Abstract
ABSTRACT

BACKGROUND:

Calculus deposits may hamper the efficacy of daily oral hygiene and thereby accelerate plaque formation. Salivary pyrophosphate has been reported to inhibit mineralization and calculus formation. In this study, pyrophosphate concentration in whole saliva was evaluated in patients with mild/no calculus, moderate and severe calculus formation.

MATERIALS AND METHODS:

The material for this study consists of 80 patients with age range of 30 to 45 years (mean age 32.6 years). Patients were divided into mild/no calculus, moderate and severe calculus groups using OHI index as a guideline. Unstimulated whole saliva was collected and biochemically analyzed for concentration of pyrophosphate using pyrophosphate assay kit by the Elisa method.

RESULTS:

The mean values of pyrophosphate in three groups mild/no calculus, moderate and severe were 15.81, 6.69 and 2.17µM respectively. There was a significant difference between mild/no calculus group, moderate group and severe group. (p < 0.05)
CONCLUSION:

The results indicate that salivary pyrophosphate levels may play a significant role in regulating calculus formation. As calculus has a major role in disease progression as a plaque retentive factor, Pyrophosphate may be used as a therapeutic target. Further studies aimed at identifying all the phosphate regulators in saliva would provide greater clarity.

Keywords:

CALCULUS, OHI INDEX, PLAQUE RETENTIVE FACTOR, SALIVARY PYROPHOSPHATE