

#1957 - Causes and risk factors of pediatric kidney stones

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Body

Introduction

Pediatric nephrolithiasis has been increasingly recognized as a major source of morbidity and cost in the world. Etiology , presenting signs and

symptoms are often considerably different from those in adults.

Objective

To evaluate metabolic and anatomic abnormalities in a contemporary pediatric population after their first stone episode.

Method

This prospective research was included of all consecutive children presenting after their first kidney stones over 10 years (2007-2017) . All patients had a comprehensive metabolic, infective and anatomic screen and were classified as metabolic, infective, anatomic abnormalities or idiopathic stone disease. We compared demographic data, serum chemistry and random urine results.

Results

Three hundred fifty patients were reviewed. The median age of presentation was 3.2 y (1 m-17.6y). Two hundred fifty (71%) had an underlying metabolic abnormality, 35

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(10%) had some kind of urinary system obstruction , 30 (8.5%) had infective stones and 40 (11.5%) were classified as idiopathic. Of the 250 patients with a metabolic abnormality: 150 (60%) had Hyperuricosuria, 65 (26%) had hypercalciuria , 17 (7%) had hyperoxaluria, 8 (3%) had cystinuria, and 10 (4%) had hypocitraturia . Bilateral stones occurred in 45% of the metabolic group compared to 13% in the non-metabolic group (OR 0.2, $p < 0.05$). Overall, there was a low rate of serum chemistry abnormalities.

Medical therapy was the most effective treatment (88%) and surgically, minimally invasive techniques (lithotripsy, percutaneous

nephrolithotomy, and endoscopy) were used in 22% of patients.

Conclusion

Underlying metabolic abnormalities are the most common cause of the pediatric kidney stones , and hyperuricosuria is the first one. Medical

therapy was the most effective treatment of pediatric kidney stones.

Keywords: Pediatric; Kidney Stone; Risk Factors

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