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A Rare Case of Gaint Penile Urethral Calculus

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Abstract: ***Urethral stones are commonly associated with urinary tract calculi and underlying diverticulum or stricture urethra. Urethral stones, however, are rare and account for only 0.3 to 2% of all urinary tract stones.The present case concerns a 55years male patient who presented to our OPD with complaints of pain in the penis and burning micturition since 1 week. Patient had features of prostatism since 5 months. On examination, whitish discharge was noted from external urethral orifice. Careful palpation of penile region reveals a tender, hard mass of size 3.0x1.0 c.m close to the urethral meatus. Passage of metallic probe per-urethrally confirmed the suspicion of a calculus in urethra. Calculus was removed under local anaesthesia by performing meatotomy and the calculus was the gently detached and removed.***

Keywords: gaint urethral calculus,impacted urethral calculus, penile urethral calculus, meatotomy and anterior urethral stone

1. Introduction

Urethral stones are commonly associated with urinary tract calculi and underlying diverticulum or stricture urethra.[1] Urethral stones, however, are rare and account for only 0.3 to 2% of all urinary tract stones.[2]

Penile urethral stones are a rare occurrence with an incidence of less than 0.3% resulting from a many causes including migration of stones within the urinary tract, urethral strictures, and obstructive tumours like adenomatous metaplasia of the urothelium, hypospadias, urethral diverticulum, and very rarely primary fossa navicularis calculi.[3]

Giant urethral calculi are extremely rare.[1] Their impaction producing various symptoms ranging from dysuria to acute retention of urine is common presentation for surgeons, but bladder stone getting impacted in distal urethra and enlarging to a size > 5 cm is quite rare.[4]

The majority of urethral calculi occur in males and are rare in females.[5] We are reporting an interesting case of a giant urethral calculus impacted in penile urethra.

2. Case Report

A 55years male patient presented to our OPD with complaints of pain in the penis and burning micturition since 1 week. Patient had features of prostatism since 5 months. There was no history of any surgery in perineum or genitalia.

On examination, whitish discharge was noted from external urethral orifice. Careful palpation of penile region reveals a tender, hard mass of size 3.0x1.0 c.m close to the urethral meatus.Digital rectal examination revealed enlarged prostate with no nodularity. X-ray pelvic region was suggestive of radio-opaque shadow in the penis.(Figure 1& 2.)Passage of metallic probe per-urethrally confirmed the suspicion of a calculus in urethra. Routine blood investigations and renal function tests were within normal limits. Urinalysis showed few pus cells. Urine culture dint show any organisms. Ultrasound KUB was normal. Calculus was removed under local anaesthesia by performing meatotomy and the calculus was the gently detached and removed(figure3). Urethra was closed down in two layers, A 16 F Foley`s catheter was left in situ for 7days. The stone was measured 3.2x2 m. and weighted 19 grams. Patient made rapid and full recovery without any complications.

Figure 1: XRAY Penile Region Showing Radio Opaque Shadow

Figure 2: XRAY Pelvis Showing Radio Opaque Shadow

Figure 3: Calculus Measuring of About 3X 2 X 2 CMS

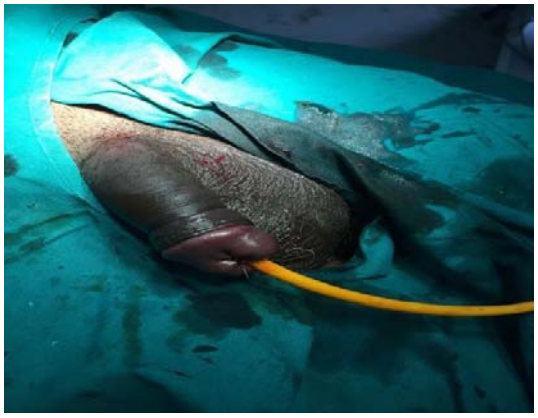

Figure 4: Postoperatively with Folys Catheter Insitu

3. Discussion

Urethral stones are rare forms of urolithiasis accounting for less than 1% of urinary calculi. Urethral calculi incidence is high in middle and far east because of incidence of bladder stone. Majority of urethral calculi in men are migrant formed in urinary bladder or upper urinary tract whose passage has been impeded in urethra .[6]

Primary calculus of urethra is very rare and usually occurs in a congenital diverticulum or stricture.[7] The quality of life of the patient who has a stricture or diverticulum (especially with calculi) may be significantly disturbed because of complications such as mass effect, post void dribbling of urine, pain and urinary tract infection.[8] Urethral stones in general affects children more often than adults, due to higher prevalence of bladder stones in this age group.[9]

Urethral calculi are generally classified as autochthonous /primary (those formed denovo in urethra) or migratory/secondary (those formed in the bladder or kidney with secondary descent), migrant calculi are reported to be at least 10 times more common than primary calculi.[10]

The predisposing factor for insitu development of urethral stones include the presence of urethral diverticulum, urethral stricture and meatal stenosis.[11] Native stones are struvite, calcium phosphate or calcium carbonate in composition, have no nucleus and are of uniform structure.They usually do not cause acute symptoms because of their slow development. May present with a mass on the undersurface of penis, urethral discharge, irritative voiding symptoms and haematuria.[10]

Migrant stones are calcium oxalate and phosphate in composition. They often cause acute symptoms causing retention, frequency, dysuria, poor stream or dribbling. Urethral calculi are predominantly found in the prostatic urethra, the bulb, the proximal penile urethra, the fossa navicularis and external meatus.[10]

The clinical presentation of urethral calculi is variable, specific signs and symptoms usually depends on the anatomic location of the stone. Anterior urethral stones causes dysuria and may be confirmed by palpation. On the other hand posterior urethral calculi may produces referred pain to the rectum or perineum.[12]

In an analysis done by Verit et al. in 2006 there were 15 patients studied, 8 of which were paediatric cases affecting the fossa navicularis. The stones were all fusiformin shape and solitary.[3] Kamal et al reported that 78% of all patients with urethral calculi had acute retention of urine , while 22% reported decrease of the urinary stream with dribbling of urine. 32 to 88% of the urethral calculi reside in the posterior urethra, whereas 8 to 58% are located in the bulbous and penile urethra and 4 to 11% are found at the fossa navicularis. 98 to 100% of urethral calculi are radiopaque and can be visualized on plain radiographs.[13]

Management of urethral calculi varies according to the site, size and associated urethral diseases. Retrograde manipulation in urinary bladder followed by litholopaxy or lithotripsy is suitable procedure for small urethral calculi. Giant urethral calculi should be treated with open surgery. In meatal stones associated with stricture urethra (male), stones removal and urethroplasty are preferred.[14] On follow up of four months showed no evidence of urethral stricture or recurrent stone in our patient.

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