

Bladder Calculus in a Male Child with Features of Urethral Stricture: Radiologic Findings and a Case Report

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Abstract

Urinary lithiasis is a very common urological disease but bladder lithiasis is very uncommon and account for about 5% of urolithiasis and most frequent urolithiasis in pediatric age. Giant calculi can present with few symptoms, it is very important to exclude lower urinary tract obstruction as the cause, but significant cases may come without obstruction. The male sex is more affected than the female sex.

This is a case of an 11 year old male child with complaint of suprapubic pain, dysuria, hematuria, decreased urinary stream and increased frequency of micturition for more than three years prior to presentation.

The patient had plain abdominal radiograph showing the region of the kidneys, ureters and urinary bladder (KUB) with an abdominopelvic ultrasonography. These demonstrated a calculus in the urinary bladder measuring about 70mm x 50mm in mediolateral and craniocaudal dimensions. The patient is yet to have a surgical extraction (extraperitoneal cystolithotomy) with of the entire calculus.

We present a case of a giant calculus in a child due to its rare nature and peculiar presentation.

Keywords: dysuria; urinary bladder; giant calculus, hematuria

Introduction

Urinary lithiasis is a very frequent urological disease but bladder lithiasis is very uncommon and often associated with lower urinary tract obstruction as the etiology but a significant cases may come without obstruction, with the male sex more affected than the female sex [1, 4].

Giant bladder calculi are very rare and are often secondary to renal stones or to bladder outlet obstruction and bladder diverticulum [1, 5]. Diet and amount of fluid intake are attributed to be important factors in the development of bladder stones [5, 6].

Giant vesical calculus refers to bladder stone weighing more than 100g or measuring more than 4cm in its largest diameter [7, 8].

Bladder calculus usually present with recurrent urinary tract infection, hematuria, inability to pass urine, azotaemia and complaints of suprapubic pain or discomfort [5, 9, 10].

Majority of vesical calculi are radio-opaque and often detected by plain radiograph [5];

Most patients are treated by surgical removal of the calculus [5, 9].

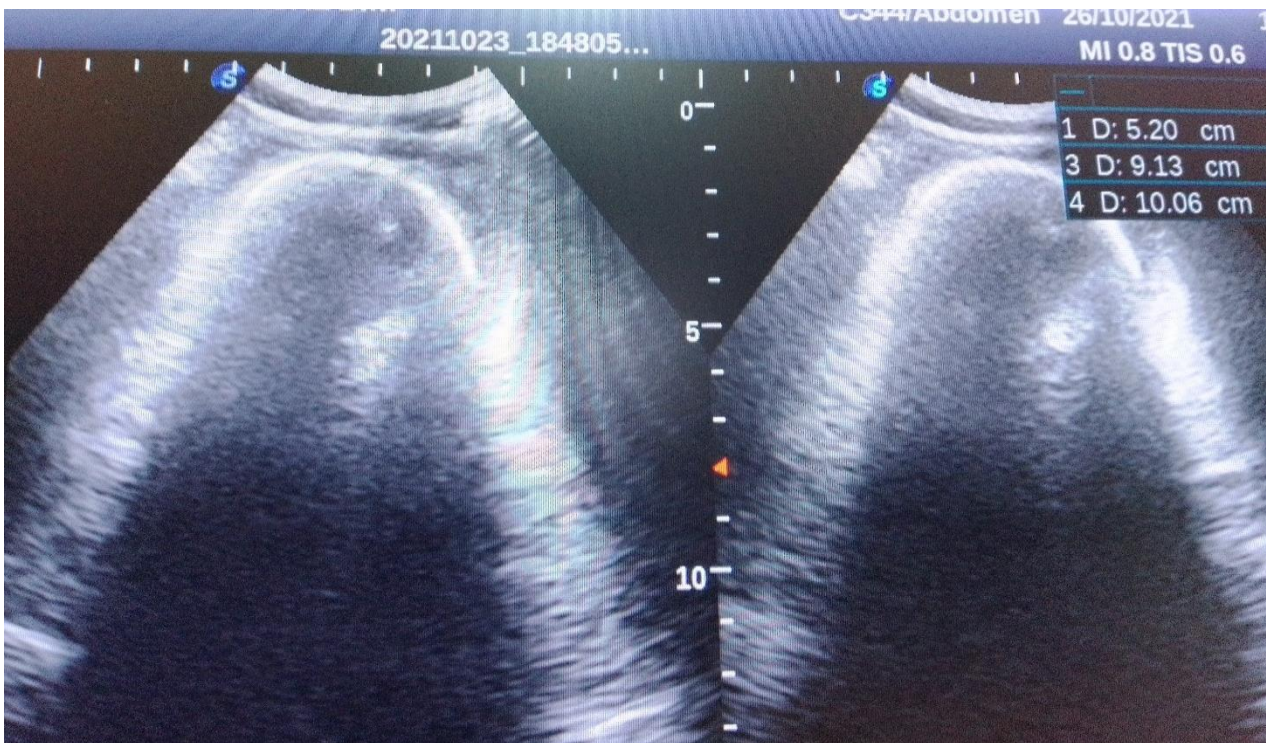
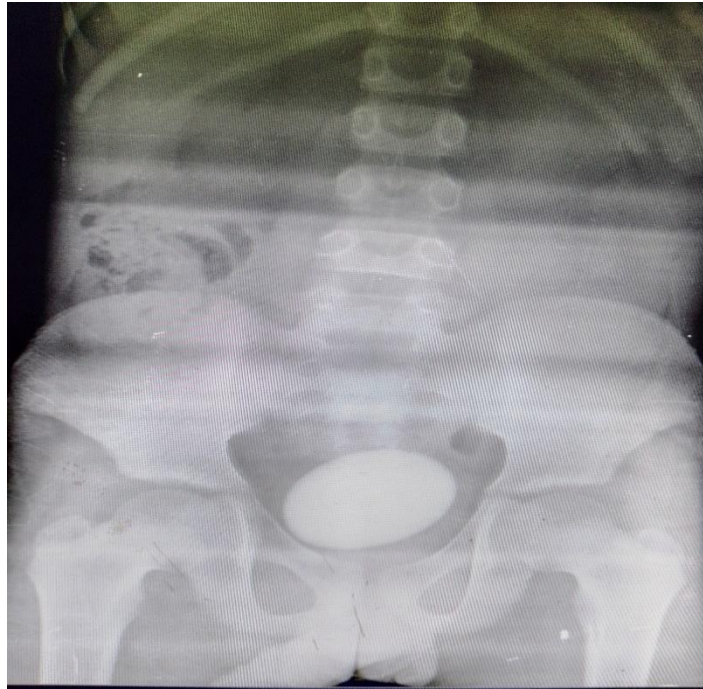
Case Report

