Title: Infectious intracranial aneurysm: preceding risk factors and long term clinical outcome of surgical treatment

Poster ID: 41440

Beata Durcanova BS, Daniel Diaz-Aguilar BS, Daniel Cooke MD

Disclosures: None of the authors has any disclosures to provide

Introduction: Limited literature exists on the long term clinical outcome of patients surgically treated for Mycotic Aneurysm (MA) and its relationship to preceding risk and protective factors.

Methods: Retrospective medical chart review of 12 patients with a neurosurgical or endovascular diagnosis of mycotic aneurysm (MA) followed by a single neurovascular specialist between the years 1997-2016 was performed. Modified Rankin Score (MRS) was determined at 3 and 6 months, as well as 1, 3, 5, and 10 years. Multiple clinical and demographic variables were collected.

Results: The average age was 33.4 years (SD 16.08), 6 subjects were men and 6 women, 5/10 of polysubstance abuse, 8/9 of prior surgery (5 cardiovascular, 3 neurosurgical), and 10/12 had a history of infective endocarditis.

Of the patient with a history of infective endocarditis, 3 were caused by enterococcus, 2 by staph aureus, 3 by streptococcus, and 2 were not specified. 10 patients had the MA in the middle cerebral artery (5 on left, 5 on right), and 2 in the anterior cerebral artery (1 on left, 1 on right). 9/12 patients presented with a single aneurysm, 2 had multiple mycotic and non-mycotic concurrently, and 1 had multiple concurrent mycotic aneurysms.

Along with medical treatment. 10/12 patients had neurosurgical, while 2/12 had endovascular treatment. 8/12 patients experienced hemorrhage. Of the 7 patients followed up until 3 years, only 1 had a recurrent MA. The average MRS before the cerebral event was 1 (SD:0.6, range: 0-2). After the event, the MRS at 3 months was 2.72 (11 subjects); 6 months 3.5 (2 subjects); 1 year 2.25 (4 subjects); 3 years 2.2 (5 subjects); 5 years 2 (2 subjects), and 10 years 2.25 (4 subjects).

Conclusion: MA is often precluded by endocarditis and frequently occurs in the setting of polysubstance abuse. Patients tend to have prior cardiovascular or neurosurgical history. Neurosurgical or endovascular treatment of MA is often performed in the MCA, holds a long term clinical outcome of moderate neurological disability, and rarely results in recurrence within 3 years.
Summary Points:

1. Neurosurgical or endovascular treatment of MA resulted in moderate long term neurological disability.
2. Recurrence of MA at 3 years was 1/7.
3. MA often occurs in the setting of endocarditis.