P058 Surgical management of stone disease in children under two years

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Introduction & Objectives: Urolithiasis is a relatively uncommon problem in the first years of life. Affected children may present abdominal pain, hematuria or urinary infection. Treating renal stone in children is technically challenging. The aim of the present study was to determine complication and stone free rate and time to resolution in children under two years of age.

Materials & Methods: We retrospectively reviewed medical records of 121 pediatric patients treated for urinary stone in a tertiary pediatric hospital between June 2010 and January 2019 with a minimum 6 months follow-up period. Patients' age, gender, stone size, stone location and number, urinary anomalies, stone-free status, and postoperative complications were recorded.

Results: Fourteen patients (12%) had less than 2 years, 9 (64%) of them were male. Family history was positive for urolithiasis in 4 (29%) infants and urinary anomalies were detected in 3 (21%) patients. Urinary infection was the first symptom in 7 (50%) children, hematuria in one (7%), pain in another one (7%) while in 5 (36%) infants calculi were detected during an ultrasound exam. Three children suffered a metabolic condition, two had cystine calculi and one uric acid stones. Median age at first treatment was 18 (9-23) months and median weight was 9,5 (3,6-12) kg. In 8 (57%) patients stones were in the kidney and in four (29%) were both in the kidney and in the ureter. Median size of stones was 14,2 (7-25) mm. In 50% of patients the kidney stones were staghorn and in 4 (29%) children was necessary to place a JJ stent before any procedure. Retrograde endoscopic (RIRS) was performed in 7 (50 %) patients as an initial approach while ESWL in 2 infants with a stone free rates of 100%. Open surgical procedures were necessary in 3 infant, one for concomitant presence of UPJO the remaining two for patients comorbidities. After the first procedure, stone free rate status was reached in 7 infants (50%). In the remaining patients stone-free status was achieved after a median of 1,6 (1-3 procedure). Three infant (21%) had recurrence of renal calculi. No major complications were described, only two infants had fever after RIRS. The mean follow-up duration was 40 (6-109 months).

Conclusions: Diagnosis and treating urolithiasis in children are technically challenging. In children, the main cause of renal stones is often a metabolic disease but in our series metabolic disease and urinary abnormalities were noted just in a few patients. ESWL, as reported in ESPU/EAU guidelines, should be considered as first treatment especially in infants.