Health & Medicine

Healthy Gums for a Healthy Heart

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Brushing your teeth twice a day may keep your smile healthy — and keep heart disease away. A new CUMC study demonstrates the most direct evidence yet linking gum and heart health. The study appeared in the American Heart Association's publication Circulation and shows that those with gum disease are more likely to suffer from atherosclerosis, a narrowing of blood vessels that can lead to a heart attack or stroke. The research is an interdisciplinary effort among the Mailman School of Public Health, the School of Dental and Oral Surgery, and the College of Physicians and Surgeons. The University of Minnesota is also involved in the study.

A link between dental infections and vascular disease has been studied in the past by examining factors such as bone loss and recession of the gums. But this is the first time scientists have looked at infection-causing bacteria. "A number of studies have looked at this issue, but they've examined either clinical or radiological data," says Moïse Desvarieux, MD, an assistant professor of epidemiology at the Mailman School of Public Health and the lead author of the paper. "The hypothesis, though, is that atherosclerosis is linked to periodontal infections, so we looked at the mouth. Bacteria are closer to the truth."

Desvarieux and his team, including Panos Papapanou, DDS, professor and chair of the section of oral and diagnostic sciences and director of the division of periodontics at the School of Dental and Oral Surgery, and Ralph Sacco, MD, associate chair of neurology and director of the Stroke and Critical Care Division of the College of Physicians and Surgeons, measured the bacteria levels in the mouths of more than 600 people with no history of stroke or myocardial infarction. They compared the results with the thickness of the subjects' carotid arteries, which are measured to identify atherosclerosis.

Papapanou, Sacco, and Desvarieux found that people with a higher level of the bacteria that causes periodontal disease also had increased carotid artery thickness, even after taking other cardiovascular risk factors, such as diabetes, into account. This relationship didn't exist, however, with the non-infection-causing bacteria. A

possible explanation for the link, says Desvarieux, is that the gum-disease-causing bacteria migrate throughout the body and stimulate the immune system, bringing about inflammation that results in clogged arteries. The researchers plan to monitor the subjects over time to see if increased bacteria will translate into more heart attacks or strokes.



Guide to school abbreviations

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