

HEMORRHAGIC RUPTURE OF AN ARTERIOVENOUS MALFORMATION ABOUT A CASE

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ABSTRACT

AVM is a rare pathology. Its incidence and prevalence are therefore poorly known. The clinical symptomatology is dominated by hemorrhage, with convulsive attacks being less frequent even if this pattern tends to evolve. The symptomatology in our patient was dominated by headaches but with an inaugural convulsive attack.

Keyword: Arteriole-venous vascular malformations, Spetzler-Martin, Hemorrhagic rupture

1. INTRODUCTION

Arteriole-venous vascular malformations are connection anomalies between one or more arteries and one or more cerebral veins without interposition of the normal capillary bed which are formed in the first weeks of uterine life. presenting a hemorrhagic risk with serious consequences in terms of morbidity and mortality. AVMs are mostly sporadic. The method of revealing the AVM is hemorrhage in 50% of cases.

2. OBSERVATION:

Through this article, we report the clinical observation of a 41-year-old patient, hospitalized in the neurosurgery department of MUSTAPHA University Hospital for motor deficit of the right upper limb of sudden onset accompanied by Dysarthria. Neurological examination at entry revealed right mono paresis with dysarthria. The emergency brain scan showed a left frontal intra parenchymal hematoma with minimal flooding of the left lateral ventricle and V4. Angio MRI revealed a large left frontal hematoma measuring 65 mm by 45 mm. centered by a vascular malformation in the form of a nidus measuring 22 by 13 mm.



Figure 01

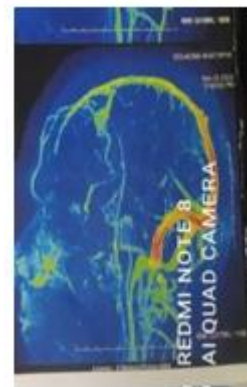


Figure 02



Figure 03

Fig 01, Fig 02: cerebral angiography Fig 03: brain MRI angio

Cerebral angiography is in favor of a left frontal AVM, venous drainage is carried out in the superficial sagittal sinus and the arterial origin depends on the left sylvian artery, class 01 according to the Spetzler-Martin classification.

Microsurgical resection is the reference treatment, for classes 1, 2, 3 according to the Spetzler classification, it is radical with an effectiveness allowing an eradication rate of 95%. In our case "Spetzler stage 01" we did a complete surgical resection of the malformation. it carries

immediate risks (hemorrhagic, neurological deficits and death). The fundamental principle is respect for the drainage veins until complete occlusion of the feeding arteries. The principle is to cut all the arterial afferents of the nidus of the AVM by going "around" the malformation until obtaining the bluing of the drainage vein(s) which makes it possible to affirm that there is no more supply to arteriovenous shunts. The drainage vein(s) which are no longer under tension are coagulated and/or clipped and cut and the Nidus is removed. One of the main difficulties of this surgery is the identification of the afferent arterial pedicles (and their distinction from the draining veins), as well as the distinction between the true arterial afferents to the nidus and the so-called "passing" arteries.

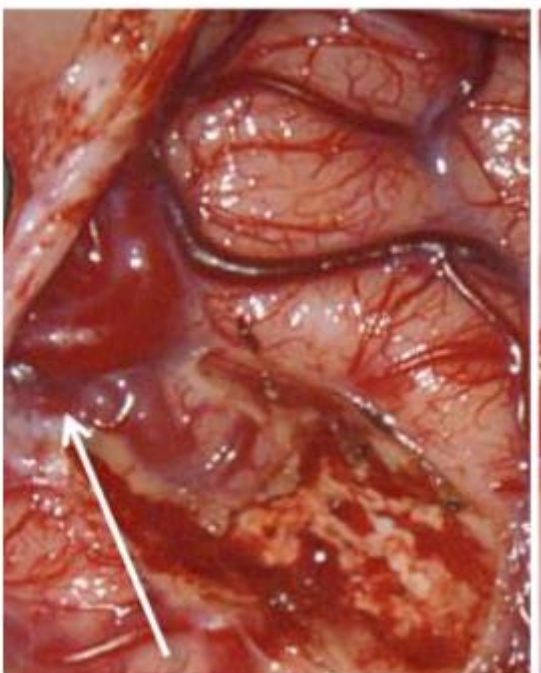


Figure 04

Fig 04: intraoperative aspect of the AVM

3. DISCUSSION

AVM is a rare pathology. Its incidence and prevalence are therefore poorly known. The

clinical symptomatology is dominated by hemorrhage, with convulsive attacks being less frequent even if this pattern tends to evolve. The symptomatology in our patient was dominated by headaches but with an inaugural convulsive attack. Conventional cerebral magnetic resonance imaging sequences make it possible to locate the nidus in the cerebral parenchyma (T1 and T2 sequences), to analyze the morphology of the AVM and its relationships with neighboring cerebral structures, to search for parenchymal abnormalities (T2 sequences). and FLAIR (fluid attenuated inversion recovery)) and to detect bleeding (T2 gradient echo sequence).

The most used system for the classification of cAVMs is that of Spetzler-Martin which uses 3 criteria: the size of the nidus, the location of the cAVM and venous drainage. It assigns a score of 1 for small AVMs (<3 cm), 2 for those of medium size (3-6 cm) and 3 for those of large size (>6 cm). The location of the nidus in a non-functional (0) or functional (1) territory. Venous drainage is scored as superficial only (0) or including drainage to deep cerebral veins (1). The score obtained makes it possible to divide the AVMs into 3 classes and to guide the therapeutic attitude. Class A includes Spetzler-Martin grades I and II; class B grade III and class C grades IV and V.

several treatments are possible. The most common are neurosurgery and embolization by the endovascular route which consists of blocking the Arterio-Venous Malformation by injecting a product inside the vessels from catheters introduced through the groin under general anesthesia. Less frequently, we can resort to radiotherapy, that is to say elimination of the Arterio-Venous Malformations using rays more energetic than X-rays.

4. CONCLUSION

Cerebral arteriovenous malformation is a rare pathology. Intracerebral hemorrhage is the most serious complication. Magnetic resonance imaging makes it possible to suggest the diagnosis, cerebral angiography remains the examination of choice. Management is based on monitoring, microsurgery, endovascular treatment and radiosurgery.

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