AANS/CNS Joint Cerebrovascular Annual Meeting
Los Angeles, California
February 15-16, 2016

Open Surgery for Recurrent Intracranial Aneurysms. Techniques and Long-term Outcomes

Juri Kivelev MD, PhD; Rokuya Tanikawa; Kosumo Noda; Juha Antero Hernesniemi MD, PhD; Mika Niemelä MD, PhD; Hiroyasu Kamiyama
[Institution]

Introduction

Aneurysm regrowth after clipping or coiling might be associated with SAH risk. In this study, we present our experience in microsurgical treatment of recurrent aneurysms with analysis of long-term results.

Methods

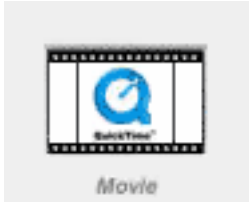
Between January 2005 and February 2014 in Sapporo, Japan, the senior authors (R.T. and H.K.) performed recurrent aneurysm clipping in 44 patients. Patients with a recurrent aneurysm were included in the study regardless of the primary treatment modality (clipping or coiling). Postoperative outcome was analyzed retrospectively using the modified Rankin outcome scale.

Results

Our series included 10 men (23%) and 34 women (77%), with a mean patient age of 63 years (range, 7 to 82 years). Before primary treatment, 11 patients (25%) had aneurysm rupture, while 33 patients (75%) had an unruptured aneurysm. Initially, aneurysm was clipped in 22 patients (50%), coiled in 20 patients (46%), wrapped in one patient (2%), and secured with proximal ligation of parent artery in one patient (2%). The mean follow-up time after primary surgery was 7.6 years (range, 0.8 to 25 years). The treatment of recurrent aneurysm included the clipping only (19 patients - 43%); clipping with protective bypass (six patients -14%); aneurysm trapping with bypass (ten patients - 23%); and proximal occlusion and bypass (nine patients - 20%). The mean follow-up time after re-operation was 3.5 years (range 0.1 to 9 years). Altogether, 37 patients (84%) experienced favorable outcome at last follow-up (mRankin score 0 and 1). Notably, all patients with small aneurysms and 19 of 21 patients (91%) with medium-sized aneurysm were neurologically intact (p = 0.049). Thirty of 34 patients (89%) with anterior circulation aneurysms and 7 of 10 (70%) patients with posterior circulation aneurysms experienced favorable postoperative outcome.

Conclusions

Microsurgery of recurrent aneurysms may be performed safely and effectively, as shown by our study, where 84% of patients experienced favorable results.



Learning Objectives

By the conclusion of this session, participants should be able to describe the advantages and disadvantages of open surgery for recurrent aneurysms.

References