



Impacted Urethral Stone in a Female: Case Report

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Authors' contributions

This work was carried out in collaboration between all authors. Authors IOA and SAA wrote the draft of the manuscript. Author AOA managed the literature searches. Authors AOD, AA, DAOO and OTA designed the figures, managed literature searches and contributed to the correction of the draft. Author IOA provided the case, the figures and supervised the work. All authors read and approved the final manuscript.

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Case Report

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ABSTRACT

Aims: To present a case of impacted urethral stone in a female.

Presentation of Case: A 32-year-old female presented at the Family Medicine clinic with a history of external urethral meatal pain and a foreign body in her external meatus of one hour duration. She noticed that the stream of her urine was poor and she developed severe pain in her external urethral meatus after micturition. On physical examination at the clinic, general and abdominal examinations were normal but it was discovered that she had an impacted stone in her external urethral meatus. The stone was extracted with the aid of a curved hemostat after copious lubrication with 2% lidocaine jelly.

Discussion: Urethral calculi are uncommon and they account for approximately 1% of all urinary tract stones. Urethral calculi are rarely seen in females but do occur in males. Majority of urethral calculi migrate down into the urethra from the upper urinary tract and bladder and are rarely formed primarily in the urethra except those that occur secondary to abnormalities in the urethra.

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Conclusion: Urethral calculi are extremely rare in female patients with no associated genitourinary abnormality. Urethral calculi must be kept in mind in female patients who complain of a poor stream of urine, urinary retention, severe pain in the external urethral meatus and palpable mass around the urethra.

Keywords: Female; urethral calculi; 2% lidocaine; calculi extraction; Ogbomoso; Nigeria.

1. INTRODUCTION

Urethral calculi are an uncommon type of urolithiasis and they account for approximately 1% of all urinary tract stones [1]. They are rarely seen in females but occur in males [2] with two peak incidences: One in childhood and the other at 40 years [1]. The majority of urethral calculi are usually calcium oxalate (85%) and can originate [1,2] primarily in the urethra secondary to other pathology such as diverticula, strictures, neurogenic bladder, foreign bodies or originate in the upper urinary tract and migrate down into the urethra. The majority of urethral calculi actually migrate down into the urethra and most impact in the prostatic urethra while about 40% are found in the anterior urethra [1,2]. Some of the patients with urethral calculi may present with acute retention of urine, perineal and rectal pain, external meatal pain, urethral pain, interrupted stream, weak stream with dribbling or a palpable urethral mass [3,4].

2. CASE REPORT

A 32-year-old female presented at the Family Medicine clinic of the Bowen University Teaching Hospital, Ogbomoso, Nigeria with a one hour history of external meatal pain and foreign body in her external meatus. She was otherwise healthy until an hour prior to presentation when she developed the urge to micturate. She noticed that the stream of her urine was poor and she developed severe pain in her external meatus after micturition. When she examined herself, she discovered a foreign object in her external meatus. After some unsuccessful attempts at removing the foreign object at home, she presented at our Family Medicine clinic.

At the clinic, general and abdominal examinations were normal but it was discovered she had an impacted stone in her external meatus (Fig. 1). The nature of her illness and mode of management was explained to her. With her consent, a stone measuring 0.7 cm x 0.6 cm was extracted with the aid of curved hemostat after copious lubrication with 2% lidocaine jelly

(Figs. 2 & 3). The pain subsided immediately after the removal. She urinated after removal and the stream of her urine was good without any associated pain or hematuria. Plain abdominal x-ray, abdominopelvic ultrasound and urinalysis were performed to locate where the stone had originated. The results of the investigations were normal and the origin of the stone could not be identified.

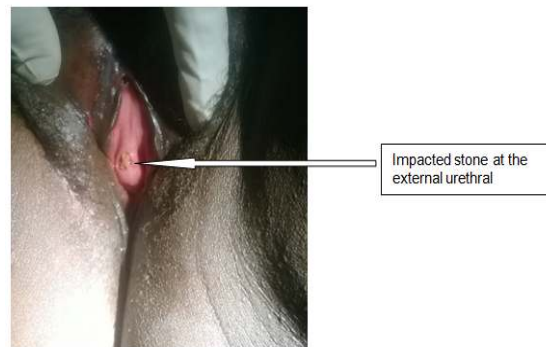


Fig. 1. Impacted stone at the external urethral meatus



Fig. 2. Extraction of the urethral stone

3. DISCUSSION

Lower urinary tract stones are very common in the developing nations of the world whereas the developed nations experience more of upper

