

Endarterectomy for carotid stenosis

Analysis of pooled data from the randomised controlled trials of endarterectomy for symptomatic carotid stenosis. Rothwell PM, Eliaswiz M, Gutnikov SA, Fox AJ, Taylor DW, Mayberg MR, Warlow CP, Barnett HJM, for the Carotid Endarterectomy Trialists Collaboration, Lancet 2003; 361: 107-116

In a nutshell

The three large randomised carotid trials - the European Carotid Surgery Trial (ECST), North American Symptomatic Carotid Endarterectomy Trial (NASCET) and the Veterans Affairs trial have made different recommendations about the degree of symptomatic stenosis above which surgery is effective. This can partly be explained by the differing techniques used to assess the degree of carotid stenosis on the pre-randomisation trial angiograms as well as differences in the definitions of outcome events. In this re-analysis, data from these studies was pooled in order to determine with as much precision as possible the effectiveness and durability of endarterectomy by degree of carotid stenosis. This involved analysis of the individual patient data and all the original angiograms were reassessed using the NASCET criteria. Re-analysis of the trials revealed highly consistent results. Surgery is of some benefit in patients with 50- 69% symptomatic stenosis with a absolute risk reduction (ARR) in the 5 year risk of ipsilateral ischaemic stroke of 4.6% ($p=0.04$). It is highly beneficial for those with 70% symptomatic stenosis or greater but without near-occlusion (ARR=16.0%, $p<0.001$). There was a trend towards benefit of surgery in patients with near occlusion at 2 years follow-up, but no benefit at 5 years.

Second opinion

Currently the final recommendations from the ECST reported benefit from surgery only in men with symptomatic 80% stenosis or greater, and in women with 90% stenosis or greater. However, many surgeons were sceptical of this post-hoc final analysis and continued to offer surgery to patients with greater than 70% stenosis as recommended by the interim analysis published in 1991. In contrast, the NASCET findings showed significant benefit in patients with 50% stenosis or greater. This re-analysis of the pooled data has shown that surgery is of benefit in patients with greater than 50% stenosis, which is equivalent to 65% stenosis by the method used in ECST. However, the benefit in patients with 50-69% stenosis is substantially

less than those with 70% stenosis or greater. Analysis by decile of stenosis showed that benefit increased within the 70-99% range of stenosis.

The Verdict

- * Surgery is highly beneficial in patients with = 70% symptomatic stenosis
- * Surgery is of some benefit for patients with 50-69% symptomatic stenosis
- * Surgery for near-occlusions confers marginal short term benefit and uncertain long term benefit

Julie Brittenden @brittenden@aol.com

Reference

Royal College of Surgeons of Edinburgh: Surgical Knowledge and Skills Website

From:

<http://www.edu.rcsed.ac.uk/Surgeons%20Analysis%20%20Surgeons%20News/SASN%20vascular.htm>

Accessed on October 10th 2007