Conclusion Quantitative analysis of blood volume in aSAH provides a tool for prediction of cerebral vasospasm, DCI and clinical outcome that may have a higher performance and improved accuracy when compared to grading systems used in current practice.

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E-153 THE VALUE OF REPEATED DIGITAL SUBTRACTION ANGIOGRAPHY IN PATIENTS WITH INITIAL ANGIOGRAM-NEGATIVE PERIMESENCEPHALIC SUBARACHNOID HEMORRHAGE

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Objective In approximately 15% of patients admitted with subarachnoid hemorrhage (SAH) with a perimesencephalic blood distribution, digital subtraction angiography (DSA) fails to reveal a source of hemorrhage. These perimesencephalic non-aneurysmal hemorrhages usually have a benign clinical course and a significantly better prognosis than aneurysmal SAH. Recent studies hypothesized that repeated angiograms in this subset of patients does not add any valuable information. In the present study, we aimed to evaluate the value of repeated DSAs and complications in patients with perimesencephalic subarachnoid hemorrhage.

Methods We retrospectively reviewed the medical records of 73 patients with perimesencephalic subarachnoid hemorrhage and a negative initial angiogram admitted to our institution between 1998 and 2018. Findings of initial CT scans, DSAs as well as subsequent imaging including CT angiograms (CTA) and MR angiograms (MRA) were analyzed for significant findings as well as procedure-related complications.

Results All patients initially received a cranial CT scan followed by at least one DSA. In 41 (56%) patients, DSA was repeated at least once and in 43 (59%) patients a CTA was performed prior to the initial DSA. One patient (1.4%) showed clinical deterioration and a recurrent hemorrhage on a

follow-up CT scan. The subsequent DSA revealed a basilar artery dissection that was not identified on the initial DSA. Five (6.8%) patients showed embolic strokes post DSA, requiring a decompressive suboccipital craniectomy in one (1.4%) patient.

Conclusion In the majority of our patient population, repeated DSA did not add any clinically relevant information. However, if clinical deterioration with recurrent hemorrhage becomes apparent a repeated DSA may be indicated. Additionally, our findings show that DSA is an invasive procedure with potentially severe complications. Careful consideration is therefore necessary before indicating repeated DSAs.

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E-154 INTERNAL CAROTID ARTERY INJURY DURING ENDOSCOPIC TRANSNASAL TRANSSPHENOIDAL SURGERY: A RETROSPECTIVE REVIEW

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Introduction Internal carotid artery injury is a rare and severe intraoperative catastrophe. Endovascular treatment is the key to secure hemostasis. We aim to review our institutional results and learn from the experience.

Method We retrospectively reviewed all the patients undergoing neuro-endovascular intervention for the diagnosis of internal carotid artery injury during endoscopic transnasal transsphenoidal surgery between 2015 and 2019 in our institution.

Results We identified 4 patients with torrential intraoperative hemorrhage during endoscopic transnasal transsphenoidal surgery requiring urgent catheter angiography. Three had diffuse subarachnoid hemorrhage and one had sole sellar hemorrhage. Diagnoses were pituitary macroadenoma in 3 patients and mycosis in 1 patient. One aneurysm was embolized with coils and 2 patients were treated with main trunk occlusion together with the pseudoaneurysms. These 3 patients achieved favorable functional outcome upon discharge or after