

URINARY STONES IN SOUTHERN INDIA: BIOCHEMICAL ANALYSIS AND ITS CLINICAL IMPLICATIONS

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ABSTRACT

Background: Urinary stones are the most common cause of acute and chronic urinary failure with an estimated prevalence of 20%. Studying the chemical composition of urinary stones forms an integral part of managing patients with urinary stones. Limited data is available about the urinary stone composition in patient populations in Southern India.

Methods: Clinical charts of patients who were admitted and later underwent surgery for urinary stones, between May 1, 2009 and April 30, 2010, at Amrita Institute of Medical Sciences, Kochi, were included in the study. Data were collected from the Clinical Biochemistry Laboratory. All blood parameters were analysed in Chemistry-Immuno Analyzers Olympus AU680 and Olympus AU2700.

Results: In 176 patients, who were included in the study, mean age 38.7 years, renal stones were most common, followed by ureteric and bladder stones. Calcium and oxalate were the most common constituents of urinary stones. 32% of the patients had above normal serum creatinine values and 36% of the patients had above normal uric acid levels. The second most common stone composition was calcium phosphate. Extremely high values of serum calcium (>12mg/dL) were found in only 3% of the patients.

Conclusion: Apart from chemical analysis of urinary stones, obtaining various blood parameters also would help clinicians in managing a patient in a holistic manner. Data presented in this study may help healthcare policy makers to look through the risk factors for urinary stone formation in this particular geographical area.

KEYWORDS: Biochemical Analysis, Southern India, Stone Composition, Urinary Stone