fistulas without additional embolization can be enough to reduce a fistula significantly.

**P44 ENDOVASCULAR TREATMENT OF BRAIN ARTERIOVENOUS MALFORMATIONS USING PRECIPITATING HYDROPHOBIC INJECTABLE LIQUID (PHIL)**

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Introduction Application of liquid embolic agents (LEAs) is a method of choice for endovascular treatment of cerebral arteriovenous malformations (AVMs). Nonadhesive agents (Onyx®-Medtronic, USA; Squid®Balt, France) are preferred. Thanks to the precipitating hydrophobic injectable liquid (Phil®-Microvention, USA) and its several advantages has been popular endovascular solution.

Materials and methods We have treated 787 patients with cerebral AVMs. 415 (52.9%) of patients were treated using only the PHIL agent, in 29 (70.7%) the treatment was finalized and 12 (29.3%) have further treatment. The results of 29 patients are considered in this paper.

Results Radical occlusion was achieved in 17 (58.6%) patients. A one-stage procedure was performed in 14 (48.3%) patients, a two-stage in 3 (10.3%) of them. Subtotal thrombosis was achieved in 7 (24.1%) patients and later were surgically removed. 5 (17.2%) patients underwent radiosurgical treatment after subtotal occlusion. A perioperative hemorrhage was registered in 1 patient. Sufficient ischemic complications were observed in 1 patient. The clinical outcomes corresponded to mRS 0–1 (96.6%). A rough neurological deficit in the postoperative period was noted in 1 patient (3.4%). In the series were no cases of mortality.

Conclusion Using PHIL as the only LEA during endovascular treatment of AVMs enables one to obtain good angiographic and clinical results. Application of this agent provides high primary radicality and reduces number of endovascular stages to achieve expected occlusion, which significantly decreases complication risks and radiation exposure. Considering there are no big observation series and multicenter studies for this agent, it requires further research.

REFERENCES


Do you have any conflict of interest to declare?: No

**P45 BOW HUNTER’S SYNDROME DUE TO KIMMERLE ANOMALY: A RARE CAUSE OF TRANSIENT VERTEBROBASILAR INSUFFICIENCY DIAGNOSED WITH PROVOCATIVE DSA**

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Background Rotational occlusion of the vertebral artery known as Bow hunter’s syndrome (BHS) is a rare cause of transient vertebrobasilar insufficiency symptoms. The underlying pathology is dynamic stenosis or compression of the VA by abnormal bony structures with neck rotation or extension in many cases, such as osteophyte, disc herniation, cervical spondylosis, tendinous bands or tumours. Complete or incomplete ossification of the posterior atlantooccipital membrane forming a bony ridge between the supoposterior lateral mass of the atlas and its posterior arch is called the Kimmerle anomaly. To our knowledge, this is the first reported case of BHS caused by the Kimmerle anomaly proved with provocative DSA and CT scan for a patient with long-standing transient vertebrobasilar insufficiency on vestibular sedatives.

Objective To report a rare case of a fifty-one-year-old driver who presented with transient giddiness only on reversing his car with rightward head rotation diagnosed with provocative digital subtraction angiography (DSA).

Materials and methods Clinical history and unique advanced imaging findings are reported.

Results Provocative DSA revealed dynamic stenosis of the left vertebral artery at C1 vertebral level. CT angiogram revealed ponticulus posticus or Kimmerle anomaly occurring due to calcification of the posterior atlanto-occipital (PAO) membrane and treatments with surgical correction were advised. A high index of clinical suspicion helps in prompt diagnosis of BHS in patients with transient vertebrobasilar insufficiency.

Conclusion This case highlights the importance of provocative DSA in making the definitive diagnosis of BHS and also reports its causal association with calcified PAO membrane or Kimmerle anomaly.