urinary tract stone [5]. Urethral calculi are not very common and they account for approximately 1% of all urinary tract stones [1]. Urethral calculi are rarely seen in females but do occur in males. The majority of urethral calculi actually migrate down into the urethra from the upper urinary tract and bladder. They are rarely formed primarily in the urethra except those that occur secondary to abnormalities in the urethra such as diverticula, strictures, neurogenic bladder, or foreign bodies [1,2]. The origin of the stone in the case presented is likely to be migration from the upper urinary tract because there was nothing in the history, physical examination and investigations to suggest abnormalities in the patient's urethra.



Fig. 3. Extracted urethral stone

The symptoms experienced by the patients with urethral calculi differ and depend on many factors such as anatomical location, number, size and shape of the stone. Some of the symptoms include acute urinary retention, perineal and rectal pain, external meatus pain, urethral pain, interrupted stream, weak stream with dribbling, and a palpable urethral mass [6]. It was therefore not surprising that in this case the patient presented with external meatal pain, weak stream with dribbling and a palpable urethral mass because the impacted stone was located at the external urethral meatus.

The aim of the treatment of urethral calculi is to remove the calculus without any complication and to resolve the obstruction of the urinary tract. The mode of management depends on the available technology. The treatment options which are readily available in resource limited nations are retrograde manipulation and cystolithotomy, extraction after lubrication with 2% lidocaine jelly and external urethrotomy. Patients in developed countries can also benefit from treatment modalities like Holmium laser lithotripsy, ultrasound fragmentation, use of

retrograde manipulation and extracorporeal shockwave lithotripsy [7-9]. Because the stone in the case presented was located in the external urethral meatus, she was offered extraction after lubrication with 2% lidocaine jelly. This treatment modality was successful and appeared to be the best for the patient because of the early presentation, location and size of the stone.

Many complications are possible with urethral obstruction due to calculi, some of which are obstructive renal failure, long-term urethra damage, urethrocutaneous fistula, incontinence and even penile gangrene [10]. No complication was detected in the index case throughout the follow up period.

4. CONCLUSION

Urethral calculi are extremely rare in female patients with no associated genitourinary abnormality. Urethral calculi must be kept in mind in female patients who complain of a poor stream of urine, urinary retention, severe pain in the external meatus and palpable mass around the urethra.

ETHICAL CONSIDERATION

The author got approvals from the subcommittee on the ethics of human experimentation of the Bowen University Teaching Hospital, Ogbomoso and also obtained informed consent from the patient.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Henry K. Urethral calculus/ radiology reference article; 2015. Available:<http://radiopaedia.org/articles/urethral-calculus>
2. Bielawska H, Epstein NL. A stone down below: A urethral stone causing acute urinary retention and renal failure. CJEM. 2010;12(14):337-80.
3. Mihmanli I, Kantarci F. Transrectal voiding sonourethrography for diagnosis of a prostatic urethral calculus. J Ultrasound Med. 2006;25:1455-7.
4. Kamal BA, Anikwe RM, Darawani H, Hashish M, Taha SA. Urethral calculi:

- Presentation and management. BJU Int. 2004;93:549-52.
5. Ibrahim AG, Hamid I, Mohammed BS, Aliyu S, Ali N. Impacted urethral stone as seen in University of Maiduguri Teaching Hospital, North Eastern Nigeria. BOMJ, 2013;10(2):26-30.
 6. Shim JS, Oh MM, Kang JI, Ahn ST, Moon du G, Lee JG. Calculi in a female urethral diverticulum. Int Neurourol J. 2011;15:55-7.
 7. Walker BR, Hamilton BD, Urethral calculi managed by transurethral holmium laser ablation. J Paediatr Surg. 2001;36:E16.
 8. Durazi MH, Samiei MR. Ultrasonic destruction and endoscopic removal of kidney, ureter, bladder and urethral stones. Acta Chir Hung. 1998;29:59-71.
 9. Al Ansari A, Shamsodini A, Younis N. Extracorporeal shock wave lithotripsy monotherapy for treatment of urethral and bladder stones presenting in acute retention. Urology. 2005;66:1169-71.
 10. Tanrivermis SA, Ulu MB, Idilman SI, Gunbey HP. A female patient with urethral calculus presenting with bladder distention: A case report. Int Med J Sifa University. 2015;2(1):21-23.

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