

Case Report

Accidental prostatic stone finding after urinary catheterization failure during hernia surgery

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ABSTRACT

Urethral stones represent a rare cause of urinary obstruction and they are usually symptomatic. In older patients with bladder outlet obstruction, bladder stones are commonly found and managed accordingly. Intraprostatic stone formation is also a common finding in men with benign prostate hyperplasia but rarely is it a factor for obstruction. On the contrary, large stone formation in the prostatic urethra is a rare entity, and patients present with hematuria, dysuria, infection or retention in most of the cases. Patients previously submitted to urological procedures such as prostatectomy or lithotripsy, are at high risk of developing late complications and need a long follow-up. In cases with obstruction due to urethral stones the management is straightforward but in asymptomatic patients the diagnosis is usually missed or delayed. Therefore, careful evaluation of the patient is essential in order to prevent any unwanted situation such as catheterization failure. Authors' present a case of an 82-year-old male who accidentally diagnosed with a large stone impacted in the prostatic cavity after urinary catheterization failure during a scheduled open hernia repair surgery. The patient had a history of previous open prostatectomy and he was completely asymptomatic. An emergency cystoscopic evaluation revealed the cause of the prostatic urethral obstruction. The urinary stone was subsequently managed endoscopically on the spot.

Keywords: Cystolithotripsy, Prostatic stone, Prostate enucleation, Urethral stone, Urinary obstruction, Urinary catheterization

INTRODUCTION

Urethral calculi represent a rare cause of acute retention or partial obstruction. Patients with a history of urinary stones may require lifetime follow-up. Prostate surgery for outlet obstruction can be prophylactic to future bladder stone formation. On the other hand, prostatic stone formation is commonly present in men with benign prostate hyperplasia and do not require special treatment. However, stone presence into the prostatic urethra is usually symptomatic and can lead to retention and emergency treatment. Because of this, asymptomatic

urethral stones are rarely accidentally discovered. We present a case of an accidental stone finding inside the prostatic urethra in a patient that was scheduled for hernia surgery. The stone was discovered after several unsuccessful attempts of bladder catheterization after the induction of regional anesthesia and led to the immediate endoscopic evaluation of the patient's urethra.

CASE REPORT

An 82-year-old male with a medical history of bilateral hernia repair, open transvesical prostatectomy, and right

sigmoidectomy was scheduled for left open hernia repair due to recurrence. The patient was otherwise healthy and fit and did not mention any lower urinary tract symptoms during the preoperative evaluation. After standard-dose spinal saddle block anesthesia, an intraoperative urinary catheterization was unsuccessfully attempted using several catheter sizes. An immediate flexible cystoscopy was performed which revealed a large impacted stone in the prostatic urethra (Figure 1).



The stone is attached on the left prostatic lobe while the right lobe is absent due to the previous prostatectomy. Bladder neck narrowing is also observed.

Figure 1: Endoscopic view of the fiberoptic 14fr flexible cystoscope.

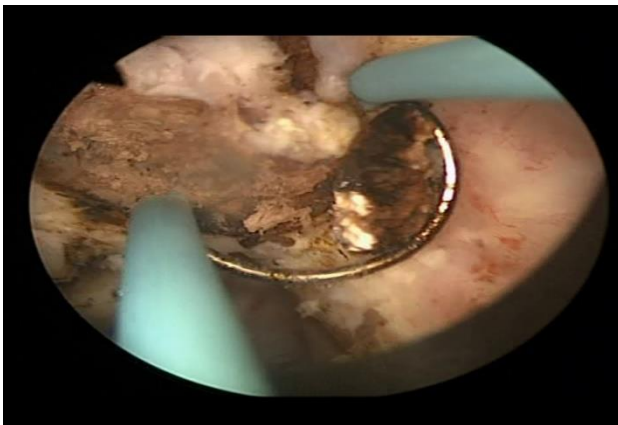


Figure 2: The stone is detached along with a layer of the prostatic urethra with an enucleation-like technique using the monopolar loop of the resectoscope.

The stone was strongly attached to the left residual lobe of the prostate and it was not possible to be manually detached. Therefore, an endoscopic management of the stone was decided, and the patient was placed in a lithotomy position on the spot. Initially, the stone was detached from the left lobe using a prostate-enucleation like technique with the help of the monopolar loop of the resectoscope (Figure 2). Then, the stone was pushed into the bladder and shattered using a mechanical stone punch (Figure 3). All fragments were washed out and, finally, a

bladder neck incision was performed in order to facilitate the voiding function. Finally, a silicone 3-way Dufour 20Ch catheter was easily placed into the bladder. The operating time was only 35mins, and the rest of the surgery was not particularly delayed.



Figure 3: Stone fragmentation using the mechanical stone punch instrument.

DISCUSSION

Urinary tract stone formation is an everyday problem worldwide. The most common site of calculi is the kidney and ureters while bladder stone may have a secondary rationale due to urethral obstruction.¹ On the other hand, urethral stones are an extremely rare location for urinary calculi formation.²

Several cases of large urethral stones have been reported in the literature, which are often associated with the presence of a urethral diverticulum.³ In cases of urethral stone presence, patients are usually symptomatic and acute urinary retention may occur.

Prostatic calculi have been associated with chronic inflammation and benign prostate hyperplasia in middle-aged and older men.⁴ The rationale of prostatic stone formation, as well as the clinical significance, is not yet fully understood.

The majority of these stones are asymptomatic and their location is usually inside the prostatic adenoma at the transitional zone, however, protrusion into the urethral lumen can occur which can cause lower urinary tract symptoms or obstruction. The incidence of prostatic bed calculi formation after resection of the prostate even when modern techniques are used, such as Holmium laser enucleation, is extremely low (0.8%).⁵ Still, these patients present with voiding dysfunction, including dysuria, pain and gross hematuria.

Asymptomatic patients with urethral stones are uncommon and reported sporadically. As in our case, patients who have been submitted previously to prostate surgery need occasionally radiological and clinical

follow-up in order to discover late complications of the surgery. In present case, a pre-operative microscopic hematuria escaped our attention and as the patient was completely asymptomatic no imaging evaluation was performed. The failure of bladder catheterization during the hernia surgery led to endoscopic evaluation of the urethra and the stone detection.

In emergency cases of difficult bladder catheterization several tricks and alternative treatments, such as suprapubic drainage, have been reported, to temporally ensure urine flow. These patients often require late permanent treatment.⁶ In present case, further endoscopic treatment on the spot was considered an upright decision.

CONCLUSION

The presence of a prostatic urethral stone chronically impacted into the urethral lumen is quite uncommon especially when the patient is asymptomatic. Careful evaluation of patient's laboratory and imaging tests may lead to the diagnosis and prevent any unwanted events. Accordingly, patients with a history of previous urological interventions should have a long follow-up for any late complications.

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