REFERENCES


Do you have any conflict of interest to declare?: No

**P46 HOW MUCH OF THE IMPROVEMENT IN FUNCTIONAL OUTCOME AFTER SUCCESSFUL REANALYSIS IS EXPLAINED BY FOLLOW-UP INFARCT VOLUME REDUCTION?**

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Do you have any conflict of interest to declare?: No
Introduction Mechanical thrombectomy (MT) has been shown to improve functional outcome in patients with anterior circulation stroke. However, previous works suggest only limited explanatory effect of infarct volume reduction on outcome in patients undergoing MT vs. standard medical care.

Aim of the study
The amount of improvement of functional outcome explained by follow-up infarct volume reduction after successful recanalization has not been investigated in detail. Results might allow quantification of pathophysiological effects and could improve the understanding of the value of follow-up infarct volume as imaging endpoint in clinical trials.

Methods All patients from our institution enrolled in the German Stroke Registry from 05/2015 to 12/2019 with anterior circulation stroke, availability of the relevant clinical data and follow-up CT (12h-2 weeks) were analyzed. A mediation analysis was conducted to investigate the effect of successful recanalization (TICI≥2b) on good functional outcome (90d mRS<2) with mediation through follow-up infarct volume.

Results 429 patients were included. Multivariate regression confirms significant association of successful recanalization with lower follow-up infarct volume and better functional outcome. Results of the mediation analysis suggest a 23 percentage points (pp) increase of probability of good function outcome (95%CI: 16pp-29pp) in patients with successful recanalization. 57% (95%CI: 38%-79%) of the treatment effect was explained by follow-up volume reduction.

Conclusions 57% of the improvement of functional outcome after successful recanalization is explained by follow-up infarct volume reduction. Results reflect established pathophysiological assumptions and confirm the value of infarct volume as imaging endpoint in clinical trials.

REFERENCES

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P47 OPTIMAL PARAMETER FOR PREDICTING FINAL INFARCT VOLUME AND OUTCOME AFTER COMPLETE RECANALIZATION OF MEDIUM VESSEL STROKE
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Introduction and Aim of Study We sought to assess the optimal parameter and best threshold on baseline computed-tomography-perfusion (CTP) to predict final-infarct-volume, infarct progression and clinical outcome after successful endovascular recanalization of acute ischemic stroke (AIS) with primary distal, medium vessel occlusions (DMVO).

Methods We performed a retrospective analysis of consecutive AIS patients who underwent an initial CTP, were successfully thrombectomized for DMVO and underwent a follow-up MRI. We evaluated the correlation of baseline infarct and Tmax volumes with final-infarct-volume and infarct progression between CTP and follow-up MRI, as well as 3 months good clinical outcome (modified Rankin Scale score of 0 to 2).

Results Between January 2018 and January 2021, 38 patients met inclusion criteria (76% [29/38] female, median age 75 [66–86] years). Median final-infarct-volume and infarct progression were respectively 8.4 mL [IQR: 5.2–44.4] and 7.2 mL [IQR: 4.3–29.1].

TMax>10sec volume had the strongest correlation with final-infarct-volume and infarct progression (respectively, r=0.831 and r=0.771, p<0.0001) as well as good clinical outcome (-0.5, p=0.001).

Higher baseline Tmax>10sec volumes increased the probability of higher final-infarct-volume and infarct progression (respectively, r²=0.690, coefficient=0.83 [0.64–1.00], p<0.0001 and r²=0.595, coefficient=0.77 [0.56–0.98], p<0.0001), whereas it decreased the probability of 3 months good clinical outcome (ODDs ratio = -0.67 [-1.17 to -0.18], p=0.008).

ROC curves identified a Tmax>10sec volume <33mL as the optimal threshold to predict a low final-infarct-volume (AUC=0.802), low infarct progression (AUC=0.735) and good clinical outcome (AUC=0.786).

Conclusion Tmax>10sec volume on baseline CTP predicts final-infarct-volume and progression as well as clinical outcome after MT recanlization for AIS with DMVO.

REFERENCES

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