

The Role Of Development Of Microsurgical Techniques In The Management Of Cerebral Aneurysms In Africa

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Background: Since the results of the ISAT study published in 2002, several studies conducted in developed countries compared the results of both endovascular and microsurgical techniques. Our study aims to draw attention to the cost and effectiveness of both treatment modalities in a developing country.

Materials and Methods: It is a retrospective study including 679 patients with ruptured and unruptured intracranial aneurysms, who had been admitted in our department and treated either by surgical clip or endovascular coiling. Clinical outcome at discharge and at 6 months, and treatment related costs were evaluated in both groups. Statistical analysis was performed using the software Epi Info version 3.5.4 for Microsoft Windows XP.

Results: Five hundred and seventy six patients underwent surgery and 93 received endovascular treatment. Most patients (87%) were WFNS grade I-II. Of these patients 88% received endovascular treatment and 86% were clipped. The quality of exclusion was complete in 51% of coiling and 73% in clipping. The average hospital stay was 8 ± 5 days for patients who underwent endovascular treatment against 14 ± 7 days for surgery ($P = 0.02$). The average total cost of treatment was 4181Euros (26% of cost was for Coils) for endovascular against 3227Euros (10% of cost was for clips) for surgery. The clinical outcome based on modified ranking scale score was good in 86% of coiling and 78% in clipping ($P = 0.09$).

Conclusion: We found there is no difference in outcome between clipping and coiling in our series. Total cost of resources used in endovascular procedure was significantly higher than surgery. In developing countries, the development of the microsurgical technique of clipping is mandatory and cost-effective in the management of cerebral aneurysms.

Key words: aneurysms, clipping, coiling, cost and effectiveness, developing country