Posterior communicating artery aneurysm

- A Case of a Non-giant Intracranial Aneurysm with Spontaneous Occlusion Directly Observed during Clipping Surgery
- A Review of Sports-Related, Life-Threatening Injuries Presenting to Emergency Departments, 2009-18
- Correction: Multi-centric AI Model for Unruptured Intracranial Aneurysm Detection and Volumetric Segmentation in 3D TOF-MRI
- Angiographic Occlusion After Flow Diversion of Ruptured and Unruptured Intracranial Aneurysms Using the Flow Redirection Endoluminal Device-X: A Multicenter Analysis
- Protective Effect of Resveratrol Against Intracranial Aneurysm Rupture in Mice
- Risk factors for rupture of intracranial aneurysms in patients with autoimmune diseases
- Statin versus no statin after treatment with pipeline embolization device for intracranial aneurysms: a meta-analysis
- Early experience with Target Tetra coils for treatment of small and very small ruptured intracranial aneurysms

General information

Posterior communicating artery aneurysm, may occur at either end of the posterior communicating artery; that is at the junction with the posterior cerebral artery, or more commonly at the junction with the carotid (typically points laterally, posteriorly, and inferiorly). May impinge on the third nerve in either case and cause third nerve palsy (ptosis, mydriasis, “down and out” deviation) that is not pupil sparing in 99% of cases. Surgical clipping may be more advantageous than endovascular coiling to treat oculomotor nerve palsies caused by p-comm aneurysms [1) 2)].

Posterior communicating artery (PCOM) aneurysms is considered a internal carotid artery aneurysm.

Intracranial aneurysms arising from the posterior wall of the supraclinoid carotid artery are extremely common lesions. The aneurysm dilation typically occurs in immediate proximity to the origin of the posterior communicating artery and, less commonly, the anterior choroidal artery (AChA). Because of the increasingly widespread use of noninvasive neuroimaging methods to evaluate patients believed to harbor cerebral lesions, many of these carotid artery aneurysms are now documented in their unruptured state, prior to occurrence of subarachnoid hemorrhage. Based on these factors, the management of unruptured posterior carotid artery (PCA) wall aneurysms is an important element of any neurosurgical practice. Despite impressive recent advances in endovascular therapy, the placement of microsurgical clips to exclude aneurysms with preservation of all afferent and efferent vasculature remains the most efficacious and durable therapy. To date, an optimal outcome is only achieved when the neurosurgeon is able to combine systematic preoperative neurovascular assessment with meticulous operative technique.

Epidemiology

They are the second most common aneurysms overall (25% of all aneurysms) representing 50% of all

internal carotid artery aneurysms [3].

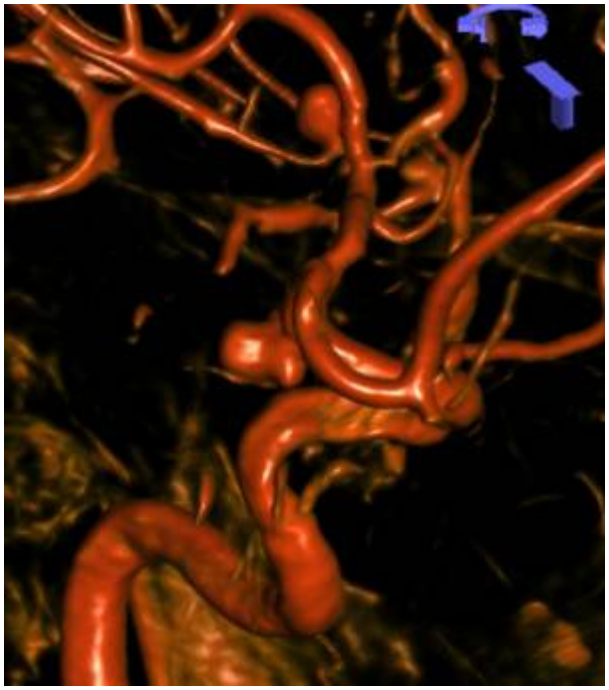
The next major branch of the internal carotid artery (ICA) is the posterior communicating artery, home to particularly notorious posterior communicating artery aneurysm, which seem to rupture with increased frequency for given size, when compared to other aneurysms of the ICA (ISUIA data). Next comes the anterior choroidal artery and its aneurysms, which can be mistaken for the PCOM type when the latter is hypo plastic.

