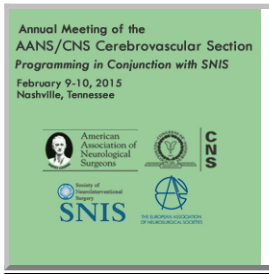

Predictors of success during endovascular retreatment of intracranial aneurysms

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Introduction

Endovascular treatment of intracranial aneurysms has increased over the last two decades but incomplete occlusion and recurrence continue to be drawbacks of this approach. Some aneurysms undergo multiple rounds of treatment. It would be useful to know what factors are associated with successful retreatment.

Methods

This is single-center, retrospective review of 50 patients with 64 aneurysms who underwent endovascular retreatment following recurrence (both surgical and endovascular recurrence). Successful retreatment was defined as Raymond Roy Occlusion Class (RROC) < III at all follow-up points. Retreatment failure was defined as RROC III at any follow-up.

Results

Of the patients with angiographic follow-up, 50% were in the successful group and 50% in the failure group. Stent assisted coiling was associated with successful retreatment. Fifty-seven percent of aneurysms treated without stent assistance exhibited retreatment failure compared to only 9% of those retreated with stent assistance ($p=0.011$). Incomplete aneurysm occlusion at the end of the procedure ($p<0.001$) was associated with retreatment failure. No other patient, aneurysm, or treatment factors were associated with retreatment success or failure.

Conclusions

Stent assistance should be considered in cases of aneurysm retreatment to increase the chances of achieving adequate occlusion. Incomplete aneurysm occlusion should be avoided but, if needed, this subset of aneurysms require closer angiographic follow-up.

Learning Objectives

To understand what factors are associated with successful angiographic outcome following intracranial aneurysm retreatment

References