Clips and/or coils in the treatment of cerebrovascular aneurysms?

Moskopp D., Geissler J., Wöfer J., Wassmann H.

Klinik und Poliklinik für Neurochirurgie, Westfälische Wilhelms-Universität Münster

Objective: Treatment of cerebrovascular aneurysms with clips is generally accepted. Endovascular coiling was developed as an alternative. Our study aimed at establishing criteria for a decision between these two therapeutic options.

Methods: All patients with cerebrovascular aneurysms presenting at our institution over a 15 mth-period were prospectively included in this study. Data concerning treatment, clinical course, and final outcome were collected. This involved postinterventional imaging, the assessment of Glasgow Outcome Score and Barthel index, and a “mini mental state” examination 6 and 12 mths after the respective treatment.

Results: Between January 1998 and April 1999, 112 aneurysms were observed in 86 patients with 64 incidents of subarachnoid hemorrhage (SAH). Of these, three died before any treatment could be applied. 32 SAH-patients were treated by clipping, 31 patients were implanted with platinum coils. Seven patients needed additional surgical clipping after insufficient or technically difficult coiling.

Of the 22 patients with grade 0 aneurysm, eleven remained untreated due to a fusiform malformation or general medical reasons. Five were treated by clipping while endovascular coiling was used in 6 patients, two of whom had to be clipped afterwards.

Conclusions: Our observations support coiling as the preferred treatment of midline aneurysms in patients presenting in a poor clinical state. Aneurysms of the middle cerebral artery and those presenting with broad necks or in the neighbourhood of ramifications seem to be more apt to clipping. Good and bad clinical results can be seen with both methods, as the underlying “condition of SAH” is probably hardly influenced. Generally, the best results may be expected if an individual treatment concept for a given patient is carefully considered between neurosurgeon and neuroradiologist.