Aim

**Aim:** In this study, it was aimed to evaluate plasma ghrelin levels in chronic periodontitis patients and to investigate if any relationship exists between ghrelin and periodontal parameters, serum cytokines and bone turnover markers.

Material and Methods

**Materials and Methods:** Thirty five systemically healthy and chronic periodontitis patients (CP) and 35 systemically and periodontal healthy individuals (C) were included in this study. Plaque index, gingival index (GI), bleeding on probing, probing depth and clinical attachment levels were recorded. Blood samples were obtained to determine levels of total and acylated ghrelin, interleukin-1beta (IL-1β), tumor necrosis factor-alpha (TNF-α), soluble receptor activator nuclear factor kappaB ligand (sRANKL), alkaline phosphatase (ALP) and osteocalcin (OSC).

Results

**Results:** Plasma levels of total and acylated ghrelin were significantly elevated in the CP group compared to the C group (p<0.05). Such difference was significant only between male groups as groups were compared in respect to gender (p<0.05). As there were no differences between groups regarding serum sRANKL, TNF-α and ALP, an increase in IL-1β and a decrease in OSC level of CP group was observed (p<0.05). Beside, positive correlations between total ghrelin and ALP, total ghrelin and acylated ghrelin were determined. There was not any correlation between ghrelin levels and periodontal parameters.

Conclusion

**Conclusion:** Our results indicates an increase of plasma total and acylated ghrelin levels in existence of CP. Researches with large populations where ghrelin levels in gingiva, gingival crevicular fluid and saliva are determined in order to evaluate the role of ghrelin and its’ different forms in periodontal disease are needed.