

Intensive therapy for narrowed arteries linked to fewer heart events

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Intensive medical therapy, including aggressive control of blood pressure and cholesterol levels, for patients with asymptomatic plaque buildup in their carotid arteries (which supply blood to the brain) appears to be associated with reduced rates of cardiovascular events and reduced risk of microemboli (microscopic-sized blood clots) in the brain arteries, according to a report posted online today that will appear in the February 2010 print issue of *Archives of Neurology*.

Patients with this plaque buildup, known as asymptomatic carotid stenosis, are at increased risk of heart attack, stroke and death, according to background information in the article. Microscopic-sized blood clots known as microemboli appear to be associated with the risk of stroke in these patients. A surgical procedure known as carotid endarterectomy can remove plaque and may reduce stroke risk; however, its benefit and risks for those without symptoms remains under debate.

J. David Spence, M.D., of the Stroke Prevention and [Atherosclerosis](#) Research Centre, Robarts Research Institute, London, Ontario, Canada, and colleagues studied 468 patients (average age 69.7) with asymptomatic carotid stenosis. Each patient's plaque areas were assessed when they enrolled in the study and then approximately annually throughout the study. They also underwent a procedure known as transcranial Doppler to detect microemboli in the brain arteries.

Of the participants, 199 were enrolled between 2000 and 2002. The other 269 were enrolled between 2003 and 2007. By 2003, the clinic at

which the study was conducted implemented an intensive medical treatment program for asymptomatic carotid stenosis. The approach involved showing plaque measurements and images to the patients to motivate them to make diet, exercise and other lifestyle changes; more aggressive pharmacotherapy for cholesterol levels and insulin resistance; and optimizing blood pressure control. All were followed up for at least one year, through July 2008.

Patients who began the study following the implementation of this intensive medical therapy were less likely to have microemboli (3.7 percent after 2003 vs. 12.6 percent before 2003). This decline in microemboli coincided with better control of blood cholesterol levels and slower progression of the total plaque area in the [carotid artery](#) (23 square millimeters vs. 69 square millimeters in the first year of follow-up). "Since 2003, there have been significantly fewer cardiovascular events among patients with asymptomatic carotid stenosis: 17.6 percent had stroke, death, myocardial infarction or carotid endarterectomy for symptoms before 2003, vs. 5.6 percent since 2003," the authors write.

Study participants with microemboli had significantly more cardiovascular events in both time periods—32.4 percent of patients with microemboli had a stroke or heart attack, died or underwent carotid endarterectomy for symptoms, compared with 8.6 percent of those without microemboli.

"The arguments against routine revascularization [through a procedure such as carotid endarterectomy] of patients with asymptomatic carotid stenosis have previously been reviewed," the authors write. "Given our finding that intensive medical therapy has reduced the prevalence of microemboli to only 3.7 percent and markedly reduced cardiovascular events, particularly stroke, we suggest that such intensive medical therapy be regarded as the first line of therapy for patients with asymptomatic carotid stenosis. Given that with intensive medical

therapy, the risk of stroke in patients without microemboli is less than the risk of endarterectomy or stenting, we think that revascularization should be considered only for the rare patients with microemboli."

More information: Arch Neurol.
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