

Giant Fossa Navicularis Calculus with Urethro-Cutaneous Fistula and Renal failure

Dr. Pritesh Jain¹, Dr. Dipak Kumar Bera¹, Dilip Kumar Pal²

¹Post Doctoral trainee, Dept. of Urology, Institute of Post Graduate Medical Education & Research, Kolkata-700020

³Professor & Head, Dept. of Urology, Institute of Post Graduate Medical Education & Research, Kolkata-700020

*Corresponding author

Prof. Dilip Kumar Pal

Email: drdkpal@yahoo.co.in

Abstract: Urethral calculus is a rare form of urolithiasis with an incidence lower than 0.3%. Most of urethral calculus present in posterior urethra, few in anterior urethra and only 4-11% found at fossa navicularis. Urethral calculi usually results from migration from bladder, upper tract or it may arise de novo. We report a 56-years old male with a large fossa navicularis stone leading to urethro-cutaneous fistula and renal failure. The patient underwent meatotomy, stone extraction and primary repair of urethro-cutaneous fistula.

Keywords: Fossa navicularis, urethral calculus, urethro-cutaneous fistula, renal failure.

INTRODUCTION

The urethra is an infrequent location, accounting for no more than 0.3% of urinary calculi disease cases [1]. 33% to 88 % calculi found in posterior urethra, 8% to 58% are present in bulbar and penile urethra whereas only 4% to 11 % calculus found in fossa navicularis [2]. Majority of them are small in size and present acutely with dysuria, dribbling of urine or acute retention of urine. Giant urethral calculi are extremely rare [3]. Larger size urethral calculi usually form in the background of pre-existing urethral conditions like stricture, meatal stenosis or urethral diverticulum [4]. Here we present a case of a giant fossa navicularis calculus for a long duration which leads to multiple urethro-cutaneous fistula and renal failure.

CASE REPORT

A 56-years-old-man was presented to our outpatient clinic with long history of lower urinary tract symptoms, recurrent dysuria, anorexia and vomiting. Physical examination revealed a palpable bladder with a stony hard mass at glans penis, with two urethro-cutaneous fistulas (Fig.1).



Fig-1: Photograph showing urethro-cutaneous fistula with distended glans.

A Stone was clearly visible through fistula openings. Digital rectal examination revealed grade-1 prostatomegaly. Biochemical examination showed deranged renal function with urea-138 mg/dl and creatinine level of 8.22 mg/dl. Ultrasound of Kidney, ureter and bladder region revealed bilateral hydro-ureteronephrosis with distended urinary bladder with thickened bladder walls. Pelvic radiogram revealed a large radio opaque shadow at tip of penis [Fig-2].



Fig-2: Pelvic radiogram showing a large radio opaque shadow at tip of penis.

In our case, the large stone was localized to the anterior urethra, and therefore a straightforward open approach was performed. Under local anaesthesia, Meatotomy was done and a calculus of size 4.3×4.4 cm was extracted from fossa navicularis. After refashioning of fistula margins both fistulas closed and 16 Fr Foley's catheter placed. Repeat blood investigations after seven days showed a significant improvement in renal function with drop of urea level to 48mg/dl and creatinine level decreased to 3.2 mg/dl. Foley's catheter was removed after two week; patient's recovery was uneventful with resolution of urinary symptoms after removal of the obstructing calculus.



Fig-3: Extracted stone of about 4.3×4.4 cm size

DISCUSSION

Urethral calculus is a rare form of urolithiasis with an incidence lower than 0.3%. The most common site of urethral calculi is the posterior urethra, but calculi have been reported along the entire urethra [2, 5]. Most urethral stones are associated with predisposing factors for urinary stasis and infections, such as lower urinary tract surgery, strictures, congenital or acquired diverticula, foreign bodies etc. Urethral stones may present with acute urinary retention, frequency, dysuria, incomplete emptying, dribbling of urine, suprapubic pain with poor or interrupted urinary stream, and rarely deranged renal functions.. These calculi may remain silent for a long period of time or have less bothersome symptoms of dysuria or lower urinary tract symptoms. Despite early reports indicating that 60% of urethral calculi are radiolucent, in the modern era 98-100% urethral calculi are radio-opaque and can be visualised on plane radiographs [2]. Management of urethral stones depends on their location, size and associated anatomic abnormalities which predisposed their formation. Although endoscopic treatments with different types of lithotripsy are the accepted standard therapies, external urethrotomy can be performed for large and impacted stones with or without urethral stricture and diverticula [6, 7]. Complications related to urethral calculus and its management may include urethral diverticula formation, stricture formation, urethro-cutaneous fistulas, recurrent urinary tract infections etc. But it is very rare for a patient to present with renal failure due to urethral calculus. In our case patient had a long history of obstructive LUTS due to fossa navicularis

calculus which resulted in urethro-cutaneous fistula and renal failure.

CONCLUSION

This case is unusual in that a patient presented with large urethral calculi that manifested as a palpable mass associated with urinary obstruction, infection, urethro-cutaneous fistula and renal failure. Although rare, urethral calculi should be included in the differential diagnosis of any patient presenting with acute or chronic urinary retention. Subjective awareness of the patient may help in early diagnosis and treatment, thereby preventing development of grave complications like renal failure.

REFERENCES

1. Verit A, Savas M, Ciftci H, Unal D, Yeni E, Kaya M; Outcomes of urethral calculi patients in an endemic region and an undiagnosed primary fossa navicularis calculus. *Urol Res*, 2006; 34:37-40.
2. Kamal BA, Anikwe RM, Darawani H, Hashish M, Taha SA; Urethral calculi: presentation and management, *BJU International*, 2004; 93, 549-52.
3. Shanmugam TV, Dhanapal V, Rajaraman T, Chandrasekar CP, Balashanmugam KP; Giant urethral calculi. *Hosp Med.*, 2000; 61:582.
4. Hegele A, Olbert P, Wille S, Heidenreich, Hofmann R; Giant calculus of the posterior urethra following Recurrent Penile Urethral Stricture. *Urol Int.*, 2002; 69(2): 160-1.
5. Kaplan M, Atakan IH, Kaya E, Aktoz T, Inci O; Giant prostatic urethral calculus associated with urethrocutaneous fistula. *Int J Urol.*, 2006; 13: 643-4.
6. Göğüs O, Isıkay L, Yaman O, Sarıca K, Bozlu M; An unusually large anterior urethral stone. *BJU*, 1995; 76:801-2.
7. Selli C, Barbagli G, Carini M, Lenzi R, Masini G; Treatment of male urethral calculi. *J Urol*, 1984; 132: 37-42.