

Clinical outcome of complex unruptured basilar apex aneurysms treated with the transcavernous microsurgical approach

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Introduction

Basilar apex aneurysms are considered a surgical challenge and the trend is to treat all such aneurysms with endovascular therapy in spite of significant recurrences and the need for more complex and risky endovascular steps. We present our experience with microsurgical treatment of unruptured, predominately complex, basilar apex aneurysms using predominately extradural transcavernous approach.

Methods

Clinical data and outcomes of 62 patients with complex basilar apex aneurysms treated by the senior author (A.F.K) were analyzed. The approach used was the transcavernous route which was modified to a predominately epidural approach.

Size of aneurysms 32% 36% ■ 32% 🗖 Large 🔳 Medium 🗔 Small

Posterior projecting basilar apex aneurysm. Surgical view by steps. Case 1

Results

There were 48F/14M (median age=54 years.) 48 patients (75%) met higher complexity criteria, 27 (56%) of them had posterior projecting aneurysms. Size >12mm 20 (41.5%). Median hospital stay = 5 days. Modified Rankin Scale (MRS) at discharge as 0-2 in 88%. MRS=0 in 92% at 1 year. Aneurysm regrowth occurred in one patient and was successfully reclipped. Surgical mortality = 0%. Transient postoperative third nerve palsy was encountered with full recovery in all patients at one year.

Conclusions

Advanced microsurgical treatment of complex basilar apex aneurysms is safe, more durable, and results in superior outcome than endovascular therapy in the majority of patients.

Basilar apex posteriorly projecting aneurysm with wide neck. Surgical view. Case 2



Low-lying basilar apex aneurysm. Surgical view. Case 3



Video1. Case 4





Learning Objectives

1.Understand the advantages of transcavernous approach to basilar apex region

2.Understand the advantages of advanced microsurgical techniques over endovascular therapy

References

1. Krisht AF: Transcavernous approach to diseases of the anterior upper third of the posterior fossa. Neurosurg Focus 19:E2, 2005 2. Krisht AF, Kadri PA: Surgical clipping of complex basilar apex aneurysms: a strategy for successful outcome using the pretemporal transzygomatic transcavernous approach. Neurosurgery 56:261-273, 2005

Video 2. Case 5



