

CAROTID REVASCULARIZATION IN ASYMPTOMATIC PATIENTS: IS INTERVENTION JUSTIFIED: NO

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Asymptomatic significant ($\geq 50\%$) carotid stenosis (ASCS) is a frequent finding in the aging population. The prevalence of moderate stenosis (50-70%) increases from 3.6% for those less than 70 years to 9.3% in those ≥ 70 years. The (additional) prevalence of severe (70-99%) stenosis is around 2%.

The natural history of ASCS is long considered as quite benign. Older studies show that the overall risk of stroke is around 2% per year.

A better "natural history" for patients with ASCS was shown in more recent studies. This is probably due to better medical treatment and in particular to the significant increase in the use of statins. Latest studies show that the annual risk under best medical treatment (BMT) is less than 1%.

Carotid endarterectomy (CEA) has been evaluated for patients with asymptomatic stenosis in several studies; mainly ACAS and ACST. An overall modest benefit of about 1% risk reduction (per year) was found for CEA (with a peri-operative risk of less than 3%) versus medical treatment, over a five year period.

Basically these 2 studies recruited similar patients with $\geq 60\%$ stenosis based on carotid Duplex. However, the similar favorable results differ: While ACAS (published in 1995) found the risk for ipsilateral stroke in the medical group to be 11% over a five year period, the 11.8% risk observed in ACST (published in 2004) was for any strokes- showing, as already mentioned, a better "natural history" for patients with ASCS in the more recent study.

The suggested guidelines that result from the above mentioned studies is that CEA should be considered in every patient with significant ($\geq 60\%$?, $\geq 70\%$?) stenosis who has a life expectancy of more than five years (and is less than 75 years?) as long as the peri-operative risk is less than 3%.

Taking this advice as such would mean that we should screen for ASCS and operate on all appropriate candidates. This will result in a surge of CEA's!

Such a recommendation is not in place because the observed benefit of CEA by numbers needed to treat (NNT) per year to prevent any stroke is very high (about 80, as compared with symptomatic patients in whom the NNT is less than 10). This high figure (i.e. low yield) results from failure of these studies to identify specific risk factors (including the degree of stenosis within the wide range [60 to 99%] allowed in the studies) in patients with ASCS.

Carotid artery stenting (CAS) has been only recently proven to be a reasonable alternative to CEA. CAS was never compared to BMT thus far and current guidelines are still cautious in advocating its use- mainly for specific conditions.

Therefore, in general, without specific indicators (few markers are emerging- identifying high risk patients) it seems unreasonable to offer carotid revascularization (CEA or CAS) nowadays, when, under BMT, the annual stroke risk is so low while any procedure is associated with immediate peri-procedural complications.

Alternately such patient can, and should, join trials that are underway, some comparing the 3 therapeutic options. These studies may provide more definite conclusions for the best treatment of ASCS.