Stent Assisted Coiling of Anterior Communicating Artery Aneurysms: A Single Center Experience in 19 Patients

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Introduction

Anterior communicating artery (Acomm) aneurysms are one of the most common intracranial aneurysms. Treatments include neurosurgical clipping or endovascular embolization, but there is a paucity of literature on stent assisted coiling of Acomm aneurysms.

Methods

We reviewed the prospectively maintained database of patients that underwent stent assisted coiling of anterior communicating artery aneurysms.

A total of 19 patients were treated with stent assisted coiling:

- 12 patients were treated status post subarachnoid hemorrhage
- 7 patients were treated electively.

We evaluated the clinical presentation, management, morphology of the aneurysms, technical feasibility of the procedure and clinical outcome of these patients.

Figure 3. Age Groups

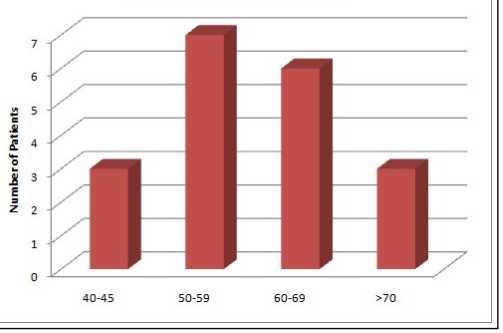
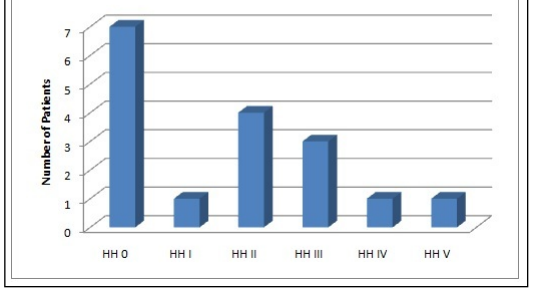


Figure 1. Clinical Presentation by Hunt and Hess Grade



Clinical Characteristics

Sex

- Male 13 (68.4%)
- Female 6 (31.6%)

Age Groups

SAH group 43-96 yo

Elective group 42-62 yo

Overall:

- 40-49: 3
- 50-59: 7
- 60-69: 6
- >70: 3

Hunt and Hess Grade

- HH 0 - 7 (36.8%)
- HH I - 1 (0.5%)
- HH II - 4 (21.1%)
- HH III - 3 (15.8%)
- HH IV - 1 (0.5%)
- HH V - 1 (0.5%)

*NOTE: for 1 pt HH score was not recorded

Results

Of the 19 patients included in the study, 12 were male, and 5 were female. The ages varied between 42 to 96 years old, while 5 had a prior history of hypertesion and 4 were current smokers, 2 were ex-smokers, and 13 patients never smoked tobacco.

Conclusions

Stent assisted coiling of Acomm aneurysms is not adequately studied in current literature. Our single center experience of such treatment in 19 patients, showed it to be a feasible and safe method of treatmentn in adequately selected patients.

Our results are congruent with a small number of previously published data. Efficacy of treatment in terms of recurrence of Acomm aneurysms, can be assessed in follow-up studies.

Post-operatively, there was no mortality, 16 patients had no complications, while 3 experienced some complications (15.79%).

Of those complications, 1 pt developed pneumonia, 1 had seizures, and 2 pts exhibited vasospasm as measured through TCD's, 1 of which required intrarterial cardene and angioplasty. None of the pts required a decompressive hemicraniectomy, a vetriculoperitoneal shunt, nor experienced any complications such as myocardial infection, meningitis, sepsis, urinary tract infection, or DVTs.

4 of the 19 patients have so far undergone follow-up angiogram showing 90-100% occlusion.

As these patients were all treated between 2009 and 2010, occlusion rates on follow-up angiograms for the rest of the patients will be become available in the future.

Learning Objectives

Our objective is to present a single center experience with stent assisted coiling of Acomm aneursyms. In this series, we present the results of endovascular treatment with stent assisted coiling of Acomm aneurysms in 19 patients between September 2009 and June 2010.

References

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