Thesis Title Gingival Fluid Interleukin-1β Level from Healthy and Periodontitis Teeth

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ABSTRACT

The present study was designed to assess IL-1β level in gingival crevicular fluid (GCF) from healthy subjects and patients with existing periodontitis, correlate crevicular IL-1β level with the clinical parameters and compare crevicular IL-1β level between periodontal diseased, active and inactive teeth. The GCF were collected with Periopaper strips from 34 diseased active and 45 diseased inactive teeth in 11 untreated periodontitis patients and from 60 teeth in 15 healthy control subjects. Disease activity was defined as attachment loss of > 2.5 mm in at least one site of a tooth as determined by sequential probing. The absorbed GCF volume was

determined using a Periotron 6000 and the crevicular IL-1β level was determined using IL-1β monoclonal antibody (Otsuka Pharmaceutical, Japan). IL-1β was below the level of detection of the assay (6 pg/ml) in healthy control group and was found in most teeth of periodontitis group. However, diseased active teeth had higher IL-1β level (Mann-Whitney U-test, $p < 0.05$) than diseased inactive teeth (mean total IL-1β of 5.89 ± 7.88 pg/tooth and 1.72 ± 2.28 pg/tooth; mean concentration of 1.6 ± 2.5 ng/ml and 0.6 ± 0.83 ng/ml, respectively). The level of IL-1β showed no correlation with pocket depth, but significant correlation ($p < 0.05$) was found with the extent of attachment loss. This study indicates that the level of IL-1β in GCF may have a predictive value for determining active and inactive periodontal status.