wall were created using 3D Slicer. RFs were extracted using an add-in. A previously described pipeline was employed to quantify the signal intensity (SI) of the aneurysm wall.³ The mean SI after gadolinium administration was computed and defined as three dimensional-circumferential AWE (3D-CAWE). Aneurysms with a 3D-CAWE higher than the mean SI of the corpus callosum post gadolinium were classified as positive. Student's t test and logistic regression were conducted for the statistical analysis.

Results Twenty patients with MIAs and a total of 47 saccular aneurysms were included. 7 aneurysms were symptomatic and 40 were asymptomatic. 130 RFs were extracted. 3D-CAWE was different between symptomatic and asymptomatic aneurysms ($p < 0.05$). 3D-CAWE positive IAs were more likely to be symptomatic (OR= 23.75, $p=0.04$). Three RFs were different ($p < 0.05$) between symptomatic and asymptomatic IAs.

Conclusion 3D-CAWE and radiomics analysis could help identify the symptomatic aneurysm in patients with MIAs.

P084

ANTERIOR COMPLEX ANEURYSM TREATED WITH LOW-PROFILE FLOW DIVERTER STENT AND 'KISSING' TECHNIQUE

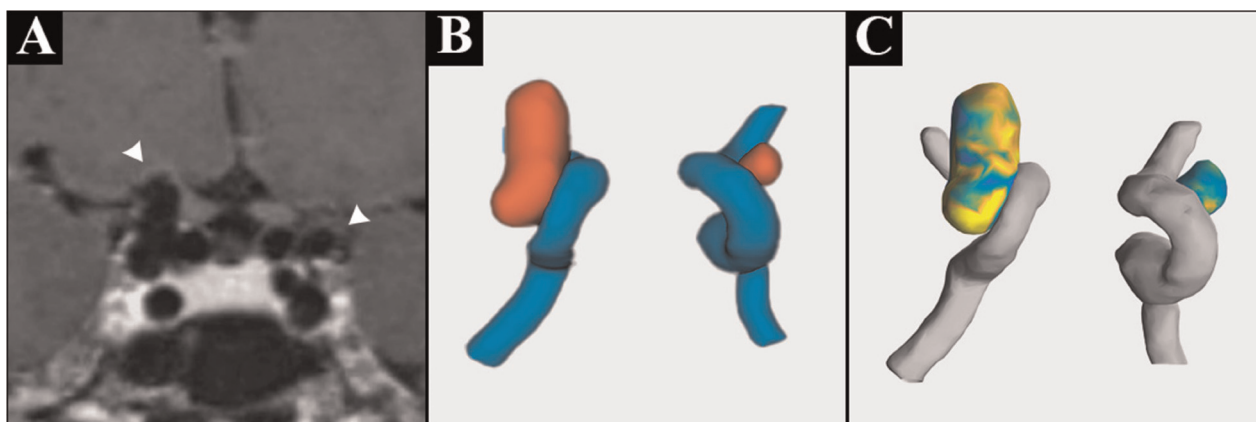
Vladimir Gavrilovic, Annarita Dapoto, Massimo Sponza. *Friuli Centrale, Udine, Italy*

10.1136/jnis-2024-ESMINT.120

Introduction To successfully treat some complex wide-neck bifurcation aneurysms by using a single-stent technique is a challenge. Although kissing-balloon-assisted coiling has been attempted, this technique is almost impossible for treating extremely wide-neck bifurcation aneurysms. In some complex bifurcation aneurysms, especially those in which the base of the aneurysm directly involves both bifurcation branches, a better option may be preserving both branches by using the kissing-stent technique.

Aim of Study The purpose of this study is to evaluate the efficacy and safety of the kissing-stent technique and to report our experiences based on 8 cases.

Methods A retrospective review was conducted for all patients who underwent endovascular treatment of aneurysms in our department between January 2020 and December 2023 to



Abstract P083 Figure 1 Pipeline of AWE extraction. A) 3T MRI showing aneurysms in the left and right internal carotid artery. B) 3D Slicer segmentation. C) AWE heat-map generated