

## Microsurgical Treatment of Predominantly Complex Unruptured Basilar Apex Aneurysms with the Trasnscavernous Pretemporal Approach

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#### Introduction

Most basilar apex aneurysms are nowadays treated with endovascular therapy because microsurgical treatment is more morbid. This trend leads up to 40% recanalization rate with up to 10% intraprocedural complication and up to 2% annual rupture rate. We present our experience with the microsurgical treatment of unruptured predominantly complex basilar apex aneurysms.

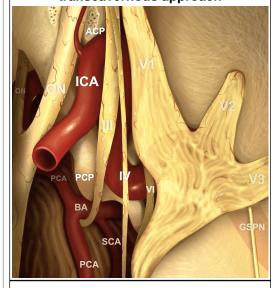
#### **Methods**

Data on 53 patients with complex basilar apex aneurysms were prospectively collected and retrospectively analyzed. They were treated with transcavernous microsurgical clipping approach. 79% were complex in shape. 70% have a wide neck or posterior projection and 20% were very large or giant (>12 mm).

#### Results

39 were female and 14 male. Median age = 57.5 years. Clipping was possible in 96% with a surgical mortality = 0%. The median hospital stay = 5 days. MRS = 0-1 in 85% at discharge and 92% at six months. Only one patient with multiple aneurysms developed regrowth of the base of the aneurysm and was successfully clipped. All patients developed a transient third nerve palsy which recovered in 100% by one year.

# Illustration of surgical view using transcavernous approach



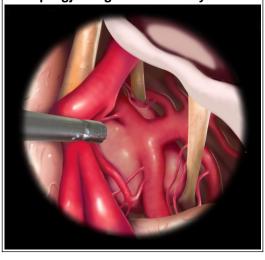
Characteristic	of aneurysms
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Parameters	N of patients	%
Small (< 7mm)	18	34
Medium (7-12 mm)	24	45
Large > 12 mm	11	21
Posteriorly projecting	25	47
Anteriorly projecting	10	19
Superiorly projecting	7	13
Complex	42	79
Low lying	5	9
Wide neck	12	23

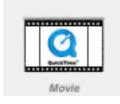
#### **Conclusions**

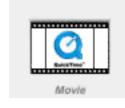
Microsurgical treatment of predominantly complex basilar aneurysms is safe and has several advantages over endovascular therapy. There should be more neurosurgeons trained in order to provide patients with a potentially superior treatment option.

# Illustration of surgical view of posterior progjecting basilar aneurysm



### Video (Part 1 and Part 2)





### **Learning Objectives**

By the conclusion of this session, participants should be able to

- 1) learn complexity of basilar apex aneurysms.
- 2) learn the benefits of different treatments of unryptured basilar apex aneurysm.
- 3) understand the challenge and safe option of clipping of unruptured basilar apex aneurysm.

#### References

- 1.Chalouhi N, Jabbour P, Gonzalez LF, Dumont AS, Rosenwasser R, Starke RM, Gordon D, Hann S, Tjoumakaris S: Safety and Efficacy of Endovascular Treatment of Basilar Tip Aneurysms by Coiling With and Without Stent Assistance: A Review of 235 Cases.

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- 2. Krisht AF, Kadri PA: Surgical clipping of complex basilar apex aneurysms: a strategy for successful outcome using the pretemporal transzygomatic transcavernous approach.

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