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Poor Oral Hygiene and Coronary Heart Disease

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Abstract

In most countries, Atherosclerosis is an important component of coronary heart disease (CHD) is one of the leading causes of morbidity and death coronary heart disease is a serious condition caused by a buildup of plaque in your coronary arteriesThis report reviews the current evidence indicating that oral conditions (specifically periodontitis) may be a risk factor for atherosclerosis and its clinical manifestations Because atherosclerotic processes are typified by chronic inflammatory responses, which are similar to those elicited by chronic infection, the role of infection in promoting or accelerating atherosclerosis has received considerable focus. Increasing evidence supports the notion that periodontitis is associated with increased risk of atherosclerosis through dysfunction of endothelial cells induced by either periodontopathic bacteria or their products, or inflammatory mediators derived from infected periodontal tissue This review is done in the context of the research indicating that inflammation plays a central role in pathogeneses and that there is a substantial systemic microbial and inflammatory burden associated with periodontal disease

Introduction

Heart Disease Chronic IHD, also called ischemic cardiomyopathy, is essentially progressive heart failure as a consequence of ischemic myocardial damage. In most instances there is a history of MI, Chronic IHD usually results from postin- farction cardiac decompensation that follows exhaustion of the hypertrophy of the viable myocardium. In other cases severe obstructive CAD may be present without prior infarction, but with diffuse myocardial dysfunction. Morphology Hearts from patients with chronic IHD are usually enlarged and heavy from left ventricular dilation and hypertrophy.. (1)

Coronary artery disease, also called coronary or atherosclerotic heart disease, is a serious condition caused by a buildup of plaque in your coronary arteries, the blood vessels that bring oxygen-rich blood to your heart The arteries are smooth and elastic But when plaque builds up on their inner walls, it can make them become stiff and narrow This slows blood flow to your heart muscle, so it doesn't get the oxygen it need The plaque could break off, leading to a heart attack or sudden cardiac death Risk factors for coronary artery disease include Age Simply getting older increases your risk of damaged and narrowed arteries Sex Men are generally at greater risk of coronary artery disease and Family history or Smoking People who smoke have a significantly increased risk of heart disease Exposing others to your secondhand smoke also increases their risk of coronary artery disease High blood pressure. Uncontrolled high blood pressure can result in hardening and thickening of your arteries, narrowing the channel through which blood can flow DiabetesDiabetes is associated with an increased risk of coronary artery disease Overweight or obesity Excess weight typically worsens other risk factors Physical inactivity Lack of exercise also is associated with coronary artery disease and some of its risk factors, as well. High stress(2).

Unrelieved stress in your life may damage your arteries as well as worsen other risk factors for coronary artery diseaseUnhealthy dietOver the past two decades, there has been an increasing interest in the possible link between dental disease, specifically periodontal disease, and cardiovascular disease Inflammation plays an important role in the pathogenesis of atherosclerosis, and markers of low grade inflammation have been consistently associated with a higher risk of cardiovascular disease Consequently

contributing factors associated with inflammation and chronic infections, including oral infections such as periodontal disease, have been investigated to explain the relation between dental disease and cardiovascular disease Poor oral hygiene is the major cause of periodontal disease, a chronic infection of the tissue surrounding the teeth.

C reactive protein and fibrinogen are sensitive markers used to evaluate the inflammatory status of an individual, and the results of prospective longitudinal studies indicate that these markers might be useful predictors for future cardiovascular events in various populations oral health in the etiology of cardiovascular disease has received considerable attention.

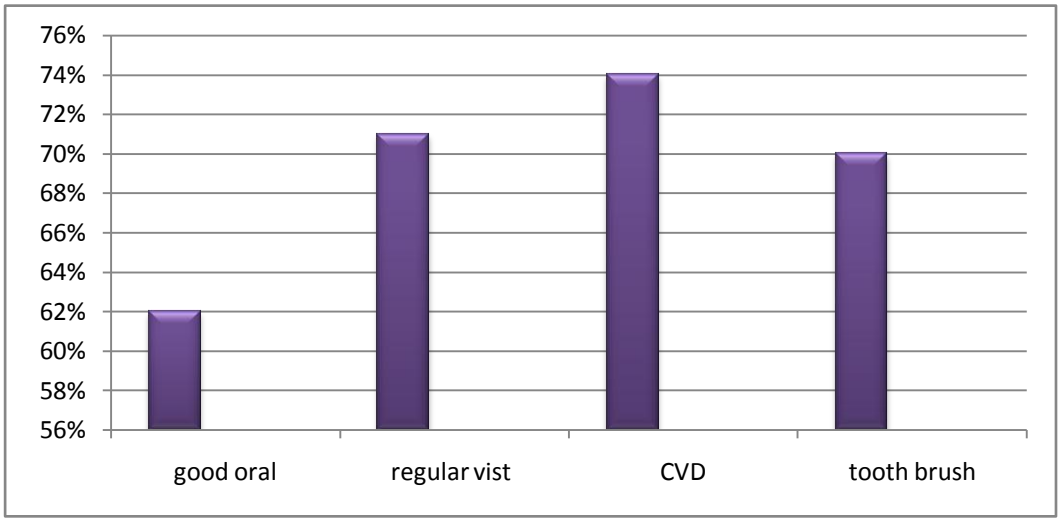
Periodontal disease is a complex chronic inflammatory disease, resulting in a loss of connective tissue and bone support of the teeth It is a major cause of tooth loss in adults aged over 40, and, according to the World HealthOrganizationaffects people worldwide at prevalence rates of up to 10-20% for the most severe forms Periodontal disease is highly prevalent, especially in late middle age when coronary artery disease is also most common, and it is caused mostly by poor oral hygiene.(3)

