

Unknown Inflammation at Gums Leading to Severe Gingivitis

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Commentary

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DESCRIPTION

Gum disease, also referred to as periodontal disease, is a group of inflammatory conditions that affect the tissues that surround the teeth. Gingivitis is a condition that causes the gums to swell, turn red, and occasionally bleed. Periodontitis, its more severe variant, can cause bone loss, gum tissue separation from the tooth, and eventual tooth loss. Bacteria in the mouth cause immediate periodontal disease by infecting the gum tissue surrounding the teeth. The risk of disease is increased by factors like smoking, diabetes, HIV/AIDS and some medications. The gum tissue surrounding the teeth is examined for bone loss utilising X-rays, a probe, and visual inspection to make the diagnosis.

Increased levels of C-reactive protein and interleukin-6, which are signs of inflammation, have been linked to periodontitis. It is linked to a higher risk of stroke, Atherosclerosis, Myocardial infarction hypertension. It also indicated that people over 60 had problems with their capacity for calculation and delayed memory. Higher levels of periodontal inflammation are present in people with impaired fasting glucose and diabetes mellitus, who also frequently struggle to control their blood sugar levels as a result of the continual systemic inflammation brought on by the periodontal inflammation. An inflammatory condition that affects the tooth-supporting structures is known as Periodontal Disease (PD). Increased levels of systemic inflammatory markers like Interleukin-6 (IL-6), C-Reactive Protein (CRP), and Tumor Necrosis Factor have been linked to PD, according to studies (TNF). In way of comparison, increased levels of these inflammatory markers have also been linked to cerebrovascular conditions like ischemic strokes and cardiovascular disease.

Acute or chronic stroke episodes are more likely when there are multiple inflammatory oral diseases present. IL-6, CRP, and inflammatory markers are well-known risk factors for stroke. Both of these inflammatory markers are also biomarkers of PD and have been demonstrated to increase after performing daily activities like chewing or using a

toothbrush. Throughout these procedures, bacteria from the periodontal pockets will enter the bloodstream, and the available research suggests that this could be a potential trigger for the stroke process to become more aggravated.

By accumulating calcium, cholesterol, and cholesterol esters within the sub-endothelial layer of vessel walls, it can help to promote atherosclerosis. An ischemic stroke can result from an unstable atherosclerotic plaque that ruptures, releases debris and thrombi, and travels to various parts of the circulatory system. PD has thus been postulated as a distinct risk factor for stroke. Periodontal disease can also be connected to a variety of cardiovascular conditions. Patients with higher levels of inflammatory markers like TNF, IL-1, IL-6, and IL-8 may experience atherosclerosis progression as well as the emergence and maintenance of atrial fibrillation because these markers are related to activations of the platelet and coagulation cascades, which can result in thrombosis and thrombotic complications.

Periodontal disease, oxidative stress, and cardiac stress have all been linked in experimental animal studies. Because it leads to cellular dysfunction, oxidation of proteins and lipids, and damage to DNA, oxidative stress promotes the onset and progression of heart failure. It also encourages the proliferation of fibroblasts and the activation of metalloproteinases, which promotes cardiac modification. Poor or ineffective oral hygiene is the main contributor to gingivitis because it causes an accumulation of dental plaque, a bacterial and mycotic matrix found at the gum line. Poor nutrition and underlying illnesses like diabetes are additional causes. To control periodontal disease, diabetics must take meticulous care of themselves at home. In the US, the Food and Drug Administration has approved new finger-prick tests that are being used in dental offices to identify and screen patients for potential contributory causes of gum disease, such as diabetes.