

#### The Endovascular Treatment for Carotid Artherosclerosis. Long Term Follow up Results.

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### Introduction

The stenosis of the internal carotid artery is one of the most important causes of ischemic stroke.

Now-a-days, endovascular therapy has been established as an alternative to endarterectomy in patients who would benefit from it, but in whom surgery is not deemed appropriate, due to a high surgical or anesthetic risk.

# **Learning Objectives**

To analyze retrospectively the results obtained in patients treated with endovascular therapy in the Department of Neurosurgery of the Hospital Juarez de Mexico for the treatment of carotid stenosis.

### **Methods**

We performed a descriptive, retrospective and blinded analysis of the clinical records of patients diagnosed with carotid disease between January 2007 and January 2013. The occurrence of stroke, acute myocardial infarction and mortality was analyzed at one month, 6 months, 12 months and 24 months after follow-up; also the degree of functional disability according to the Modified Rankin Scale.

## **Conclusions**

The results shown in this series are similar to those shown in international studies with a high degree of scrutiny. Endovascular procedures for treatment of carotid stenosis are safe and show good results in symptomatic patients.

### Results

Sixty one (61) cases were analyzed, of which 20 patients met inclusion criteria for the study.

The average age was 63.0 years (range: 41-83 years); 15 men and 5 women. 100% had a previous history ischemic cerebrovascular event prior to treatment.

Two patients (10%) had an ischemic vascular event during follow-up; mortality at 2 years in the population was 5% (1 patient). 75% (15 patients) showed an improvement of 1 or more points in the Functional Modified Rankin scale.

## References

1.Brott TG, Halperin JL, Abbara S, et al. 2011 ASA/ACCF/AHA/AANN/AANS/ACR/ASNR/CNS/SAIP/ SCAI/SIR/SNIS/SVM/SVS guideline on the management of patients with extracranial carotid and vertebral artery disease. Stroke 2011; 42:e464.

2.Inzitari D, Eliasziw M, Gates P, et al. The causes and risk of stroke in patients with asymptomatic internal-carotid-artery stenosis. N Engl J Med 2000;342:1693-700

3.Gurm HS, Yadav JS, Fayad P, et al. Long-term results of carotid stenting versus endarterectomy in high-risk patients. N Engl J Med 2008;358:1572-80.

4.Cohen DJ, Stolker JM, Wang K, et al. Health-related quality of life after carotid stenting versus carotid endarterectomy: results from CREST (Carotid Revascularization Endarterectomy Versus Stenting Trial). J Am Coll Cardiol 2011; 58:1557.

5.Mas JL, Chatellier G, Beyssen B, et al. on behalf of EVA-3S Investigators. Endarterectomy versus stenting in patients with symptomatic severe carotid stenoisis. N Engl J Med 2006:355:1660-71.

6.Qureshi Al. Carotid angioplasty and stent placement after EVA-3S trial. Stroke 2007; 38:1993

7.SPACE Collaborative Group, Ringleb PA, Allenberg J, et al. 30 day results from the SPACE trial of stent-protected angioplasty versus carotid endarterectomy in symptomatic patients: a randomised non-inferiority trial. Lancet 2006; 368:1239

# References, continued

8.Ederle J, Dobson J, Featherstome RL, et al. on behalf of International Carotid Stenting Study Investigators. Carotid artery stenting compared with endarterectomy in patients with symptomatic carotid stenosis (International Carotid Stenting Study): an interim analysis of a randomized controlled trial. Lancet 2010:375:985-97.

9.Schreiber TL, Strickman N, Davis T, et al. Carotid artery stenting with emboli protection surveillance study. J Ame Coll Car 2010;56:49-57.

10.Gruberg L. SAPPHIRE: Stenting and Angioplasty With Protection in Patients at Hight Risg for Endarterectomy. Medscape. Nov 25, 2002.

11.Ederle J, Dobson J, Featherstome RL, et al. on behalf of International Carotid Stenting Study Investigators. Carotid artery stenting compared with endarterectomy in patients with symptomatic carotid stenosis (International Carotid Stenting Study): an interim analysis of a randomized controlled trial. Lancet 2010:375:985-97.

12.Mantese VA, Timaran CH, et al. The Carotid Revascularization Endarterectomy versus Stenting Trial (CREST) – Stenting versus Endarterectomy in Carotid Disease. Stroke 2010;41(Supp 10).

13. Jalbert J, Nguyen LL, Gerhard-Herman MD, et al. Outcomes after carotid artery stenting in Medicare beneficiaries, 2005-2009. JAMA Neurology. online January 12, 2015.