Endourology

Largest ureteric stone in Iraq

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ARTICLE INFO

Keywords:
Large
Ureteric stone
Ureterolithotomy
Atrophic kidney

ABSTRACT

Ureteric stone disease is increasing, especially in developed countries, and present in different ages with various patterns; it has many treatment modalities and outcomes. Ureteric stones are usually small and symptomatic but maybe large, asymptomatic associates with totally distracted kidneys. However, some ureteral calculi show silent progression to reach a large size without underlying anatomic abnormalities. These stones are called giant ureteral stones and seen extremely rare. In this study, we report a case of large ureteral stones with 13 cm length on the right side with atrophy of the right kidney.

Introduction

Ureteric stones are a common presentation in urological practice. In recent years, progressive miniaturization and technical improvements of ureteroscopes and auxiliary devices have revolutionized their management. 1 Ureteral stones with a diameter of less than 5 mm will pass in up to 98% of cases; however, for stones with a diameter greater than 7 mm, the overall chance of spontaneous passage is low. 2, 3 Large ureteral calculi are uncommon. They may cause scanty urological symptoms and might, therefore, be missed. If undiagnosed, renal function may be compromised by the obstructive uropathy. 4

Case report

A 42-year-old male presented with right loin pain for a one-month duration; the pain was mild and neglected by the patient, with no associated symptoms. Later on, he developed dysuria for a few days for which he had an ultrasound examination; it shows the right kidney absent and a large compensated left kidney. Plain X-Ray showed a big long tubular shape radio-opaque shadow in the pelvis, see Fig. 1. (Plain abdominal X-ray, which shows a large right lower ureteric stone). The patient had no significant past medical history apart from appendectomy six months ago. The laboratory findings were as follows: Urinalysis: pus cell 30/HPF, RBC 15/HPF, there was no bacteria in the urine. Hemoglobin: 16.6 g/dL, Creatinine: 0.9 mg/dL, blood urea nitrogen: 16 mg/dL, Na: 140 mmol/L, K: 3.7 mmol/L, serum calcium: 10 mg/dL, and serum phosphorus: 3.6 mg/dL. The results of his physical examination were unremarkable.

CT KUB confirmed atrophic right kidney and large lower ureteric stone, see Fig. 2. Open surgery right ureteronephrectomy was performed, by a right flank incision to remove the atrophic kidney, upper ureter, and a Gibson incision to remove the lower ureter. A longitudinal incision was performed on the ureteral wall to remove a large ureteric stone measuring 13 cm X 1.5 cm, see Fig. 3. The patient was discharged the day after. The patient was seen two weeks after the surgery; he was quite well with no complication.

Discussion

Ureteric stones are usually small and symptomatic, which may lead to progressive proximal hydroureteronephrosis. Although the etiology and pathology of large stones remain unclear, some authors have reported giant ureteral stones in association with ureteral duplication, ureteroceles, tuberculosis, megareuter, or prolapsed benign polyp of the ureter. 5

A urinary tract abnormality or a metabolic defect may play an important role in the pathogenesis of these stones. But in our case, we could not find any anatomic or metabolic abnormalities. We report a case of a large impacted ureteral stone of the lower ureter (13 cm), which progressively damages the kidney and results in complete atrophy of that kidney. To our knowledge, this is the first report to document the case of an atrophied kidney caused by a giant ureteric calculus in Kurdistan -Iraq.

Nikhil Gupta et al., in 2015 reported a giant stone in a 62-year-old male presented with a lump in the right iliac fossa. Plain abdominal radiography and ultrasonography showed a giant large mid ureteric
calculus measuring 8.4cm and an atrophied right kidney and removed by a right nephroureterectomy.3

Open surgery, which is currently being replicated by laparoscopic techniques, is generally indicated for failed endourologic procedures, particularly in centers that do not have flexible ureteroscopy or laser lithotripter, and in patients with larger stones.

Our center has expert open operative urologists, for that the kidney and whole ureter were removed by open surgery, and the patient discharged the day after and complication-free.

References

1. Rabani SM, Rabani S, Rashidi N. Laser versus pneumatic lithotripsy with semi-rigid ureteroscope: a randomized comparative study. J Laser Med Sci. 2019;10(3):185–188.
2. Tiselius HG, Ackermann D, Alken P, et al. Guidelines on urolithiasis. Eur Urol. 2001; 40:362–371.
3. Gupta Nikhil, Umesh Bansal, Neha Mahajan, et al. Giant ureteric calculus leading to autonephrectomy. Hellenic J Surg. 2015;87:282–284. https://doi.org/10.1007/s13126-015-0225-2.
4. Pereira Arias JG, Catalina AJ, Gallego Sánchez JA, et al. Multiple giant ureteral lithiasis. Arch Esp Urol. 1996 Nov;49(9):984–986.
5. Eroglu Muzaffer, Ali Unsal, Cimentepe Ersin, Bakırtas Hasan. Giant ureteral stone associated with partial ureteral duplication. Int. Urol.Nephrol.Vol. 2003;35:485–487.