March 1999 (Volume 40, Number 1)

Symptomatology and Development of Urolithiasis in Children with Frequency-Dysuria Syndrome Associated with Hypercalciuria

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To investigate the long-term outcome of the frequency-dysuria syndrome (FDS) with hypercalciuria (HCU), 19 children (15 girls and 4 boys; age range 15 months to 10 years) who presented with FDS alone (N=9) or with other associated clinical features (N=10; 6 with gross hematuria, 3 with microscopic hematuria and 1 with abdominal pain) were followed-up over 720 patient-months. Calcium loading test indicated absorptive HCU in 12 patients, renal HCU in 2, and in 5 the test was inconclusive. All patients were treated with a standard protocol after diagnosis. During follow-up, FDS recurred in 4 children, gross hematuria in 3, lumbar pain in 5, and 7 children developed urolithiasis within 3 to 60 months. The latter 7 children (4 with absorptive HCU and 1 with renal HCU) tended to be older than the other 12 (7.14 vs 5.08 years; $p=0.11$) and required a longer time to normalize urinary calcium excretion (16 vs 7 months; $p<0.01$). The initial urinary calcium excretion was similar between the patients with and those without stones (5.53 vs 5.6 mg/kg/d). In all other parameters measured, there were no statistically significant differences between the patients who initially presented with FDS alone and those with FDS accompanied with other urinary symptoms. We conclude that HCU and FDS in children can vary considerably in the clinical mode of presentation as well as its sequels. Significant risk for urolithiasis burdens the children who require a longer time (>12 months) to normalize their hypercalciuria.

Key words: abdominal pain; calcium; calculi; hematuria; pediatrics; urolithiasis; urinary tract infections; urinary calculi