Aneurysms and arteriovenous malformations: When and how to treat?

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When to treat? The answer to this question depends on the diagnosis and clinical presentation, which may be with or without rupture. Vascular lesions [aneurysms or arteriovenous malformations (AVM)] with haemorrhage should be treated as soon as possible, and this is particularly true when dealing with aneurysms. In the last years, there has been a change in the paradigm of timing to treat aneurysms with sub-arachnoid haemorrhage (SAH). Initially, treatment was postponed until after the risk period for vasospasm has passed. Later on, the patients started being treated earlier (in the first 72 hours after the SAH). Nowadays, there is a tendency for even earlier treatment (less than 24 hours after SAH).

How to treat? Concerning aneurysms, there are two treatment modalities: surgery or endovascular treatment. As for AVMs, apart from the options of surgery and endovascular treatment, there is also the option of radiosurgery. In this case, treatment can be complementary, with two or three modalities possibly being used in the same patient. In aneurysms, the treatment modality depends on their location, morphology, vascular tree features, age and neurological status. In cases where both surgery and embolization are feasible, embolization should be chosen, as it is the least invasive. Even though initially all patients underwent surgery, endovascular treatment has evolved and has progressively expanded its indications. Nowadays, treatment decisions are the result of a multidisciplinary discussion between Neurosurgery and Neuroradiology, balancing the best immediate care with long term results.

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Abstract

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