Ruptured posterior communicating artery aneurysm

Occlusive treatment of posterior communicating artery aneurysms has been seen as a fairly uncomplicated procedure. The objective here was to determine the radiological and clinical outcome of patients after PCoA aneurysm rupture and treatment and to evaluate the risk factors for impaired outcome.

In a retrospective clinical follow-up study, data were collected from 620 consecutive patients who had been treated for ruptured PCoA aneurysms at a single center between 1980 and 2014. The follow-up was a minimum of 1 year after treatment or until death.RESULTSOf the 620 patients, 83% were treated with microsurgical clipping, 8% with endovascular coiling, 2% with the two procedures combined, 1% with indirect surgical methods, and 6% with conservative methods. The most common procedural complications were treatment-related brain infarctions (15%). The occurrence of artery occlusions (10% microsurgical, 8% endovascular) was higher than expected. Most patients made a good recovery at 1 year after aneurysmal subarachnoid hemorrhage (modified Rankin Scale [mRS] score 0-2: 386 patients [62%]). A fairly small proportion of patients were left severely disabled (mRS score 4-5: 27 patients [4%]). Among all patients, 20% died during the 1st year. Independent risk factors for an unfavorable outcome, according to the multivariable analysis, were poor preoperative clinical condition, intracerebral or subdural hematoma due to aneurysm rupture, age over 65 years, artery occlusion on postoperative angiography, occlusive treatment-related ischemia, delayed cerebral vasospasm, and hydrocephalus requiring a shunt.

Even though most patients made a good recovery after PCoA aneurysm rupture and treatment during the 1st year, the occlusive treatment-related complications were higher than expected and caused morbidity even among initially good-grade patients. Occlusive treatment of ruptured PCoA aneurysms seems to be a high-risk procedure, even in a high-volume neurovascular center ¹⁾.

1)

Riskier-than-expected occlusive treatment of ruptured posterior communicating artery aneurysms: treatment and outcome of 620 consecutive patients. J Neurosurg. 2018 Oct 1:1-9. doi: 10.3171/2018.4.JNS18145. [Epub ahead of print] PubMed PMID: 30485236.

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