# Clinical Outcome After Microsurgical Clipping of Unruptured Cerebral Aneurysms in Group of Patients at Age 70 or Older

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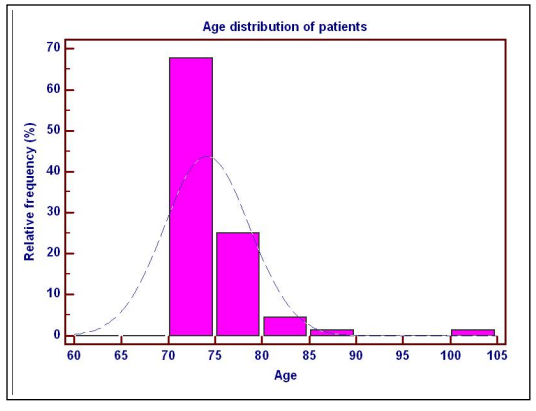
## Introduction

There is an unproven consensus that endovascular therapy is safer in the elderly than microsurgical clipping, and considered less invasive, even though General anesthesia is used in both. We consider microsurgical treatment of aneurysms by an experienced team in a high volume center very safe and less invasive than previously thought of as the surgery is restricted to the subarachnoid space.

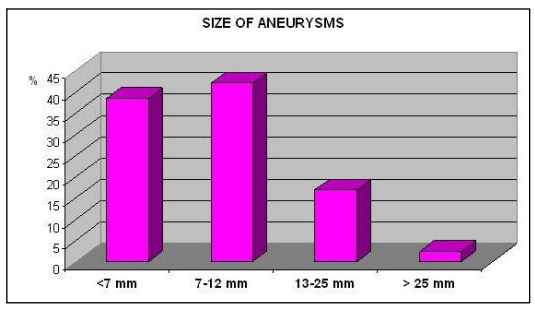
## Methods

Clinical outcome after clipping of unruptured cerebral aneurysms in patients of age 70 and older retrospectively analyzed. All patients were surgically treated by senior author (A.F.K.).



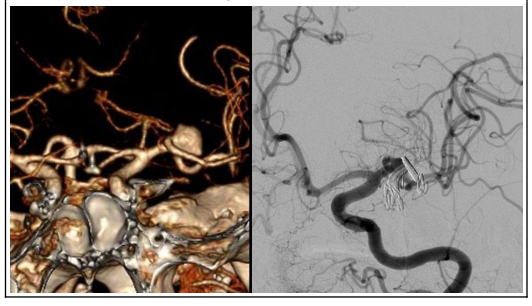

## Results

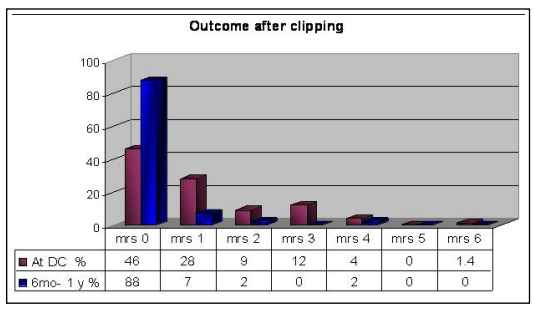
83 unrupturd aneurysms were clipped in 68 patients. 10 M/58 F. Average age was 74.06 y (70 -100). 76% patients were 70-75 years-of-age; 19% - 76-80 y; 4% - 81-90 y. One patient was 100 years-of-age. 38.5% aneurysms were <7mm; 42% - 7-12 mm, 17% were 13<25mm and




2.4% were >25mm. 87% aneurysms were located in anterior circulation with average size 9.19 +/- 5.65mm (median 9.5mm) and 13%- in posterior circulation with average size of aneurysm 10.04 +/- 3.39mm (median -10.5mm). Mortality rate 1.4 % (1 pt with basilar trunk 15mm aneurysm had acute cardiovascular collapse). Median stay in hospital – 5 days. MRS-0 at discharge - 46% pts; MRS -1 in 28% pts; MRS -2 – in 7% pts. MRS 3-4 in 16% pts. On f-up 6mo-1 y 95% had MRS 0-1. Recurrence rate 0%. Patient of 100 years of age was discharged at home on 4th day after clipping of 15mm Acom aneurysm with MRS- 0.

**Case 1. WF77 Left MCA bifurcation aneurysm, 9.2 mm. Left modified COZ approach, clipping. Discharged on day 6, MRS 0**

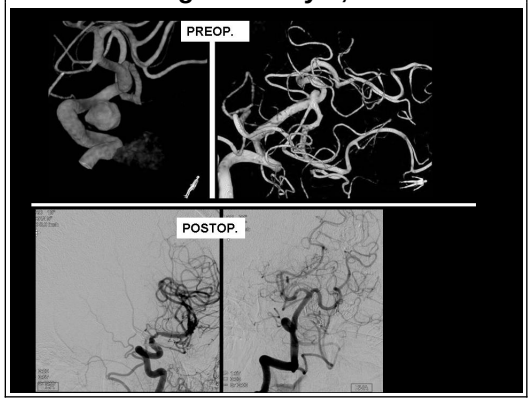




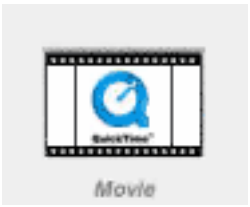

## Conclusions

Microsurgical treatment of aneurysms in the elderly performed by an experienced team in a high volume center has an outcome compatible if not better than endovascular therapy, and should not be considered more invasive and more risky than the later.

**Case 2. WF72. Large left inferior type paraclinoid aneurysm and left SCA aneurysm. Left modified COZ approach. Clipping of both aneurysms. Discharged on day 3, MRS 0.**




**VIDEO.**
**WF100, Acom aneurysm, 15mm. Rt modified COZ approach. Clipping. Discharged on day 4 after surgery, MRS 0**




## Learning Objectives

1.The microsurgical outcome of treatment of unruptured aneurysms in a high volume center in the elderly.
2.Safety and durability of the microsurgical treatment of unruptured aneurysms in a high volume center in the elderly.
3.The clinical aspects of unruptured aneurysms in the elderly.

## References

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2. Smith MJ, Sanborn MR, Lewis DJ, et al: Elderly patients with intracranial aneurysms have higher quality of life after coil embolization: a decision analysis. J Neurointerv Surgneurintsurg-011394, 2014