

## **CAROTID REVASCULARIZATION IN ASYMPTOMATIC PATIENTS: IS INTERVENTION JUSTIFIED? YES**

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Despite ongoing debate the majority of carotid procedures are performed in asymptomatic carotid stenoses. The evidence for intervention in asymptomatic carotid stenoses is based on two trials without methodological flaws: The Asymptomatic Carotid Atherosclerosis Study (ACAS) [1], published in 1995, and the Asymptomatic Carotid Surgery Trial (ACST) [2], published in 2004. Both trials were able to show a significantly reduced 5-year risk for stroke by carotid endarterectomy (CEA) in high grade (60 to 99% narrowing) stenoses. Contrary to the 5 years results, the 10-years follow-up in ACST also showed a sustained benefit for women, while patients older than 75 years did not profit from operation. However, CEA is only of benefit if perioperative risk is less than 3%. Recent data indicates an annual stroke risk of approximately 1% in patients with carotid stenosis receiving optimal medical treatment, which is much lower than previously expected. But this does not mean that CEA is without effect, it principally means that we need to identify patients for operation more carefully. Besides the general medical condition, age and probably sex, the most important variable for this decision is the complication rate of the local vascular surgeon (or interventionalist).

In ACST a strong association of the rate of progression of stenosis and the stroke risk was seen and is an important factor for the decision for CEA. Currently several diagnostic modalities are intensively studied to identify patients with unstable plaques. However, evidence levels of magnetic resonance imaging, PET-CT or plaque perfusion ultrasound are not yet high enough to be used in clinical practice.

Markus and co-workers studied patients with clinically asymptomatic carotid stenosis with microemboli detection and a follow-up of 2 years (Asymptomatic embolisation for prediction of stroke in the Asymptomatic Carotid Emboli Study (ACES)) [3]. ACES showed that the absolute annual risk of ipsilateral stroke between baseline and 2 years was 3.62 % in patients with embolic signals and 0.70 % in those without, suggesting that MES detection can be used to identify patients with asymptomatic stenosis at higher and lower risk.

1. *Executive Committee for the Asymptomatic Carotid Atherosclerosis Study. Endarterectomy for asymptomatic carotid artery stenosis. JAMA 1995; 273: 1421-1428.*
2. *MRC Asymptomatic Carotid Surgery Trial (ACST) Collaborative Group. Prevention of disabling and fatal strokes by successful carotid endarterectomy in patients without recent neurological symptoms: randomised controlled trial. Lancet 2004; 363: 1491-502*
3. *Markus HS, King A, Shipley M, et al. Asymptomatic embolisation for prediction of stroke in the Asymptomatic Carotid Emboli Study (ACES): a prospective observational study. Lancet Neurol 2010; 9: 663 – 71*