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CASE REPORT

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## INTRAVESICAL CALCULUS IN A CHILD WITH RECURRENT DYSURIA: A CASE REPORT

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### ABSTRACT

Urinary lithiasis is a very frequent urological disease but bladder lithiasis is very uncommon and account for about 5% of urolithiasis and most common urolithiasis in pediatric age. The male sex is more affected than the female sex. This is a 6 year old male child that presented on account of dysuria, supra-pubic pain, increased frequency of micturition and hematuria for about six months duration. The patient had an abdominopelvic radiograph that showed a calculus in the pelvic region. He also had an abdominopelvic ultrasonography which showed a calculus as an echogenicity in the urinary bladder measuring about 20mm x 5.5mm in medio-lateral and cranio-caudal dimensions respectively. The patient had a successful surgical removal (percutaneous cystolithotomy) of the bladder calculus upon which he was discharged home. We report the radiologic findings of this case because of its rare nature and mode of presentation in the pediatric age group.

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## 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 (Gallego, 2011; Aliyu, 2013; Kimori, 200 and Pawan, 2014). Urinary lithiasis affects between 5-10% of the humans during their lifetime with about 2-3% being children (Mishira, 2007 and Mahmud, 2004). Urinary calculi in children has a wide epidemiologic variation in developed and developing nations with an estimated prevalence of 1-5% to 5-15% respectively (Mishira, 2007 and Milliner, 1993). Pediatric urolithiasis is known to be associated with urinary infection, anatomic and metabolic abnormalities, with management of this condition requiring complete calculus clearance, eradication of urinary infection and adequate correction of any underlying metabolic or anatomical abnormalities (Mishira, 2007 and Coward, 2003). Bladder calculi can be classified as primary idiopathic if it has migrated from the upper urinary tract or secondary bladder calculi (Malladad, 2018 and Papatsoris, 2006). However with improved diet most especially in increased protein-carbohydrate ratio, primary vesicle calculi are rare (Malladad, 2018 and Hamdy, 2013). Ultrasonography is the investigation of choice in vesical calculus with a 100% sensitivity, radiography (sensitivity of 93%) and computed tomography also play a role in the diagnosis of bladder calculus (Mishira, 2007; Milliner, 1993; Malladad, 2018).

## CASE REPORT

This is a 6 year old male child that presented for abdominopelvic radiograph and ultrasonography on account of recurrent painful micturition, hematuria, increased frequency of urination, supra-pubic pain which radiates to the groin and testicles, inability to have sound sleep for about six months prior to presentation. On physical examination, he was found to be oriented in time, place and person, not pale, not dehydrated but having supra-pubic tenderness. He has a stable pulse rate, normal respiratory rate and normal blood pressure. Attempt to pass a Foley's urethral catheter was successful without no hindrance thereby ruling out urethral stricture or obstruction. The patient had a normal packed cell volume (37%), slightly elevated white cell count (13000 cells per microliter of blood) but a normal ESR of 7mm/hr. The blood urea and creatinine levels were not elevated. The urine analysis showed red cells, albumin and elevated white blood cells, alkaline urine with pus cells, and the urine culture yielded growth of *Escherichia coli*. The plain abdominal radiograph (KUB; Kidney, ureter and bladder view) showed an oval opacity of calcific density in the pelvic cavity measuring about 23mm x 6mm x7mm in cranio-caudal medio-lateral and anterior-posterior dimensions respectively (Figure 1). The bowel gas distribution pattern was normal and the demonstrated bones also appeared normal. The abdominopelvic ultrasound scan showed normal kidneys and ureters, however an echogenic curvilinear area casting posterior acoustic shadow was demonstrated within the urine distended urinary bladder;

this echogenicity measured about 20mm x 5.5mm in medio-lateral and cranio-caudal dimensions (Figure 2).



**Figure 1. Plain abdominal radiograph (KUB; kidney, ureter and bladder) showing an oval calcific density opacity in the region of the bladder (left red arrow)**



**Figure 2. A pelvic sonogram showing a curvilinear echogenicity casting a posterior acoustic shadow in the urinary bladder conforming to an intravesical calculus**

Associated mobile echoes were also demonstrated in the urine most likely from cystitis. Minimal circumferential bladder wall thickening of about 6mm was also demonstrated. The patient had a successful surgical removal of the bladder calculus (percutaneous cystolithotomy) in a neighboring hospital and subsequently got better. The chemical components of the extracted calculus was calcium phosphate, calcium oxalate and uric acid.

