Abstract

Cytokines which are produced by host cells play an important role in pathogenesis both rheumatoid arthritis (RA) and chronic periodontitis (CP). In this study, we aim to investigate the levels of Interleukin (IL)-4 and IL-10 in gingival crevicular fluid (GCF). Seventeen patients with CP, 17 patients with RA and 17 healthy controls (HC) were included. The RA group was divided into two groups according to gingival sulcus depths (RA-a: PD ≤ 3 mm, (n = 12), RA-b: PD > 3 mm, (n = 5)). For each patient, clinical parameters were recorded. The GCF samples were evaluated by enzyme-linked immunosorbent assay (ELISA) for IL-4 and IL-10 levels. IL-4 levels in the RA-a, RA-b and CP subjects were significantly lower compared to the HC subjects (p < 0.05). The mean level of IL-4 in RA-b group was significantly higher than that in CP group (p < 0.05). IL-10 mean level in the HC group was higher than those in the other groups (p < 0.05). In the RA-a group, higher IL-10 level was found compared to the CP patients (p < 0.05). Within the limitations of this preliminary report, it can be concluded that the initiation and progression of periodontal inflammation may be due to a lack or inappropriate response of the anti-inflammatory cytokines in both CP and RA.