#1926 - High frequency of urine metabolite abnormalities in children with asymptomatic hematuria	
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Body	Asymptomatic hematuria is an important manifestation of nephrologic and urologic disorders with an incidence of 0.4-4.1%. The purpose of this study was to identify the characteristic of urine biochemical disturbances in children with unexplained isolated microscopic or macroscopic hematuria. A total of 681 patients with culture negative hematuria were evaluated in this study. Of these, 159 cases were excluded; one hundred had renal stone in their kidney and urinary tract ultrasonography and 59 patients had findings of glomerular disorders.A 24-h urine collection was collected on a regular diet and analyzed for metabolic risk factors including calcium, citrate, oxalate, phosphate, uric acid and magnesium levels. Of 522 enrolled patients, 88.5% had only isolated microscopic hematuria and 11.5% (60 patients) had gross hematuria at the beginning of presentation. Mean age at the time of diagnosis was 5.9 years (range: 1-14.5yrs) and female to male ratio was 2/1. The most common symptoms in their history were occasional abdominal pain (74.5%), dysuria (40.6%), urinary tract infection (31%) and enuresis (13.1%), respectively. 80.3% of patients had a family history of nephrolithiasis. Metabolite abnormalities in their 24-h collected urine were identified in 94% of cases, with the predominance of hypocitraturia (60.7%), followed by hypomagnesuria (58.2%), Hyperuricosuria (35.8%), hypercalciuria (33.7%), hyperoxaluria (24.9%) and cystinuria, respectively. The history of occasional abdominal pain, dysuria and urinary tract infection in girls was significantly higher than that of boys ($p<0.05$). Hypomagnesuria was significantly higher in girls and in children younger than 5 yrs.More than 30 RBC count in urine analysis (18%) was statistically correlated with the family history of nephrolithiasis ($p=0.031$). We concluded that urinary biochemical abnormalities are suggested as potentially reversible causes of idiopathic

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	hematuria in children. Therefore, measurement of urinary metabolites is recommended for the evaluation of children with isolated hematuria, to prevent unnecessary invasive diagnostic approaches in these patients.
References	1. Pan CG. Evaluation of gross hematuria. Pediatr. Clin. North Am. 2006; 53: 401–12. 2. Bergstein J, Leiser J, Andreoli S. The clinical significance of asymptomatic gross and microscopic hematuria in children. Arch. Pediatr. Adolesc. Med. 2005; 159: 353–5.
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