## DISCUSSION

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<sup>1-4</sup>. The index case happens to be a male patient and no

feature to suggest urinary tract obstruction conforming to these literatures. Pediatric urolithiasis is known to be associated with urinary infection<sup>5,8</sup>, the index case also had associated urinary tract infection conforming to these literatures. Bladder calculi can be classified as primary idiopathic if it has migrated from the upper urinary tract or secondary bladder calculi<sup>9,10</sup>. There is a high index of suspicion that the index case may be classified as primary idiopathic as no convincing evidence of it being a secondary calculus was established. Bladder calculus may present with multiple signs and symptoms which may include dysuria, supra-pubic pain and discomfort, hematuria, frequency and feeling of incomplete bladder emptying to mention but a few as documented by most literatures, the index case also had most of the documented signs and symptoms thereby conforming to the literature. Radiologic investigations which include abdominopelvic radiography, ultrasonography and computed tomography play vital roles in the confirmation of bladder calculi as documented in most literatures, the index patient also had abdominopelvic radiography and ultrasonography following which the diagnosis was confirmed thereby conforming to that documented in the literature. Vesical calculi may in some instances be associated with complications like hydroureters, hydronephrosis, features of bladder outlet obstruction like bladder wall diverticulosis, trabeculations and sacculations to mention but a few as documented in most literatures. The presented case however did not manifest any of these complications probably because of the size of the calculus and possibly early hospital presentation. Surgery in most instances is the main stay of management and most times depends on the size of the bladder calculus as documented in the literature<sup>5-10</sup>, the index case also had a surgical removal of the calculus conforming to these literatures. Most bladder calculi are mixed stones with the combination of calcium oxalate, calcium phosphate and uric acid been the most common<sup>9,12</sup>. The index case also had calcium oxalate, calcium phosphate and uric acid as the components of the calculus conforming to these literatures.

## CONCLUSION

Bladder calculus though been rare should be suspected in children with recurrent lower urinary tract symptoms, following which basic radiologic investigations like abdominopelvic ultrasonography and radiography should be employed to confirm the diagnosis and prevent obstructive uropathy and subsequent nephropathy.

## REFERENCES

- Aliyu S, Ali N, Ibrahim AG. Giant vesical calculus: Case report. *Nig J Med.* 2013;22:
- Coward RJ, Peters CJ, Duffy PG, Kelet MJ, Choong S, vant. Hoff WG. Epidemiology of pediatric renal stone disease in the UK. *Arch Dis Child.* 2003; 88:962-965.
- Gallego VD, Beltran PJ, Perez MM, Povo MIJ, Miralles AJ, Garau PC et al. Giant bladder lithiasis: case report and bibliographic review. *ArchvEspanol Urol.*2011; 64:383-387.
- Gershaff SM, Prien EL, Chandrapanond A. Urinary stone in Thailand. *J Urol.* 1963; 90:285.
- Hamdy F. The urinary bladder. In: Williams NS, Bulstrode CJK, O'connell PR, eds. *Bailey and Love's short Practice of surgery.* 2th Ed. Boca Raton: CRC Press; 2001:1309-1339.
- Kimori K, Iwasaki A, Ikegami M, Kajikawa J, Kishimoto T. Giant bladder stone: a case report. *ActaUrologica Japonica.* 2000; 46:37-40.
- Mahmud M, Zafar Z. Percutaneous nephrolithotomy in children before school age: Experience of a Pakistani centre. *BJU Int.* 2004; 94:1352-1354.
- Malladad N, Manjunath DA, Anil R, Radhakrishna V. Clinical study and management of vesical calculus. *IntSurg J.* 2018; 5:1281-1285.
- Milliner DS, Murphy ME. Urolithiasis in pediatric patients. *Mayo Clin Proc.* 1993; 58:241-248.

- Mishira SK, Ganpule A, Manohar T, Desai MR. Surgical management of pediatric urolithiasis. *Indian J Urol.* 2007; 23:428-434.
- Papatsoris AG, Varkarakis I, Dellis A, Deliveliotis C. Bladder lithiasis: from open surgery to lithotripsy. *Urol Res.* 2006; 34:163-167.
- Pawan T, Madhu T, Balbir C, Yogesh Y. A Rare Giant Vesical Calculus: Case report with review of literature. *Sch J Med Rep.* 2014; 2:499-501.

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