Available at www.esic.nic.in
Official Publication of Official Medical Publication
Employees state Insurance Corporation, New Delhi, India

Case Report

A RARE CASE OF GIANT URETHRAL CALCULUS IN FOSSA NAVICULARIS

Author (s) Harshad k. Makwana[a]

ABSTRACT

Introduction: Primary urethral calculus is rarely seen and usually encountered in man with urethral stricture or diverticulum.

CASE HISTORY: - A 58-year-old male was admitted in our hospital for pain in abdomen and during morning round in surgical ward, he complained about stone in the urethra since 4 – 5 years. Patient had no history of acute retention of urine even with this giant stone, because whenever he wants to pass urine he was displacing and fixing the stone to one side. On local examination stone was palpable in fossa navicularis near external urethral meatus.

Surgical Intervention: - Meatotomy done under local infiltration with xylocaine & Stone was removed. Postoperative period was uneventful and patient was discharged home on next day.

Message: - A thorough knowledge about anatomy of male urethra is utmost important for the treatment of urethral stone in male because the treatment of stone in male urethra is solely dependent on location of the stone & presence of pre-existing congenital or acquired pathology. Detail history taking & clinical examination save the patient from extra unnecessary investigations for the treatment of stone in fossa navicularis.

Key words: Giant urethral stone, Fossa navicularis, meatotomy.

Introduction

Urethral stones are commonly associated with urinary tract calculi and underlying diverticulum or stricture urethra[1]. Urethral calculi are already an uncommon entity and giant calculi in the urethra are extremely rare. Urethral calculi represent less than 1% of all urinary stone diseases [2]. The majority of urethral calculi occur in males and rarely in female [3]. Current case of giant urethral calculus in man. The rarity of this condition and size of stone prompted me to present this case.

ANATOMY: Navicularis fossa of male Urethra: - The cavernous portion of the urethra is narrow and of uniform size in the body of the penis, measuring about 6 mm in diameter, it is dilated behind, within the bulb and again anteriorly with in the glans penis, where it forms the fossa

[a] Specialist M. S. General Surgery,
Corresponding Author: Dr. Harshad k. Makwana, 1, first floor, Alap Society, Shantinagar, Usmanpura, Ashram road, Ahmedabad- 380013, Email add: kamlaharshad@gmail.com

Navicularis urethrae. The navicular fossa is a spongy part of the male urethra located at the glans penis portion. It is essentially the part right before the external urethral orifice.

Case History

A 58 years old male patient was admitted at ESIC Model Hospital, Bapunagar, Ahmedabad, Gujarat with complains of pain in abdomen. During my routine round in surgical ward, he complains of stone in the urethra since 4-5 years. But he was not going to the doctor due to fear of surgery. Patient has never developed acute retention of urine even with this giant stone because whenever patient wants to pass urine, he was displacing and fixing the stone on one side and then he was able to pass urine. On local examination, stone was palpable in the fossa navicularis near external urinary meatus. No investigation required in this patient to diagnose the stone in the urethra. I immediately taken the patient in minor operation theatre and subjected to meatotomy, (in which the underside of the glans is split). Local infiltration was done with 2% plain xylocaine anesthesia. Ventral meatus, urethra and upper frenulum was crushed for 60 seconds with a straight hemostat and then the crushed line was divided with fine tip scissors because the method is relatively bloodless. Other techniques include, cauterization, cutting with a scalpel sometimes aided by clamps. The calculus of 20 mmx10 mm was extracted successfully by meatotomy (Figure 1). The patient did not felt any pain at the time of removal of stone. Meatotomy incision was kept open (not sutured) for healing by secondary intention to prevent meatal stenosis. Meatotomy incision healed within few days. Stone extracting procedure was extremely smooth and totally painless and patient was extremely happy after years old urethral stone removal and that is totally painless and without his knowledge. Follow up of 6 months showed no evidence of meatal narrowing or stenosis or recurrent stone in my patient.

Discussion

Urethral stones are rare form of urolithiasis accounting for less than 1% of urinary calculi, but have greater prevalence in developing countries[4]. Urethral stones in general affect children more than adults, due to the higher prevalence of bladder stones in this age. Predisposing factors for in situ development of urethral stones include the presence of urethral diverticulum, urethral stricture, hypospadias and meatal stenosis[5,6]. They are exceedingly rare in females because of low incidence of vesical calculi and shorter urethra.

Urethral stones are classified as (1) native or autochthonous and (2) migrant or secondary depending upon their site of origin.

Figure-1: Giant Urethral Stone

Migrant stones are much more common and are ones which have migrated from higher up in the urinary tract.

Native stones are struvite, calcium phosphate or calcium carbonate in composition, have no nucleus and are of uniform structure. They are formed in the urethra proximal to strictures, in congenital or acquired diverticula, with chronic infection with specially urea splitting organisms or with foreign bodies. Primary stones do not cause acute symptoms because of their slow development as in my patient. Urethral calculi may be completely asymptomatic. May present with a mass on the under surface of the penis, urethral discharge, dyspareunia, irritative voiding symptoms and hematuria.

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 preponderantly found in prostatic urethra, the bulb, the proximal penile urethra, the fossa navicularis and external meatus.

Treatment is contingent on the size and location and condition of urethra[7].

- Urethroscopy lithotripsy and removal is useful in any situation.
- Meatotomy may be used if stone is in the fossa navicularis or external meatus.
- Anterior urethral calculi can be removed with intraurethral Instillation of 2% xylocaine jelly, ventral meatotomy or Urethroscopic method.
- Giant urethral calculi should be treated with opensurgery.
- Strictures are to be dealt with, if present, with urethrotomies or urethroplasties.
- Calculi in posterior urethra can be pushed back into the bladder followed by Litholopaxy or Lithotripsy.
- In case of urethral diverticulum, diverticulectomy and repair should be done.

In present case, simple meatotomy was done which healed quickly. Unlike other genital modifications, the glans tissue does not have a tendency to re-adhere to itself or heal closed. Stone extracting procedure was extremely smooth and totally painless and patient was extremely happy after years old urethral stone removal and that is totally painless and without his knowledge. Follow up of 6 months showed no evidence of meatal narrowing or stenosis or recurrent stone in my patient.

Conclusion

A thorough knowledge about anatomy of male urethra is utmost important for the treatment of urethral stone in male because the treatment of stone in male urethra is solely dependent on location of the stone & presence of pre-existing congenital or acquired pathology. Detail history taking & clinical examination save the patient from extra unnecessary investigations for the treatment of stone in fossa navicularis.

References

1. Q.J. Ahmed, M. Akbar, Gulfam, et al. Giant urethral diverticulum with stone. Pak J Surg 2003; 19: 106-8.

2. T. V. Shanmugam, V. Dhanpal, T. Rajaraman, et al. Giant urethral calculi. Hospital Medicine 2000;61:582.

3. H. A. De Carvalho. Giant urethral calculus.: A case report. J Urol1977;118:334-5.

4. S. Koga, Y. Arakiki, M. Matsuoka, et al. Urethral calculi. Br. J Urol1990;65:288-92.

5. B. A. Kamal, R. M. Anikve, H. Darawani, Urethral calculi: Presentation and management. Br. J Urol Int 2004; 93: 549-52.

6. Hegele, P. Olbert, S. Wille, et al. Giant calculus of the posterior urethra following recurrent penile urethral stricture. Urol Int. 2002; 69: 160-1.

7. Kunal Kotkar, Ravi Thakkar: Giant urethral calculus, JSCR, http://jscr.co.uk, 2011,8:9.

Source of Support: Nil,
Conflict of Interest: None declared.