

Results of EC-IC Bypass for Symptomatic Hemodynamically Significant Carotid Occlusion Martin Sames MD, PhD, prof.

Department of Neurosurgery, University J.E.Purkinje, Masaryk Hospital, Usti nad Labem, Czech Republic, Europe

Introduction

The COSS trial was underpowered to detect benefit of surgery, primarily because of the overestimation of expected ischemic event. The PET methodology used was less rigorous than previously used in the STLCOS. Neurosurgeons still have reason to believe that a select population may benefit in long-term hemodynamic stroke risk from the surgery at specialized centers. The purpose of our study was to analyze our EC-IC bypass results.

STA-MCA end to side anastomosis



Study trial conducted from 1998 to 2011. Participants were patients with arteriographically confirmed carotid occlusion causing hemispheric symptoms within 120 days and hemodynamic cerebral ischemia identified by evaluation of cerebrovascular reserve capacity (CVRC) by TCD, SPECT and/or perfusion CT in the steady state and after CO2 inhalation. Anastomosis of STA to MCA was performed. The main outcome measure was (1) all stroke and death from surgery through 30 days after surgery, (2) ipsilateral ischemic stroke within 2 years and (3) long-term ipsilateral

Methods

Blood flow dynamics color gradient after and before EC-IC bypass

ischemic stroke within 2-13 years.



Results

Between 1998 to 2011, 88 patients received EC-IC bypass (65 male, 23 female, age ranged from 33 to 79 years, mean age 58,8 years). Thirtydays rate of all strokes and death was 5,7 %. Two- year rate for the primary end point was 0% and longterm (2-13 years) ipsilateral ischemic stroke rate was 0% (10 unrelated death, 1 myocardial infarction).

CTA reconstruction after EC-IC bypass (frontal branch of STA preserved for ophtalmic collateralization, parietal branch used as donor)





Conclusions

The results of our study showed that thirty-days rate for ipsilateral stroke and death was more than twice lower than COSS study (**5,7 % versus 15%**). Perioperative morbidity mortality of COSS trial is unacceptable high in this decade of 21st century. EC -IC bypass may provide long-term benefit over medical therapy in centers with low perioperative morbidity. (11,4% subsequent stroke rate for medical therapy versus 3% subsequent stroke rate for surgery according to COSS study).

References

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Learning Objectives

The results of our study showed that thirty-days rate for ipsilateral stroke and death was **more than twice lower than COSS study**

