Unruptured intracranial aneurysm treatment with flow diversion

Flow diversion is now an established technique to treat unruptured intracranial aneurysms not readily amenable to endovascular coil embolization or open microsurgical occlusion.

The use of these stents is advisable mainly for unruptured aneurysms, particularly those located at the internal carotid artery or vertebral and basilar arteries, for fusiform and dissecting aneurysms and for saccular aneurysms with large necks and low dome-to-neck ratio. The rate of aneurysm occlusion progressively increases during follow-up (81.5% overall rate in this review). The non-negligible rate of ischemic (mean 4.1%) and hemorrhagic (mean 2.9%) complications, the neurological morbidity (mean 3.5%) and the reported mortality (mean 3.4%) are the main limits of this technique [1].

Outcome

Intracranial Aneurysm Flow Diversion may not alter neurocognitive function. Larger patient samples and longer follow-ups with other tests of cognitive functions are needed to confirm these findings [2].

1)
Briganti F, Leone G, Marseglia M, Mariniello G, Caranci F, Brunetti A, Maiuri F. Endovascular treatment of cerebral aneurysms using flow-diverter devices: A systematic review. Neuroradiol J. 2015 Aug 27. pii: 1971400915602803. [Epub ahead of print] Review. PubMed PMID: 26314872.

2)
Wagner K, Srivatsan A, Mohanty A, Srinivasan VM, Saleem Y, Cherian J, James RF, Chen S, Burkhardt JK, Johnson J, Kan P. Cognitive outcomes after unruptured intracranial aneurysm treatment with flow diversion. J Neurosurg. 2019 Nov 29:1-6. doi: 10.3171/2019.9.JNS191910. Epub ahead of print. PMID: 31783369.