Classification

Posterior communicating artery aneurysm classification.

Clinical Features

see Posterior communicating artery aneurysm oculomotor nerve palsy



Posterior communicating artery aneurysm and middle cerebral artery aneurysm.

Diagnosis

Posterior communicating artery aneurysm diagnosis.

Treatment

see Posterior communicating artery aneurysm treatment.

Outcome

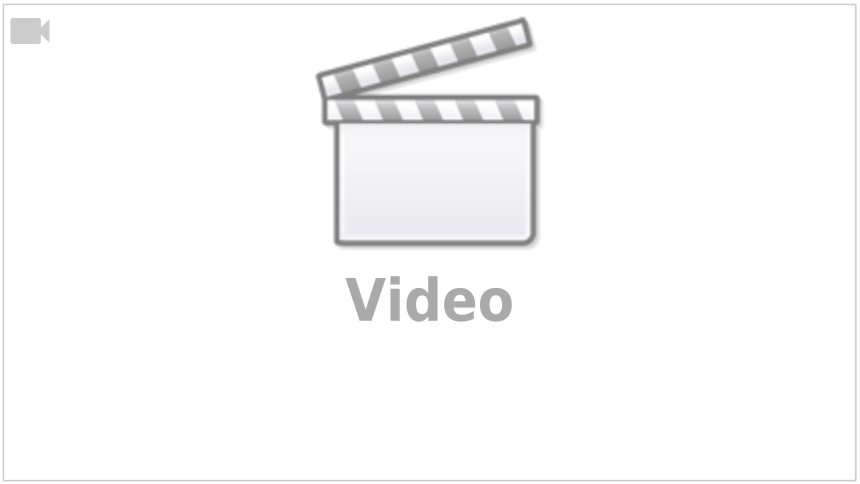
Posterior communicating artery aneurysm outcome.

Case series

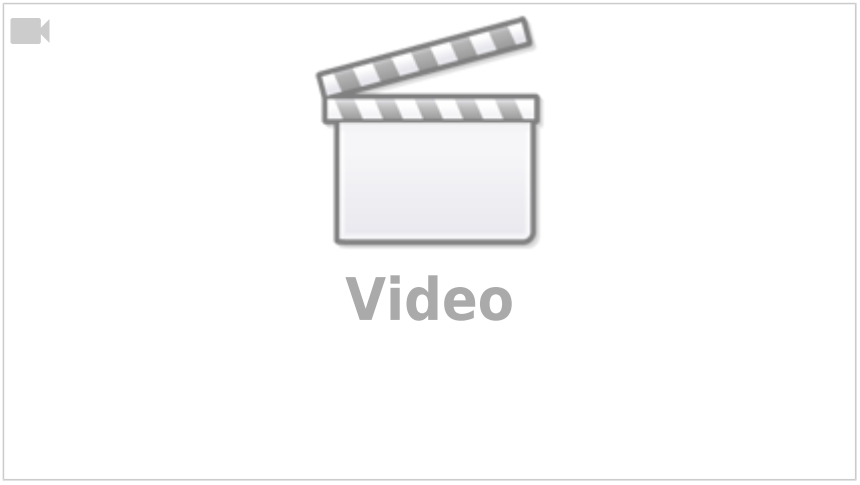
Posterior communicating artery aneurysm case series.

Videos

Surgery for Giant PCOM Aneurysms Video 1



Surgery for Giant PCOM Aneurysms Video 2



References

1)
Tan H, Huang G, Zhang T, et al. A retrospective comparison of the influence of surgical clipping and endovascular embolization on recovery of oculomotor nerve palsy in patients with posterior communicating artery aneurysms. Neurosurgery. 2015; 76: 687–94; discussion 694
2)
Khan SA, Agrawal A, Hailey CE, et al. Effect of surgical clipping versus endovascular coiling on recovery from oculomotor nerve palsy in patients with posterior communicating artery aneurysms: A retrospective comparative study and meta-analysis. Asian J Neurosurg. 2013; 8:117–124
3)
Ojemann RG, Crowell RM. Surgical Management of Cerebrovascular Disease. 2nd ed. Baltimore: Williams and Wilkins; 1988. Internal carotid artery aneurysms; pp. 179–98.