demonstrates PRx vs. Time (days) for patients with SAH and vasospasm.

Conclusion Cerebral autoregulation as measured by PRx may represent a viable target and prove helpful for neuroprognostication by evaluating whether patients with SAH develop DCI after suffering from severe vasospasm. Further studies evaluating the role of cerebral autoregulation and PRx and its pathophysiological role in DCI are warranted.


E-121 A PSEUDOANEURYSM ON A DURAL-PIAL ANASTOMOSIS TWELVE YEARS AFTER DECOMPRESSION FOR CHIARI MALFORMATION

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Introduction Foramen magnum decompression (FMD) is a well-established treatment option for patients with symptomatic Chiari malformation type I (CM-I). We describe a patient with CM-I, who presented with subarachnoid hemorrhage (SAH) and a pseudoaneurysm (PA) on a dural-pial anastomosis in the posterior fossa supplied by the occipital artery. Aneurysms on dural-pial anastomoses with meningeal artery collateralization are rare lesions encountered in steno-occlusive atherosclerotic and moyamoya disease. We suggest that injury to posterior inferior cerebellar artery (PICA) territory following neurosurgery may have led to development of a dural-pial anastomosis. Hemodynamic stress on the anastomosis possibly caused delayed PA formation.

Clinical Presentation A 52-year old woman with a history of CM-I, syringomyelia and chronic headache presented with thunderclap headache associated with nausea and photophobia. A non-contrast brain CT showed a SAH in the right prepyramidal fissure (figure 1A). CT angiography showed a small outpouching near the edge of the craniectomy. Digital subtraction angiography of the occipital artery revealed a PA (figure 1B, arrow) on the distal transmastoid branch (figure 1B, small arrow) followed by a parenchymal blush of the right posteroinferior cerebellar hemisphere (figure 1B, insert). On 3D-DSA, the PA arose from a dural-pial anastomosis between the transmastoid branch and a distal PICA branch.

Results Endovascular treatment was performed under general anesthesia with a transfemoral access. A triaxial system was navigated into the right occipital artery. Superselective catheterization of the transmastoid branch was performed and the microcatheter tip was placed near the PA (figure 2A-B). Injection of 0.2 cc of 25% precipitating hydrophobic injectable liquid (PHIL™, Microvention) completely occluded the PA. The patient developed no new neurological deficits and had an uneventful postoperative course.

Conclusion We report a rare case of a subarachnoid hemorrhage due to a pseudoaneurysm formation on a dural-pial anastomosis in a patient with previous FMD. Atypical subarachnoid hemorrhage near the site of previous neurosurgery should raise the suspicion of rupture of an iatrogenic aneurysm. Such lesion can be very small and thus easily overlooked on CT angiography. Therefore, high-resolution DSA and 3D-DSA may provide diagnostic clues. In addition to standard 4-vessel angiography, selective external carotid artery injections are helpful to visualize abnormal vascular anatomy such as rare dural-pial anastomoses that may carry a ruptured aneurysm. We suggest that injury to the distal PICA territory led to formation of a dural-pial anastomosis. Hemodynamic stress possibly caused delayed pseudoaneurysm formation and subarachnoid hemorrhage twelve years after surgical trauma.


E-122 ENDOVASCULAR EMBOLIZATION OF PENETRATING VESSEL INJURY USING N-BUTYL CYANOACRYLATE

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Introduction/Purpose There is limited evidence on the use of N-butyl cyanoacrylate (NBCA) in endovascular embolization of penetrating intracranial and extracranial vessel injuries. We