ABSTRACT

BACKGROUND: The oral health status of chronic renal failure (CRF) patients undergoing treatment is complex due to other comorbid conditions. These patients appear to be predisposed to a variety of dental problems such as periodontal disease, narrowing of the pulp chamber, enamel abnormalities, premature tooth loss and xerostomia. Renal replacement therapy can affect periodontal tissues such as gingival overgrowth in immunosuppressed renal transplantation patients and increased levels of plaque accumulation, calculus formation, gingival inflammation, possible increase prevalence and severity of periodontal diseases in CRF patients. The presence of undiagnosed periodontitis may have significant effect on the medical management of CRF patient. Periodontitis has been found to contribute to systemic inflammatory burden including the elevation of C-reactive protein (CRP) in the general population dental care as well as primary preventive measures seems to be neglected in these patients.

AIM: This study compared the periodontal and dental health status of patients on renal transplant patients (RT), hemodialysis patients (HD) and pre dialysis patients (PD) with healthy controls (C).

METHODS: This case control, prospective, parallel design study was conducted at the Department of Periodontics, Sri Ramakrishna Dental College & Hospital, Coimbatore and at Sri Ramakrishna Hospital, Coimbatore Kidney Center, Coimbatore. This study includes 25 renal transplant patients, 25 hemodialysis patients and 25 pre dialysis patients compared with 20 healthy controls (C) of age ranging more than 35 years. The clinical parameters were assessed using Plaque Index (PlI), Gingival Index (GI), probing pocket depth (PPD), clinical attachment level (CAL), gingival bleeding index (GBI) and gingival overgrowth (GO). The statistical analysis was performed using one-way analysis of variance (ANOVA), Tukey Kramer analysis, inferential statistics, Pearson correlation analysis and Post Hoc test was applied.
**RESULTS:** In this study, difference between the groups in Plaque Index (PlI), Gingival Index (GI), probing pocket depth (PPD), clinical attachment level (CAL), gingival bleeding index (GBI) and gingival overgrowth (GO) was statistical significant difference (p<0.01). Clinical changes show all independent variables increased in renal transplant group when compared to dialysis and pre dialysis patients. All variables were comparably low in control group. The mean value of clinical parameters although insignificant, CAL was statistically significant. So, there was a direct correlation between CRF and periodontal disease.

**CONCLUSION:** CRF patients are characterized by gingival and periodontal diseases. The dental community's awareness of the implication of poor oral health within this population should be elevated and daily oral health maintenance should be reinforced.

**KEY WORDS:**

Chronic periodontitis; gingival inflammation; periodontitis; renal transplant; dialysis; pre dialysis.