Measurement of gp130 cytokines e Oncostatin M and IL-6 in gingival crevicular fluid of patients with chronic periodontitis

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Abstract

Several proinflammatory cytokines can induce periodontal tissue destruction and are thought to be useful indicators or diagnostic markers for periodontitis. Here, we aimed to investigate whether oncostatinM(OSM) was present in gingival crevicular fluid (GCF) and to clarify the correlation of GCF OSM and interleukin-6 (IL-6) levels with the severity of periodontitis. Sixty-two sites in 14 patients were divided into 4 groups based on probing depth (PD) and bleeding on probing (BOP). GCF was collected using paper strips from clinically health sites (PD%3 mm, CAL: 1e3 mm, without BOP, nZ31), mildly diseased sites (PD%3 mm, CAL: 3e5 mm, with BOP, nZ11), moderately diseased sites (PDZ4e6 mm, CAL: 5e8 mm, with BOP, nZ11), and severely diseased sites (PDO6 mm, CAL: 8e12 mm, with BOP, nZ9). IL-6 and OSM in GCF were quantified by enzyme-linked immunosorbent assay and are expressed as concentrations (pg/ml) and total amounts (pg/site). Correlations of OSM and IL-6 levels with the severity of periodontitis in all groups were determined using Spearman rank correlation (rs). Our results showed that OSM and IL-6 were detected in most GCF samples. The total amounts of OSM and IL-6 were significantly positive correlated with severity of diseased sites (OSM: rsZ0.526, p!0.01; IL-6: rsZ0.729, p!0.01). No correlations of OSM or IL-6 concentration in GCF were found with disease severity. OSM and IL-6 levels in GCF were positively correlated to each other when expressed as either concentrations or total amounts (concentrations: rZ0.485, p!0.01; total amounts rZ0.490, p!0.01). In conclusion, our findings suggest that IL-6 and OSM may play a role in modulating the inflammatory cascade of chronic periodontitis.