

Comparison of clinical outcome and early complications in patients with middle cerebral artery (MCA) aneurysm treated with endovascular embolization and surgical clipping

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Introduction: Middle Cerebral Artery (MCA) aneurysms are often a challenge for an interventional radiologist, and are relatively approachable for neurosurgical procedures. The choice of treatment method is based on the aneurysm location, morphology, diameter and clinical features of the patient. We carried out this retrospective study to assess the impact of choosing an endovascular or neurosurgical procedure on the treatment effects of the MCA aneurysm.

Material and methods: Between the years 2008 and 2012, 68 patients were diagnosed with MCA cerebral aneurysms, and subsequently qualified for treatment. Medical records and imaging were reviewed for 39 patients for whom the first choice of treatment was endovascular embolization and another 29 patients who underwent surgical clipping as the first choice of treatment method. Each group was also investigated

in subdivisions considering if the treated aneurysm was ruptured or not.

Results: The early complication rate was 38.78% for coiling and 45.2% for clipping. In the angiographic control of the procedure, complete or near-complete occlusion was noticed in 94.3% of cases. In the intraoperative evaluation of clipping, complete occlusion was affirmed in 100% of cases. The average Glasgow Outcome Scale score on the day of patient hospital discharge was 4.46 ± 1.05 in the embolization group, and 4.31 ± 1.00 in the clipping group.

Conclusion: Based on our material we have found that the clinical and radiological effects of embolization and clipping are similar. The choice of the procedure must be individualized depending on aneurysm morphology and the patient's initial condition.

Key words: MCA aneurysm, embolization, clipping