Methods and Materials

A literature search for was performed to discover studies reviewing on the association between poor oral hygiene and CHD. Online sites and some database including in this report are PubMed and google scholar and Journal of Dental Research search terms used included " poor oral hygiene" and " coronary heart disease " and "periodontitis" and "atherosclerosis ".

Results

Oral health behavior was generally good, with about 62% (14 718) of participants reporting regular (at least every six months) visits to a dentist and 71% (8481) reporting good oral hygiene (brushing teeth twice a day). Participants who brushed their teeth less often than twice a day were slightly older, more likely to be men, and of lower social status and had a high prevalence of risk factors including smoking, physical inactivity, obesity, hypertension, and diabetes Participants from the different survey years were comparable in terms of demographics and risk factors There were a total of 555 cardiovascular disease events over an average of 8.1 years of follow-up, of which 170 were fatal. In about 74% (411) of cardiovascular disease events the principal diagnosis was coronary heart disease. Participants who reported poor oral hygiene (never/rarely brushed their teeth) had an increased risk of a cardiovascular disease event in a fully adjusted model.



They also had increased concentrations of both C reactive protein and fibrinogen In further multivariate models the associations were attenuated, although they remained significant in the case of cardiovascular disease events. Participants who reported less frequent toothbrushing had a 70% increased risk of a cardiovascular disease event in fully adjusted models compared with participants who brushed their teeth twice a day.

The other independent predictors of cardiovascular disease events included smoking hypertension and diabetes.(4)

Discussion

Among men with periodontal disease, we foundsignificantly higher incidence of CHD among men with 10or fewer teeth compared with men with an intact dentition,after controlling for standard CHD risk factors. Potentialbias was minimized by the high follow-up rate. No effect oftooth loss was seen among men who reported noperiodontal disease The limitation of the associationbetween tooth loss and CHD to participants with positiveperiodontal disease suggests that antecedent periodontal

infection in the extracted teeth could be a factor.Three main pathways linking oral infection to secondary

disease were metastatic infection, secondary to the oral infection, due totransient bacteremia (presumably resulting primarily inendocarditissystemic inflammation from immunologicinjury caused by oral bacteria; and systemic vascular

injury due to oral microbial endotoxins.Bacterial endotoxin may affect endothelial integrityplasma lipoprotein metabolism, blood coagulation, plateletfunction, and prostaglandin synthesis (*Syrjanen, 1990.*Bacterial endotoxin increases cytokine secretionwhich couldelevate inflammatory markers

Participants withperiodontal disease showed elevated fibrinogen and white blood cell levels which may becausally related to CHD There is also some evidencelinking dental infection with Von Willebrandwhich in turn has been associated with CHD

Tooth loss could lead to changes in diet, which couldincrease CHD risk. Controlling for dietary factors led to avery small attenuation suggesting that diet couldexplain at most a small part of the association. The effect ofdiet may be underestimated due to the inherentmisclassification in dietary assessment The effect of diet is likely to be higher inother populations with a socio-economic range wider thanthat of health professionals.

Tooth loss and CHD can both be reduced bymodifications in behavior and habits. Hence, people whotake good care of their dentition may be at lower risk forCHD, simply as they practice healthy behaviors. They controlled for confounding from "healthy behavior" byadjusting for smoking, physical activity, and several CHDrisk factors. After controlling for age and smoking, wefound that additional control of other CHD risk factors other study suggests an association between poororal health and CHDFurther studies are needed to evaluate

Conclusions

I am with the results that confirmed and further strengthened the suggested association between poor oral hygiene and the risk of cardiovascular disease (coronary artery disease) FurthermorePeriodontal disease as a risk factor for the development of various systemic conditions, such as CVD, diabetes, and even toothbrushing was associated with increased the risk of coronary artery disease , inflammatory markers were significantly associated with poor oral health behavior

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