wjpmr, 2025, 11(5), 03-04

SJIF Impact Factor: 6.842

WORLD JOURNAL OF PHARMACEUTICAL AND MEDICAL RESEARCH

www.wjpmr.com

Case Report

ISSN 2455-3301

WJPMR

A GIANT URETHERAL CALCULI: A CASE REPORT

Nachid A., Safwate R., Hannaoui A., Tmiri A.*, Kbirou A., Moataz A., Dakir M., Debbagh A. and Aboutaieb R.

Department of Urology, University Hospital center Ibn Rochd, Casablanca, Morocco.

***Corresponding Author: Tmiri A.**

Department of Urology, University hospital center Ibn Rochd, Casablanca, Morocco.

Article Received on 04/03/2025 **Article Revised on 25/03/2025** **Article Accepted on 14/04/2025**

ABSTRACT

Giant ureteral calculi are defined as stones exceeding 5 cm in length or circumference. If left untreated, they can obstruct the ureter, lead to kidney dilation, and impair renal function. The patient in this case report has a 9 cm left ureteral stone, causing renal parenchymal destruction and a non-functional kidney.

KEYWORDS: ureteral calculi, renal dilatation, nonfunctional kidney, nephroureterectomy.

INTRODUCTION

Ureteric calculi are a pathology characterized by it is great clinical polymorphism, with renal colic and hematuria as the main symptoms. In general, the ureteral calculus is single and less than 2 cm in length.

The chances of spontaneous ureteral stone passage depend on both the stone is size and its location within the ureter (proximal, mid, or distal).[1] However, stones larger than 1 cm in diameter and more than 0.1 g are less likely to pass spontaneously.[2]

In exceptional cases, ureteral calculi exceed 5 cm in length or weigh more than 50 grams, a condition referred to as giant ureteral lithiasis.[3]

Conventional treatments for giant ureteral stones depend on the function of the affected kidney and may require either active stone removal or nephroureterectomy.[4]

Reported cases in the literature are rare. Here, we present the case of a 9 cm impacted ureteral stone in a 50-year-old man.

CASE REPORT

A 50-year-old patient, operated for a bladder stone in 1997, underwent an abdomino-pelvic CT scan in September 2024 for suspected appendicitis, with the discovery of left renal dilatation with parenchymal thinning over a 9cm lithiasis impaction at the level of the ureter.

He underwent appendectomy and was referred to us for urological management.

Clinical examination revealed a conscious, apyretic patient, scar in the right iliac fossa from appendectomy, slight left lumbar tenderness with no clear contact, no hypogastric tenderness. the rest of the clinical examination was unremarkable.

The CT scan showed a left renal dilatation with thinned parenchyma (figure 1: arrow) on a 9cm ureteral footprint (450UH to 1200UH) (Figure 2: star).

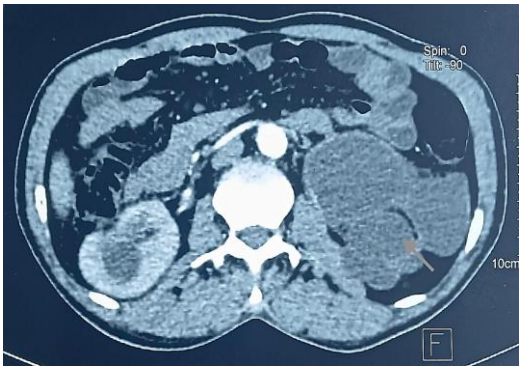

Figure 1: Renal dilatation with thinned parenchyma.

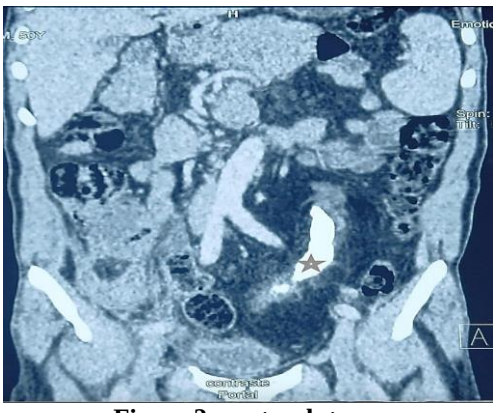

Figure 2: ureteral stone.

this was completed by a DMSA renal scan, which showed no tracer uptake by the left kidney, with renal function performed exclusively by the right kidney.

