

Urethral Lithiasis Causing Acute Retention of Urine

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Abstract

Calculi in the male urethra are rare and are generally associated with urethral disorder. Treatment is generally by extraction and resolution of the underlying cause. We report a case of urethral calculus, in a man with lithiasis emission history, of apparently related to his pathologies of gout and diabetes that had treated by forceps extraction.

Introduction

Urethral calculi are rare in the western hemisphere and fairly common in oriental and developing countries, detailed reports are few [1]. This pathology causes pain, dysuria or urinary retention and most patients require urgent treatment. We report the diagnosis and treatment of an adult admitted to urological emergencies for acute retention of urine.

Case Report

Mr. K.M, 51 years old, the patient is known diabetic under metformin and glimepiride, followed for gout disease, admitted to the emergency room for acute urine retention. He says he presented two days previously right lumbar pain. Examination had found a conscious patient, in good general state and hemodynamic, agitated with the presence of a hypogastric renitence (distended bladder). The urethral meatus was edematous with palpation a stony hard mass fixed. The rest of the penis was normal. The urinary catheterization was impossible.

A suprapubic puncture was performed urgently to relieve the patient. X-ray of the urinary shaft without preparation and an x-ray centered on the penis (Figure 1) allowed finding an opacity projecting at the level of the penile urethra. Local anesthesia by lidocaine injected through the urethral meatus was made; the lithiasis was extracted by a fine Bengolia forceps without incident. A bladder catheter was left in place for 7 days. The suites operating posts were simple, Renal and vesico-prostatic ultrasound done after a week was normal. Thirteen months later, from our patient benefited a right flexible ureteroscopy for average callial lithiasis of 6mm, and he had no recurrence of urethral lithiasis or sign of low urinary tract.

Discussion

Urethral stones usually present with acute urinary retention or with symptoms indicative of an obstruction of the lower urinary tract. Perineal, rectal, and urethral pain, and a palpable urethral mass are uncommon presentations. The stone had a smooth surface, which explained the absence of lower urinary tract symptoms [2]. The diagnosis is usually simple if there is a history of renal lithiasis, or stone ejection. It can be palpated in the

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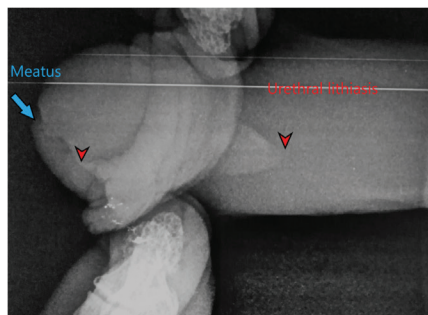


Figure 1: Conventional radiology centered on the penis

urethra or visible in the navicular fossa, or calculus palpated by digital rectal examination. On the pelvis radiography, the calcium image can be observed [3]. Our patient was admitted to an acute urine retention table with no history of previous dysuria in the previous months, but the patient reported right lower back pain two days before retention, we also recall that the patient has two co morbidities which favor lithogenesis: gout and diabetes. This leaves us to suppose that the origin of this lithiasis is the upper urinary tract.

In a study by Koga et al of 56 males, the main symptoms were: dysuria, burning with micturition, gross hematuria, urinary retention and urinary frequency. The commonest location was the posterior urethra; 46 patients complained of dysuria but urinary retention was present in only 7 cases. The majority of lithiasis of the posterior urethra were operated by retrograde manipulation in the bladder; in ten cases the penile and meatal lithiasis were operated either by urethrotomy or meatotomy, in the rest of the cases by using a forceps or delivered spontaneously [1]. In other study Kamal et al: Acute retention of urine occurred in 78% of patients, urethral anatomical pathology in 6% and posterior urethral calculi in 88%. The urethral stones, solitary in each patient, consisted of calcium oxalate in 86%, struvite in 6%, mixed stones in 4%, calcium phosphate in 2% and uric acid in 2%. The spontaneous expulsion method with no surgery was successful in four patients. The milking procedure was successful only for the one remaining palpable anterior urethral calculus. The endoscopic forceps procedure was successful in a third of the smaller posterior urethral calculi. The endoscopic pushback technique, applied to all remaining posterior urethral stones, was successful in 86%. In situ lithotripsy was successful in 80% of posterior urethral lithiasis, and the meatotomy and forceps extraction were performed for previous lithiasis [4].

In our context, although our University Hospital Center is located in the most populated region, the region of Greater Casablanca in a developing country Morocco, we have received only four cases of urethral lithiasis during one year, the particularity of this case is the presence of lithiasis in the distal penile urethra, which is the least frequent localization in large series in the literature and its presentation with acute urine retention.

The urethra should be examined for an obstructing stone. The association of a plain abdominal X-ray and an ultrasound not only permits the identification of calculi but also appreciates the impact of obstruction on the upper urinary tract. Urgent urinary diversion and removal of the calculus with minimal urethral trauma is recommended treatment. Endoscopic lithotripsy has become the standard treatment in the management of bladder stones and urethral lithiasis [5].

Our patient was treated by forceps extraction, since the lithiasis was close to the urethral meatus, and the non-availability of lithotripsy in the emergency department at night, this attitude is traumatic and should not be attempted if the lithiasis is too deep in the urethra, we proceeded under visual control and with great delicacy after having put lidocaine gel through the urethral meatus and having made the maneuver of expression of the penis, we demonstrate by our case that this attitude already described that it is possible in case of emergency and the unavailability of technical equipment, in case of failure, it is not necessary to try much but it is better make a cystostomy and prepare the patient for fragmentation with more sophisticated means like the Laser.

The patient was followed in endocrinology consultation for his diabetes and gout, his two comorbidities which can be incriminated in lithogenesis. After stone passage, every patient should be assigned to a low- or high-risk group for stone formation. For correct classification, two items are mandatory:

- reliable stone analysis by infrared spectroscopy or X-ray diffraction;
- basic analysis.

All stone formers, independent of their individual risk, should

follow the preventive measures. The main focus is normalization of dietary habits and lifestyle risks. Stone formers at high risk need specific prophylaxis for recurrence, which is usually pharmacological treatment based on stone analysis [6]

Our patient is assigned to high risk group; it was put on allopurinol and glycemic monitoring under oral treatment with a balanced diet.

At 13 months of follow-up the patient has no complications of the lower urinary tract, but it was operated on for an average calyx lithiasis of 6 mm by flexible ureteroscopy.

Conclusion

Acute retention by distal penile urethral lithiasis is rare, its presence must be rapid with less invasive methods, patient monitoring and assessment of the risk of lithogenesis is important to prevent recurrence.

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