

Introduction

Treatment of ophthalmic segment aneurysms (OSA) remains challenging. Flow Diverter Stent (FDS) have evolved as a promising endovascular treatment option for aneurysms of the internal carotid artery and are associated with high occlusion rates and a favorable morbidity and mortality profile. The aim this study was to determine safety and efficacy of FDS for OSA in a large, multicenter cohort.

Methods

A retrospective analysis of prospectively maintained databases of 127 consecutive patients harboring 160 OSA treated with FDS was performed. Aneurysms were classified based on location and morphology. Follow up with digital subtraction angiography (DSA) was performed 6 to 18 months after treatment.

Results

Follow up DSA was available for 101 (63.12%) aneurysms with a mean follow-up of 18 months. Complete occlusion was observed in 90 aneurysms (89.1%), near complete occlusion ($> 95\%$) in 3 (2.97%), and incomplete occlusion ($< 95\%$) in 8 aneurysms (7.92%) (Figure 1). One aneurysm was retreated with another FDS (0.9%). No risk factors for incomplete occlusion were identified. The OA was occluded at the latest follow-up in 6 cases (7.05%). Permanent morbidity occurred in 4 patients (3.14%) and there was no mortality related to the FDS procedure (Figure 2).

Figure 1

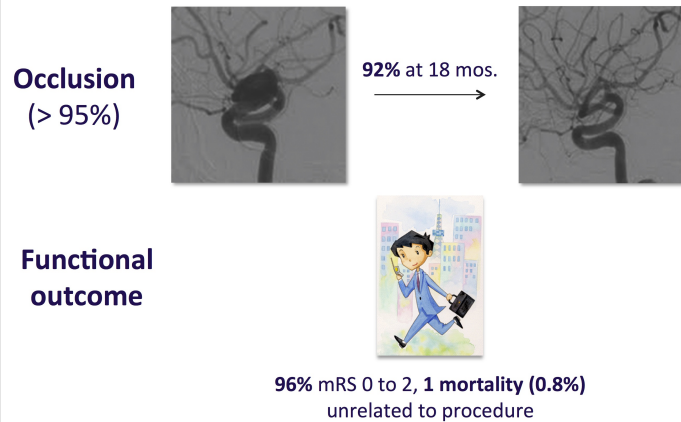
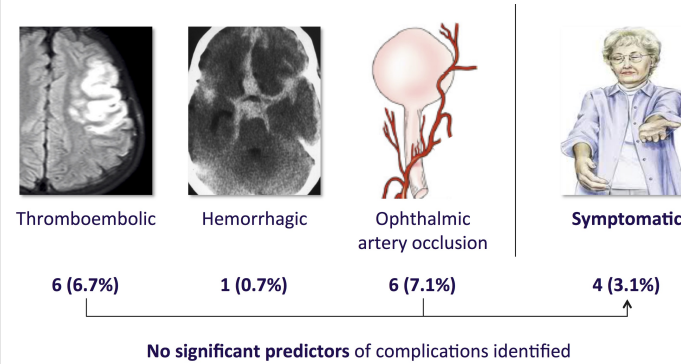


Figure 2



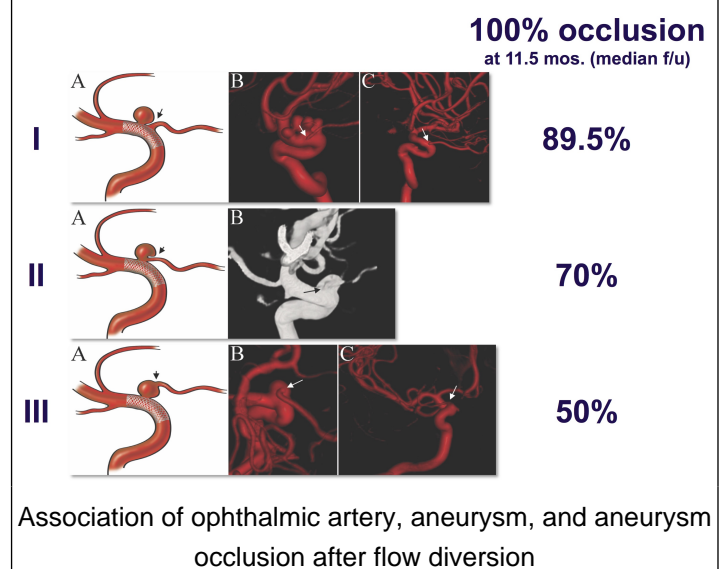
Conclusions

Treatment of OSA with FDS was found to be safe and effective. The retreatment rate was extremely low and aneurysms that occluded did not reanalyze.

Learning Objectives

By the conclusion of this session, participants should be able to discuss the role of flow diversion for ophthalmic segment internal carotid artery aneurysms.

Figure 3



References

Griessenauer CJ, Piske RL, Baccin CE, Pereira BJA, Reddy AS, Thomas AJ, Abud TG, Ogilvy CS: Flow Diverters for treatment of 160 Ophthalmic Segment Aneurysms: Evaluation of safety and efficacy in a multicenter cohort, Neurosurgery, 2016 (revision stage)

Griessenauer CJ, Ogilvy CS, Foreman PM, Chua M, Harrigan MR, Stapleton CJ, Patel AB, He L, Fusco MR, Mocco J, Winkler PA, Patel AS, Thomas AJ: Pipeline Embolization Device for small paraophthalmic artery aneurysms with emphasis on anatomical relationship of ophthalmic artery origin and aneurysm, J Neurosurg. 2016 Mar 4:1-8 (Figure 3).