A stone removing left nephroureterectomy was performed with simple postoperative procedures.

Figure 3: left kidney and ureter.

Anatomical-pathological study revealed a kidney destroyed by lesions of severe chronic pyelonephritis and marked chronic ureteritis in acute ulcerated growth related to calculus.

DISCUSSION

Ureteral calculi are crystalline stones that form in the renal collecting system and subsequently travel down the ureter. They are more prone to becoming lodged in the ureter is naturally narrowest regions.[4]

Ureteral stones smaller than 4 mm in diameter have a higher likelihood of passing spontaneously. However, prolonged retention in the ureter causes the stone is longitudinal diameter to exceed its transverse diameter, leading to an elongated shape.[5]

Giant ureteral lithiasis is defined as a stone measuring more than 5 cm in length and/or weighing over 50 grams.[3]

Although Taylor reported the longest ureteral stone in 1934, measuring 21.5 cm, the stone described in this article ranks among the largest ureteral calculi ever documented worldwide.[3]

The majority of these giant stones were located in the distal ureter, likely due to their involvement in distal ureteral obstruction, which contributes to an increase in stone diameter.[1]

Giant ureteral stones are generally seen in patients who refused an interior treatment for several years, our patient never showed any sign, depending on the size and location of the stones, approximately 20% require surgical intervention.[1]

In diagnosing ureteral stones, clinical findings should be confirmed with the use of an appropriate imaging technique. Computed tomography (CT) is currently the primary imaging method for confirming the presence of a urinary stone.[1]

Reports of successfully managing these large ureteric stones with minimally invasive techniques are even rarer.[6] The necessity for open surgery in the treatment of urinary stones is 2.7%. The key benefits include reduced postoperative pain, shorter hospital stays, and faster recovery compared to open surgery.[2]

Surgical treatment can range from simple minimally invasive procedures to nephrectomy or nephroureterectomy in cases of non-functional kidneys on scintigraphy, as in the case of our patient.

CONCLUSION

Giant ureteral stones are rare and often develop over years in untreated patients. While smaller stones may pass spontaneously, larger ones frequently require surgical intervention. Imaging, particularly CT, plays a crucial role in diagnosis. Minimally invasive techniques for managing giant stones are uncommon, and in some cases, open surgery remains necessary.

REFERENCES

1. Natami M, Makarem A, Ahmed F, Dastgheib N, Zahraei A hossein. A giant ureteral stone in a 32-year-old man: a case report. IMCRJ. Févr, 2019; 12: 43‑6.
2. Rathod R, Bansal P, Gutta S. A giant ureteric calculus. Indian J Urol, 2013; 29(3): 263.
3. La lithiase urinaire géante : à propos de deux cas Riadh JOUINI (1, 2), Kaies MAAZOUN (1), Lassaad SAHNOUN (1), Mongi MEKKI (1), Mohsen BELGHITH (1), Abdellatif NOURI, 1, 2.
4. Limudomporn P, Phengsalae Y, Ketsuwan C. A giant ureteric calculus successfully removed by mini-endoscopic combined intrarenal surgery: A case report. Urology Case Reports, nov 2022; 45: 102270.
5. Kim HW, Kim KD, Moon YT, Kim SC. A giant ureteral stone. J Korean Med Sci, 1995; 10(1): 48.
6. Chaudhary K, Devana S, Tyagi S, Sharma A. A huge ureteric stone in a functionally, metabolically and anatomically normal kidney: an alliance of rarity. Annals, juin 2021; 103(6): e206‑7.
7. Conflicts of interest: none Funding: None.