

Vertebral Artery Ostium Stenosis: Treatment with Vertebral Artery Stenting – Long-term Clinical and Angiographic Results

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Technical success was 100%. Angiographic

evaluation at a mean 13.3 months (range from 3 ~

69 months) uncovered restenosis in 14 vessels

10.7% (7/65) in drug-eluting stent group) and

(2.5%) had recurrent stroke in stented-vessel

after the procedure, respectively.

occlusion in 2 (2.5%; 1 in bare-metal stent group

and 1 in drug-eluting stent group). Three patients

territories at 3 months with angiographic evidence

of in-stent occlusion, and 48 months and 62 months

(12.7% (7/55) in bare-metal stent group and



## Introduction

The optimal management of patients with symptomatic severe vertebral artery ostium (VAO) stenosis is still unclear. Although stent-assisted angioplasty is thought to be a safe treatment option, the main concerns related to treating VAO stenosis with stents have been the rate of restenosis and the uncertain long-term results. We analyzed the long-term outcome of patients with VAO stenosis who received vertebral artery stenting (VAS).

### Methods

One hundred nineteen patients with VAO stenosis were treated with stent placement over a period of 10 years. All patients were retrospectively analyzed. The indication criteria for this treatment were symptomatic severe VAO stenoses (> 60%) and asymptomatic severe VAO stenoses (> 60%) with incidentally detected infarction in the posterior circulation or with severe bilateral VAO stenosis, contralateral VA occlusion, or contralateral hypoplastic VA.



### In Stent occlusion with new acute infarction 3 mohts after PTAS



### Asymptomatic In Stent occlusion at 11 months after PTAS



# Conclusions

VAS can be safely and effectively performed with a low rate of recurrent stroke in the territory of the treated vessel.

## References

1. Hatano T, Tsukahara T, Miyakoshi A, Arai D, Yamaguchi S, Murakami M. Stent placement for atherosclerotic stenosis of the vertebral artery ostium: angiographic and clinical outcomes in 117 consecutive patients. Neurosurgery. 2011;68(1):108-16

2. Al-Ali F, Barrow T, Duan L, Jefferson A, Louis S, Luke K, Major K, Smoker S, Walker S, Yacobozzi M.Vertebral artery ostium atherosclerotic plaque as a potential source of posterior circulation ischemic stroke: result from borgess medical center vertebral artery ostium stenting registry. Stroke. 2011;42(9):2544-9.

## Learning Objectives

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

1) describe the importance of VAO stenosis as a potential source of posterior circulation ischemic stroke.

2) identify the fact that VAO stenting could be an effective treatment for VAO stenosis.

### Indication criteria for treatment protocol

- 1. symptomatic severe VAO stenosis (> 70%)

- 2. asymptomatic severe VAO stenosis with incidentally detected infarction in the posterior circulation
- 3. asymptomatic severe VAO stenosis(>6-0%) with severe bilat. VAO stenosis, contralat. VA occlusion, or contralat. hypoplastic VA









**Results**