

A CASE OF ARTERIOVENOUS MALFORMATION

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Introduction. Arteriovenous malformations (AVM) are part of the group of cerebral vascular malformations that represent congenital defects of the circulatory system formed by a cluster of blood vessels through which arterial blood flows directly into the drainage veins without the normal interposition of the cerebral capillary bed. AVMs are considered to develop during the intrauterine period, however, the form in which they are discovered at an older age does not correspond to the size and shape in intrauterine life. Smaller AVMs are associated with higher intranidal pressure. In 1986 Robert Spetzler (an American neurosurgeon renowned in cerebral vascular surgery) and Neil Martin (an American neurosurgeon specialized in cerebrovascular pathology) proposed a grading scale to estimate the surgical risk of AVMs.

Materials and methods: The patient presented with complaints of headaches and convulsive attacks. The onset of the disease date back to 2020 when the patient marks a tonic-clonic convulsive attack for the first time. He was consulted by the neurosurgeon with the performance of cerebral CT, cerebral MRI, Angiography.

Results: Cerebral CT revealed hyperdense intraparenchymal focus with mass effect on the right lateral ventricle. Cerebral MRI showed right paramedian serpiginous vascular nidus, heterogeneous area around the nidus with the involvement of deep venous drainage and the right lateral ventricle. Cerebral angiography by digital subtraction confirmed a right fronto-parietal AVM, Martin-Spetzler 2. Surgical tactics are combined with the application of endovascular surgery and microsurgery. Intranidal embolization and feeding branches, preoperative treatment to reduce deep supply with facilitating surgical intervention, pre-radiosurgery necessary to reduce volume not only blood flow. Postoperative MRI with angiography sequence shows complete removal of the nidus. No more abnormal vessels are evident in the vicinity of the malformation bed. Normal cerebral parenchyma. The patient returns to the territory following anticonvulsant treatment.

Conclusions: AVM rupture represents a medical surgical emergency that requires prompt and immediate intervention. Thus, complete resection is a method to avoid rebleeding, but also the sequelae induced by this pathology.

Keywords: Arteriovenous malformation (AVM), nidus, interventional surgery, embolization.