Conclusion Because the success and safety of AVM treatment is a matter of hemodynamic balance until the draining veins are occluded by the embolization material, virtual AVM embolization is a powerful tool to simulate and explore the hemodynamic changes that occur at different embolization steps prior to AVM treatment.


E-144 THE PRESENCE OF CEREBRAL EDEMA IN ADDITION TO RETROGRADE LEPTOMENINGEAL VENOUS DRAINAGE IN CRANIAL DURAL ARTERIOVENOUS FISTULAS IS AN INDICATOR OF CLINICAL SEVERITY

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Purpose Retrograde leptomeningeal venous drainage (RLVD) in dural arteriovenous fistulas (DAVs) is associated with intracerebral hemorrhage and nonhemorrhagic neurological deficits or death. Although angiographic evidence of RLVD is a definite indication for treatment, the addition of venous congestion to RLVD may cause severe clinical symptoms. In this study, we assessed parenchymal cerebral blood volume (PBV) to evaluate whether the presence of cerebral edema in addition to RLVD predicts the clinical severity in DAVFs.

Methods We retrospectively identified 53 patients who had angiographic evidence of RLVD and received treatment. The presence of cerebral edema was defined as cortical hyperintensity in FLAIR image. The PBV was obtained from rotational angiography and analyzed by workstation (syngo XWP vD 10E).

Results In the cerebral edema group (n=17), cerebral microbleeds, venous congestion ratio, PBV ratio, and shunt circulation time (SCT) were significantly increased (p<0.001), and modified rankin scale > 2 at discharge was significantly higher (p=0.014). The preoperative PBV ratio was significantly correlated with the angiographic SCT and venous congestion ratios (p<0.001).

Conclusion Evaluation of PBV is useful for assessing focal venous congestion, and the presence of cerebral edema in addition to RLVD in DAVF can be an indicator of clinical severity.


E-145 SAFETY OF PEDIATRIC CEREBRAL ANGIOGRAPHY

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Introduction/Purpose Catheter-based cerebral angiography is commonly used for neurovascular diagnosis in children. In this work, we aim to quantify the complication rate of cerebral angiography in children, characterize these complications, and identify risk factors for complications.

Materials and Methods Relevant clinical data were retrospectively obtained for 587 consecutive cerebral angiography procedures performed in 390 children from March 2002 to March 2020. Complications were categorized as neurologic or non-neurologic, and severity was graded using a standard schema. Incidences of complications are reported as point estimates. Associations between risk factors and complications were characterized in univariate analysis using the two-tailed