

Presence of gum disease may help dentists and physicians identify risk for cardiovascular disease

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Individuals reporting a history of periodontal disease were more likely to have increased levels of inflammation, a risk factor for heart disease, compared to those who reported no history of periodontal disease, according to an *American Journal of Cardiology* report available online today. Led by investigators from Columbia University Medical Center and NewYork-Presbyterian Hospital, the findings suggest persons with increased levels of inflammatory markers associated with a higher risk of cardiovascular disease might be identified by asking about oral health history. This group might not be detected by traditional cardiovascular risk screening.

Inflammation has been associated with cardiovascular disease and has been suggested to be a potential link between periodontal disease and cardiovascular disease. To examine whether oral health history and inflammatory markers associated with cardiovascular disease were linked, the investigators followed participants in the National Heart, Lung and Blood Institute (NHLBI) Family Intervention Trial for Heart Health (F.I.T. Heart), an ongoing national trial led by principal investigator Lori Mosca, M.D., M.P.H., Ph.D., professor of medicine at Columbia University College of Physicians and Surgeons and director of preventive cardiology at NewYork-Presbyterian Hospital/Columbia University Medical Center.

The NHLBI Family Intervention Trial for Heart Health aims to study

family members of patients hospitalized with heart disease because they may be at increased risk themselves due to shared genetic and/or lifestyle factors. Dr. Mosca and her research team recruited family members or co-habitants of patients hospitalized for such cardiac events as a heart attack or narrowed arteries that required bypass surgery or an angioplasty procedure. Previous research has shown that family members of cardiovascular disease patients may be at increased risk for the disease due to the genes and lifestyle habits they share.

In this study, 421 individuals who were blood related to and/or living with a person recently hospitalized due to cardiovascular disease were screened for traditional cardiovascular risk factors (such as elevated blood pressure and abnormal cholesterol levels), inflammatory markers associated with disease risk (high-sensitivity c-reactive protein (hsCRP) and lipoprotein-associated phospholipase A2 (Lp-PLA2)). They were also asked standardized questions about their oral health status, including whether they had ever been diagnosed with periodontal (gum) disease, whether they had ever been treated for periodontal disease, whether they used partial or complete removable dentures, and the date of their last teeth cleaning. The oral health history was then correlated with standard markers of inflammation.

Results found that among participants who did not have traditional cardiovascular disease risk factors (such as high blood pressure, high cholesterol, and overweight/obese status), almost one in four were found to have a personal history of periodontal disease and higher levels of Lp-PLA2, an inflammatory marker which has been found present in inflamed rupture prone plaque in heart arteries/valves.

It is important to note that it is not possible to determine from this study that poor oral health causes cardiovascular disease risk or that any therapy based on oral health status would be effective in preventing cardiovascular disease. However, Dr. Mosca says, "Our finding is novel

because it suggests the dentist and oral health exam may be the latest weapon in identifying persons at risk of cardiovascular disease, our nation's number one killer."

"Many people don't realize how oral health is often a predictor of one's overall health," says co-author John T. Grbic, DMD, MS, MMSc, professor of clinical dental medicine at the Columbia University College of Dental Medicine. "Symptoms for many life-threatening illnesses, such as diabetes and heart disease, first appear in the mouth. For this reason, it's vitally important for people to have routine dental check-ups and have an ongoing dialogue with their dentist about their oral health. Patients may also benefit from seeing dentists affiliated with an academic medical center, where they are tapped into deep referral networks to appropriate clinicians."

Source: New York- Presbyterian Hospital

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