

**Republic of Iraq
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Assessment of parathyroid hormone and some blood constituents of urinary stone patients in relation to dental calculus and other periodontal parameters

A Thesis

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Abstract

Background: Dental calculus is mineralized dental plaque formed on teeth surfaces and dental prosthesis in the oral cavity. Urinary stone is a crystal aggregation formed in urinary system due to minerals saturation present in urine. The structure of dental calculus is similar to that of urinary stone. Parathyroid hormone is a hormone secreted by parathyroid glands. Moreover, plays an essential role in maintaining mineral homeostasis (calcium and phosphorous) in serum.

Aims of the study: Investigate if there is a difference in calculus and plaque accumulation, and gingival inflammation between urinary stone patients and healthy subjects. Moreover, investigate if there is a relation of Serum parathyroid hormone and other blood constituents (Calcium(Ca^{+2}), Phosphorus(PO_4^{-3}), Uric acid) on the oral hygiene and gingival condition.

Materials and Methods: Thirty patients (15 males and 15 females) with urinary stone selected as a study group with an age range (25-40) years. And the same number with age and gender matching selected for healthy control group. The oral hygiene index recorded by plaque index and calculus index, while gingival Index recorded for gingival health status. Blood collected and chemically analyzed to determine the concentrations of serum parathyroid hormone, calcium, phosphorus and uric acid.

Results: Higher mean values recorded of plaque index \pm standard deviation (SD) of the study group compared to control group as notice of this results respectively (1.435 ± 0.499 , 0.868 ± 0.265) with highly significant differences, Also concerning to calculus index (1.28 ± 0.66 , 0.501 ± 0.457) and gingival index (0.995 ± 0.288 , 0.602 ± 0.265).

As well as there was positive highly significant correlation recorded between dental calculus with plaque accumulations and gingival inflammation among

the study group. No significant difference in serum constituents between the stone group and healthy control. Moreover, no significant correlation of blood constituents with calculus accumulation.

Conclusion: Urinary stone patients had more dental plaque and calculus accumulation and gingival inflammation. There was positive highly significant correlation between dental calculus accumulation with plaque accumulations and gingival inflammation among the urinary stone patients. So special programs needed as preventive care of oral health for those patients.