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**Introduction & Objectives:** Pediatric stone disease is becoming an increasingly relevant issue in everyday urology practice. According to previous reports, 50-84% of stone-forming children will be diagnosed with metabolic disorders or congenital anatomic abnormalities of the urinary tract. Worldwide, the most common stone compositions are calcium oxalate (70% of patients), uric acid (4-8%), cystine (2-6%) and struvite (5%), with a 5-fold increase in overall stone diagnosis in the last decade. Upon failure of conservative treatments (i.e. dietetic recommendations and specific drug treatments), several surgical approaches may be recommended, ranging from minimally invasive treatments (ESWL, retrograde endoscopic treatments, percutaneous nephrolithotomy) to open or robot-assisted surgeries. In this work, we sought to evaluate our surgical experience in the management of pediatric stone disease in the last decade.

**Materials & Methods:** 107 patients with renoureteral stones which underwent surgical treatments (ureterorenoscopy, URS; retrograde intrarenal surgery, RIRS; percutaneous nephrolithotomy, PCNL; Endoscopic Combined Intra Renal Surgery, ECIRS) between 01/2010 and 05/2019 at our academic center were retrospectively retrieved through our institutional database. Patients with previous bladder augmentation, incomplete perioperative and follow-up data and/or refusal to follow medical recommendations were excluded. Descriptive statistics were used to show baseline, perioperative and follow-up data.

**Results:** 19 (17.8%) patients underwent URS, 64 (59.8%) RIRS, 23 (21.5%) PCNL and 1 (0.9%) ECIRS. The median age at surgery was 9.14 (4.9-13.4) years; genders were well balanced (56 boys and 51 girls). 69 (64.5%) patients were previously naive stone disease. Among patients which underwent previous treatments, RIRS (23/34, 67.6%) was the favorite. The most common stone sites were the renal ampulla (33, 30.8%), multiple sites (28, 26.2%) and the inferior calyces (16, 15%). Lithotripsy was mostly achieved by laser energy (79, 73.8% patients). The most common stone composition was calcium oxalate (35, 32.7%), cystine (37, 34.6%) and struvite (21, 19.6%). 4 (3.7%) patients experienced intraoperative complications, mostly (2 patients) ureteral lesions. 30-day complications were reported in 7 (6.5%) patients, mostly postoperative fever (3). Only 2 (1.9%) patients experience Clavien Dindo grade 3 complications. The median hospital stay was 3 (2-5) days. A successful treatment, (i.e. complete clearance or CIRF) was achieved in 80 (74.7%) patients (71, 66.3% and 9, 8.4%, respectively). Overall, the favorite approach for retreatment was RIRS (23/27, 85.2%).

**Conclusions:** Endourologic approaches to pediatric stone disease may be considered safe and feasible procedures. In expert hands, perioperative complication rate is very low and complete stone clearance may be achieved in most cases.