DEBATE -
Screening For Asymptomatic Carotid Stenosis Is Not Justified For Any Reason

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Disclosure
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X I do not have any potential conflict of interest

Conclusion:
Current evidence does not establish incremental overall benefit of CEA, stenting, or intensification of medical therapy. Potential for overall benefit is limited by low prevalence and harms.


Recommendation:
The USPSTF recommends against screening for asymptomatic carotid artery stenosis in the general adult population.

Ann Intern Med. 2014 Sep 2;161(5)

Updated Society for Vascular Surgery guidelines for management of extracranial carotid disease: Executive summary

Routine screening is not recommended to detect clinically asymptomatic carotid stenosis in the general population

Screening for asymptomatic clinically significant carotid bifurcation stenosis should be considered in certain groups of patients

* Patients with evidence of clinically significant peripheral vascular disease regardless of age
* Patients 65 years or older with a history of one or more of the following atherosclerotic risk factors: coronary artery disease, smoking, or hypercholesterolemia.

Brett A and Levine J; JAMA Intern Med. 2014;174(12)
Goal of carotid ultrasound in asymptomatic patients

- To improve outcomes (theoretically) by:
  - triggering beneficial changes in lifestyle or medical management
  - leading to revascularization procedures to reduce the incidence of a first stroke—however, the potential benefit (of endarterectomy or stenting) has to exceed the potential harm.

Fifteen years ago, a patient with an asymptomatic carotid stenosis had a 3%-6% chance per year of having a stroke. Now, presumably because of better medical treatment, a patient with asymptomatic carotid stenosis has less than a 1% chance per year of having a stroke.

Risk of Stroke at the Time of Carotid Occlusion

- 3681 patients with data on sequential annual carotid sonography
- 316 (8.4%) were asymptomatic before an index occlusion
- 254/316 (80.4%) occurred before 2002, when medical therapy was less intensive

Risk of Stroke at the Time of Carotid Occlusion

- Survival - after the index carotid occlusion - free of ipsilateral stroke / TIA or death from ipsilateral stroke was not predicted by severity of stenosis before the index occlusion by groups (<60%, 60%-80%, 81%-90%, and >90%).

Risk of Stroke at the Time of Carotid Occlusion

Conclusions:

- The risk of progression to carotid occlusion and the risk of stroke at the time of a carotid occlusion is well below the risk of carotid stenting or endarterectomy and has decreased markedly with more intensive medical therapy.
- Preventing carotid occlusion may not be a valid indication for revascularisation.

Clinical and imaging features associated with an increased risk of late stroke in patients with asymptomatic carotid disease


Naylor et al analyzed the consequences of new occlusion in the ACST: “For every 700 asymptomatic patients with a 70-99% asymptomatic stenosis treated medically, seven will occlude their carotid artery each year, but only 1 of the 700 will suffer an ipsilateral stroke.”
The Risk of Asymptomatic CS over 2 decades

Stroke rate with medical therapy alone

Abbott A. Stroke 2009; 40:e573-e583

Role for ultrasound to identify subgroups with higher risks?
Plaque characteristics?
Microemboli?

Progression in the Severity of ACS
Reduced Cerebral Blood Flow Reserve
Silent Embolic Infarcts on Brain CT or MRI
Microemboli Detection on TCD
Progression in the Severity of ACS
Identification of the Unstable Carotid Plaque Using Ultrasound
Neovascularity on contrast ultrasonography of carotid plaques

A limitation of practically all the studies is that they have been performed during the era when MT was not optimal.

Identifying Which Patients With Asymptomatic Carotid Stenosis Could Benefit From Intervention
Konstan I. Parisevans, MD, J. David Spence, MD, FRCP; Frank J. Verhe, MD;
Andrew N. Nikicides, MD, FRCS, PhD (Hon)

SESSION 81: MORE NEW DEVELOPMENTS IN CAROTID DISEASE,
ONGOING TRIALS AND CONTROVERSIES

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When you do it:
Only with written informed consent?

Stroke 2014;45:3720-3724