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Answers to Medical Quiz

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A.1. Intravenous pyelogram (IVP) showing left ureteric stone with partial obstruction.
A.2. Conservative management with hydration to allow for spontaneous passage of the stone; the other option is ureteroscopy.

DISCUSSION

Urinary lithiasis affects between 5-10% of the humans during their lifetime; 2-3% of them are children[1]. The incidence, etiology and natural history of pediatric stones varies according to geographic, dietary and socioeconomic differences[1,2]. Pediatric urolithiasis is known to be associated with urinary infection, anatomic and metabolic abnormalities[2]. Rizvi et al reported the types of stones in children as follow: Calcium oxalate (63%), Ammonium urate (58%), Uric acid (6%), Calcium phosphate (12%) and Struvite (8%)[2,3].

The presentations of pediatric patients with stones were abdominal pain (33%), flank pain (38%) and fever (38%)[4]. The diagnosis of stones in pediatric cases rely on history and physical examination as well the following investigation: ultrasound, KUB, IVP, blood and urine chemistry and cultures[5].

The majority of the stones disease in children can be managed with shock wave lithotripsy, percutaneous nephrolithotripsy or ureteroscopy. Open surgery is currently indicated in a few select cases. Treatment modality depends on stone location, size; anatomy of collecting system and the presence of obstruction or infection. Stones less than 3 mm in diameter in the distal ureter of children would pass spontaneously. Stones 4 mm or greater in diameter are likely to require treatment. Most of the ureteric stones can be managed with shock wave lithotripsy or ureteroscopy[6,7].

Stone-clearance rates with shock wave lithotripsy vary from 75-100% depending on the size and location of the stone. Ureteroscopy for management of pediatric urolithiasis has become more common by using smaller instruments and laser lithotripsy[8].

CONCLUSION

Urinary lithiasis in children is rare. Ureteroscopy is the preferred modality for distal ureteral and impacted stones in children. Shock wave lithotripsy is the choice for pediatric stones of large sizes located in the proximal ureter.

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