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Poster Presentation

The Effect of Periodontitis on Migraine Chronification

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Abstract

Migraine is a neurovascular disorder that is characterized by unilateral, pulsatile headaches. Migraine due to its individual and social effects is known as a major cause of disability in the world. The main complication of this disease is chronification that is known as chronic migraine (CM). It seems that several factors contribute to migraine chronification such as age, female gender, obesity and depression. Periodontitis (PD) is a common progressive inflammatory disease in the adult population that can cause destruction of surrounding connective tissue and increased loss of alveolar bones. During PD that occurs as a result of interaction between periodontal pathogen and hos t response, some factors such as interleukin-1 (IL-1), IL-6, C-reactive protein (CRP), tumor necrosis factor-alpha (TNF-alpha) which are produced locally are systemically distributed. This chronic inflammatory condition can be associated with overexpression of neurogenic biomarkers such as calcitonin gene-related peptide (CGRP), substance P (SP), neurokinin A (NKA) in CM. Hypertension, hypercholesterolemia, insulin resistance, stroke and coronary artery disease are a number of comorbidities that are associated with CM and PD. On the other hand, adipocytokines (e.g., leptin) have important role in various physiologic processes such as endothelial function, immune response and inflammation. Several studies have shown that some of them are involved in CM. High level of leptin not only contribute to pathophysiology of migraine, but also its chronicity through systemic inflammation. Chronic increasing in leptin concentration in patients with PD can worsen the inflammatory process of migraine. In conclusion, PD through increased endothelial dysfunction, systemic inflammation and trigeminovascular system activation could be involved in process of migraine chronification. Besides that, the altered concentration of adipocytokines may be a biomarker of CM which can be considered as a new therapeutic role for migraine. Although PD is mitigated as a potential factor for CM more evidence is needed to examine the effect of periodontal treatment on CM.

Keywords: Chronic Migraine, Periodontitis, Inflammation, Adipocytokines

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