

PERIODONTAL INFLAMMATION IS ASSOCIATED WITH INCREASED SERUM CGRP LEVELS IN PATIENTS WITH CHRONIC MIGRAINE

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Recently, a relationship was found between periodontitis (PD) and chronic migraine (CM). Calcitonin gene-related peptide (CGRP) is key in migraine pathophysiology. However, no information exists of the potential association between periodontal inflammation and CGRP in CM. The aim of the study was, therefore, to investigate whether there is a link between PD and peripheral levels of CGRP in a cohort of patients with CM.

We included 102 chronic migraineurs and 77 age and gender matched individuals free of headache/migraine. Full-mouth periodontal parameters were recorded and the periodontal inflamed surface area (PISA) was calculated to quantify the periodontal inflammatory status for each participant. Socio-demographic data and co-morbidities were assessed by means of a standard questionnaire. We collected blood samples and serum concentrations were done for CGRP, interleukin (IL)-6 and IL-10.

In the CM group, patients with PD had greater levels of serum CGRP (19.7±6.5 vs. 15.3±6.2 pg/mL) and IL-6 (15.1±9.2 vs. 9.6±6.3 pg/mL, P<0.0001) while non-significant differences were observed with IL-10 (2.0±1.0 vs. 2.8±1.5 pg/mL, P=0.675) concentrations than those without PD. PISA was independently associated with CGRP in patients with CM (β =0.003; 95%CI: 0.001-0.006, P=0.031). PISA correlated positively with CGRP (r=0.236; P=0.017) and IL-6 (r=0.262; P=0.008) in CM.

Periodontal inflammation is associated with increased circulating levels of CGRP in chronic migraineurs. Elucidating the exact mechanisms through which PD and CGRP are linked in these patients deserves further investigation.