Arteriovenous malformation of the corpus callosum

Arteriovenous malformations (AVMs) of the corpus callosum (CC) are distinct clinical as well as surgical entities. They are known to cause recurrent hemorrhage more frequently as compared to more superficial, pial AVMs [1].

Optimal treatment of these AVMs is controversial not only because they tend to cause mild clinical impairment in the absence of major hemorrhage but also because surgical resection may result in permanent neurologic deficit as well as neuropsychological deterioration. In 1951, Basset reported the first successful surgical resection of an Arteriovenous malformation of the corpus callosum [2].

Case series

Guidetti et al published a series of 15 arteriovenous malformations (AVMs) of the corpus callosum–9% of 170 intracranial arteriovenous malformations admitted to the School of Medicine of the University of Rome during a 30-yr period–was studied. In all cases the lesion concerned mainly the corpus callosum, although in some it also involved the surrounding structures, such as septum pellucidum, tela choroidea, and the mesial hemisphere. These malformations are divided into three groups, namely, those involving mainly the genu, the truncus, or the splenium of the corpus callosum. The last predominated in the present series. Each type has a peculiar angiographic appearance. In general, these lesions are fed by branches from the anterior cerebral artery and/or posterior cerebral artery, although in some cases minor contributions from the middle cerebral artery may also be present. Vascularization is often bilateral. Venous drainage occurs through the inferior sagittal sinus and/or superior sagittal sinuses and/or the Galen system. As to clinical presentation, Subarachnoid Hemorrhage (SAH) is the usual presenting symptom and tends to recur frequently. Neurological localizing symptoms are infrequent, as are seizures; psychological symptoms are an exception. Of the 4 cases managed conservatively, only one had no further episodes of bleeding and remained free of complaints. On the other hand, surgical results of the 11 operated patients were satisfactory, in the sense that no mortality and low morbidity were recorded. Accordingly, surgical treatment of AVMs of the corpus callosum is recommended as a rule [3].

Splenium corpus callosum arteriovenous malformation

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1)

Guidetti B, Spallone A. The management of arteriovenous malformations of the corpus callosum. Neurol Res. 1982;4(3-4):253-82. PubMed PMID: 6129590.

2)

BASSETT RC. Surgical experiences with arteriovenous anomalies of the brain. J Neurosurg. 1951 Jan;8(1):59-74. PubMed PMID: 14804149.

3)

Guidetti B, Spallone A. The management of arteriovenous malformations of the corpus callosum. Neurol Res. 1982;4(3-4):253-82. PubMed PMID: 6129590.