

1.2. Brain AVM/AVF, spinal vascular malformations

P085 OUTCOME OF EARLY VERSUS LATE EMBOLIZATION IN RUPTURED BRAIN ARTERIOVENOUS MALFORMATIONS

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Introduction Substantial evidence of the benefit of early embolization of ruptured brain arteriovenous malformations (rBAVM) regarding rebleeding is lacking.

Aim of Study to determine whether patients with a rBAVM benefit from an early embolization.

Methods rBAVMs treated first by embolization between March 2002 and May 2022 were included. Embolization was defined early (group 1) when performed within 10 days post bleeding. If done later, embolization was considered delayed (group 2). Demographic and rBAVM data were compared. High-risk bleeding components and reasons for deferring embolization were noted. Primary endpoint was rebleeding. Secondary endpoints were good functional outcome (FO, modified Rankin Scale mRS ≤ 2) and angiographic occlusion rate. Predictors of rebleeding and FO were determined by multivariate analysis.

Results 105 patients were recruited (N=34 in group 1 and N=71 in group 2). No rebleeding was noted before, during or after the first embolization session in the early embolization group. Late embolization depended on missed diagnosis on angiography and referral pattern. Eleven patients (10.5%) suffered a rebleeding, of whom N=3 before embolization (group 2), N=5 peri-embolization (N=2 at the 2nd embolization session in group 1) and N=3 spontaneously more than 30 days post-embolization. More high-risk components were embolized in group 1 (19/34; 55.9% versus 17/71; 23.9%; P=0.011). Rebleeding rates, FO at last FU (90.9%; 74.3%) and occlusion rates (80.8%; 88.5%) did not differ between the groups. Glasgow coma scale ≤ 8 predicted re-bleeding, rebleeding poor FO. **Conclusion** Early embolization did prevent rebleeding but did not reduce the rebleeding risk linked to following embolizations. Rebleeding predicted final FO.

Disclosure of Interest no.

P086 UTILITY OF 3D CONE BEAM CT IN THE MANAGEMENT OF SPINAL VASCULAR MALFORMATIONS

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Introduction The spatial understanding of spinal vascular malformations is traditionally based on high-resolution 2D DSA. 3D CBCT has the potential to further elucidate the pathophysiological anatomy of spinal vascular malformations, which is a prerequisite for targeted interventional or surgical therapy.

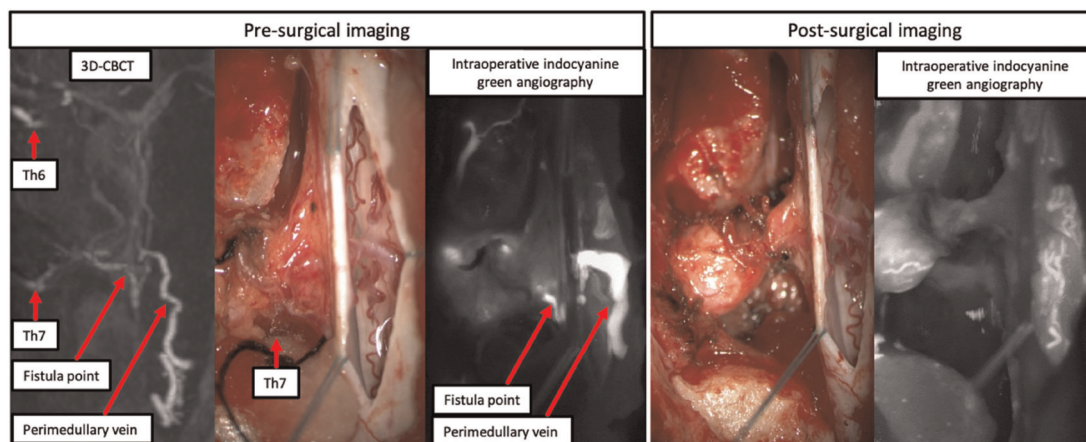
Aim of Study To investigate the added diagnostic value of 3D CBCT in spinal vascular malformations.

Methods Between 2019 and 2024, 10 patients with spinal vascular malformations underwent 3D CBCT as part of spinal DSA. CBCT findings were correlated with high-resolution intraoperative microscopic images including ICG video angiography.

Results Nine patients with spinal dAVFs and 1 patient with spinal AVM were investigated. In all patients, CBCT led to a more comprehensive understanding of the lesion anatomy and its relationship to the healthy vascular system. The studies were correlated with intraoperative findings in 9/10 patients (pending treatment in 1 patient). Successful occlusion of the lesions was confirmed in 8/9 patients (1 lost on F/U).

Conclusion The use of CBCT in spinal vascular malformations yields new insights into normal and pathologic anatomy. It provides superior visualization of the fistula and its relationship with spinal cord vessels, which is a prerequisite for targeted endovascular or surgical treatment.

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Abstract P086 Figure 1 Exemplary Case: Spinal dural arteriovenous fistula in 69-year-old female, a fistula point was preoperatively visualized at the Th7 level with dominant arterial supply via the left Th7 segmental artery. Collaterals to the fistula from the left Th6 segmental artery were visualized as well as an outlet of the left Th6 radiculomedullary artery. Corresponding intraoperative image confirmed the fistula point at Th7 level and showed immediate collapse of the draining perimedullary vein after closure of the fistula