This is a 34 year old male civil servant who presented with complaints of difficult micturition, supra pubic pains and hematuria. He also had a history of bugging about 10 years prior to this presentation on account of difficulty in micturition following a post traumatic urethral stricture in a peripheral centre.

On examination he was found to be in painful distress and appeared anxious. He is oriented in time, place and person, not pale nor dehydrated. His urine examination yielded red blood and white blood cells with a negative culture. He had a packed cell volume (PCV) of about 40%.

The plain abdominopelvic radiograph (KUB) showed an oval egg-shaped radio-opacity with a laminated appearance in the pelvic cavity measuring about 10.5cm x 5.cm in mediolateral and craniocaudal dimensions (figure 1).

Abdominopelvic ultrasound showed an area of increased echogenicity with associated posterior acoustic shadowing (figure 2). Bilateral moderate dilatation of both ureters and calyces were also demonstrated. This patient had extraperitoneal cystolithotomy with extraction of the entire calculus.



Discussion

Urinary lithiasis is a very frequent urological disease but bladder lithiasis is very uncommon and often associated with lower urinary tract obstruction as the etiology but a significant cases may come without obstruction, with the male sex more affected than the female sex [1, 4]. The index case happens to be a male and had history of recurrent urinary tract symptoms with a history of intervention on account of urethral stricture in conformity to these literatures.

Giant bladder calculi are very rare and are often secondary to renal stones or to bladder outlet obstruction and bladder diverticulum¹⁻⁵. Diet and amount of fluid intake are attributed to be important factors in the development of bladder stones [5, 6]. The case had a history of urethral stricture but no history of urinary calculus was documented, the dietary and fluid intake were adequate and normal with no contributory effect to the development of calculus in the index case.

Giant vesical calculus refers to bladder stone weighing more than 100g or measuring more than 4cm in its largest diameter [7, 8]. The index case had a bladder calculus measuring about 10.5cm in its widest diameter conforming to these documented literatures.

Bladder calculus usually present with recurrent urinary tract infection, hematuria, inability to pass urine, azotaemia and complaints of suprapubic pain or discomfort [5, 9, 10]. This case presented with history of suprapubic pains, hematuria and difficulty following micturition in conformity to these literatures.

Majority of vesical calculi are radio-opaque and often detected by plain radiograph⁵; the index case was also diagnosed following plain radiograph (KUB) and abdominal ultrasonography conforming to this literature.

Most patients are treated by surgical removal of the calculus [5, 9]. And the index case was not an exception to this treatment modality (extraperitoneal cystolithotomy) agreeing to these documented literatures.

CONCLUSION:

Adequate clinical assessment and appropriate radiologic examination should be given promptly to cases presenting with frequent urinary tract

symptoms especially those with obstructive symptoms to reduce cases of bladder calculi.

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