Unruptured anterior communicating artery aneurysm

Clinical features

Epileptogenic unruptured anterior communicating artery aneurysms are extremely rare and anecdotal. Patil et al. presented three patients with unruptured anterior communicating artery aneurysms who presented with seizures and were surgically managed. Seizure might be related to the large size, presence of thrombus, microbleeds and surrounding gliosis. They suggested that large thrombosed anterior communicating artery aneurysms should be considered in the differential diagnosis of patients presenting with late onset of seizure and having a suprasellar lesion on imaging. Surgical clipping offers a fair chance of seizure freedom in selected patients.

Unruptured cerebral aneurysms sometimes present with visual symptoms due to compression of the visual pathways. However, until now, unruptured anterior communicating artery (ACoA) aneurysms presenting visual field defects have been extremely rare. In cases of visual field defects, an ACoA aneurysm should be included in the differential diagnosis.

Treatment

Unruptured anterior communicating artery aneurysm treatment.

Case series

A study evaluated the outcomes of coiling versus clipping of unruptured anterior communicating artery aneurysms (A-com) treated by a hybrid vascular neurosurgeon to suggest the best protocol for these conditions.

They retrospectively reviewed the records of 70 patients with an unruptured A-com aneurysm treated with coiling or clipping performed by a hybrid vascular neurosurgeon between March 2012 and December 2019. The patients were dichotomized, into the coil group or clip group. Treatment-related complications, clinical and radiological results were evaluated.

Of the 70 patients identified, 37 underwent coiling and 33 clipping. Procedure-related symptomatic complications occurred in 2 patients (5.4%) in the coil group and 3 patients (9.1%) in the clip group. Poor clinical outcome (modified Rankin Scale [mRS] of 3 to 6) at 6 months of follow-up was seen in only one patient (2.7%) for the coil group, and none for the clip group. The one poor outcome was the result of intra-procedural rupture during coiling. Follow-up conventional angiography data (mean duration, 15.0 months) revealed that the major recanalization rate is 5.6% for the coil group and 10.0% for the clip group.

Management of A-com aneurysms requires more collaboration between microsurgical clipping and endovascular therapy. Evaluation of patient and aneurysm characteristics by considering the advantages and disadvantages of both techniques could provide an optimal treatment modality. A hybrid vascular neurosurgeon is expected to be a proper solution for the management of these conditions.
Case reports

Unruptured cerebral aneurysms sometimes present with visual symptoms due to compression of the visual pathways. However, until now, unruptured anterior communicating artery (ACoA) aneurysms presenting visual field defects have been extremely rare. The authors report the case of a 51-year-old woman who presented with left homonymous hemianopsia. Radiological findings demonstrated an ACoA aneurysm filled with thrombus, that was compressing the optic chiasm and post-chiasmal tract. The patient underwent clipping of the aneurysm, which resolved the visual field defect. In cases of visual field defects, an ACoA aneurysm should be included in the differential diagnosis.

References