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Giant Prostatic Urethral Stone

Dev Prostatik Üretra Taşı

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Dear Editor,

Urinary tract stones are often encountered in the upper urinary tract and the bladder but their incidence rate in the urethra is 1% (1). Urethral stones are divided into two: as primary and secondary. Primary urethral stones are rather rare while secondary urethral stones are frequently encountered in clinical practice. The treatment of urethral stones varies depending on stone localisation, size, and the structure of the urethra (2). We aim to present a giant urethral stone located in the prostatic urethra and to assess the case through a view of the related literature.

A 58-year-old man was admitted to our clinic with pain in the left flank that had been present for a long time. The patient did not have any known metabolic diseases or previous surgeries. His physical examination was normal, too. The patient's arterial blood pressure was 120/85 mmHg and his body temperature was 36.8 degrees at his physical examination. The laboratory results were as follows: WBC: 7.400 K/L, HGB: 13.2 g/dL, and HCT: 39%, creatinine: 1mg/dl, respectively. The complete urine analysis results were WBC: 113/HP and RBC: 22/HPF. There was no procreation in the patient's urine culture.

To study the etiology of the pain on the left flank, we first performed a urinary tract ultrasound. Urinary tract ultrasound examination revealed perirenal abscess and hydronephrosis on the left. The right kidney was normal. We planned to perform an unenhanced abdominal computed tomography (CT). The abdominal tomography showed that the left kidney was slightly decreased in size and that the pelvicalyceal system and the proximal of the ureter were dilated. At the L4 level of the 1/3 proximal part of the left uterine, there was an approximately 2 cm long stone; to the distal of the left ureter at the level of the ureterovesical junction, there was a stone density with two millimetric stones. The bladder was normal. The prostate was 5,7x4,5x5cm in size and there were calcification foci in the centre of the prostate as large as 2.5x3.5x3cm combined with the prostate itself (Figure 1).

We concluded that the patient should undergo a left ureterorenoscopy for his ureteral stone on the left and an endoscopic ureter stone treatment. In the diagnostic cystoscopy performed in the lithotomy position, we detected an urethral stone located in the prostatic urethra starting from the level of verumontanum.

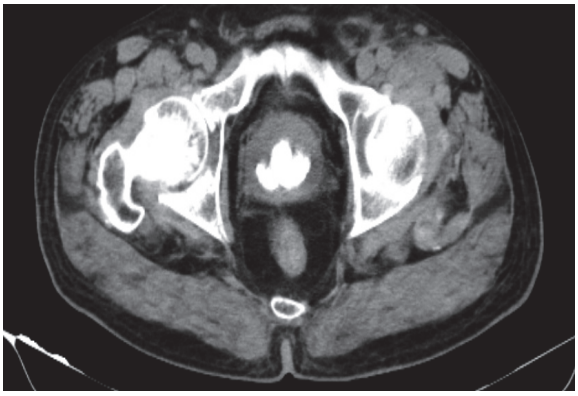

Figure 1. Nonenhanced CT Scan showing replacement of prostate gland with calculi

Because of the fact that the stone was enclaved by the prostatic urethra, it was located close to the sphincter, and that the stone did not give way to its proximal, and, at length, considering its size and location, we decided to perform open surgery. The bladder was opened with vertical incision and the stone in the prostatic urethra was approached intravesically. Because the stone was enclaved by the prostatic urethra and the bladder neck was not large enough for the removal of the stone, we could not take it out. We then tried the Millen method by reaching the prostate tissue from the retropubic space. We incised the prostate tissue and removed the approximately 5cm prostatic urethra stone. Due to the age of the patient and regarding the complications it may cause, we did not interfere with the prostate tissue. We did not plan any other interventions for the left ureter stone in the same session. We thought that the current surgical area may bring about complications for the endoscopic treatment. With no intraoperative bleeding, the patient was discharged on postoperative day 2. The foley performed on the 10th postoperative day showed no complications. Since then, for about six

months, the patient did not have any issues concerning his urethral stone treatment.

Urethral stones are rare among urinary tract stones yet they are more common in developing countries in contrast to western societies (3). They are rarer in women due to anatomical factors (4). The most common etiology of urethral stone is urethral stricture; in addition to this, urethral diverticulum, foreign bodies, urethral fistula, and neuropathic bladder may be regarded as secondary pathologies for the etiology of urinary tract infections (5,6). Besides, there are even studies that report urethral stone formation without any predisposing factors (7). In our case, the findings did not lead to any predisposing factors for the stone formation, either.

The urethral stones, when they are smaller than 10mm, can pass through the urethra spontaneously. However, prostatic urethra, bulbous urethra, proximal penile urethra, fossa navicularis, and external meatus are among the possible parts where an urethral stone get stuck (2). Because primary urethral stones grow slowly, patients do not usually consult with acute symptoms. Often appearing after long periods of time, patients often present with lower urinary tract symptoms such as difficulty in urination. In our case, in line with the literature, the patient did not present with acute symptoms.

As in urinary tract stones, a large portion of the urethra stones are radio opaque stones and they can often be diagnosed by plain radiography. Failing that, retrograde urethrography and computed tomography can help with the diagnosis. However, definitive diagnosis can be achieved endoscopically (2,3,8). Similarly, although the initial radiological diagnosis was calcified foci in the prostate in our case, the final diagnosis of the urethral stone was decided with the help of cystoscopy only.

Nowadays, due to the technological developments and widespread use of endoscopic surgical techniques, lithotripsy accompanied by ureteroscopy has become the first treatment option that comes to mind (9). Location and size of the urethral stone along with the presence of additional pathologies and condition of the urethra all play a determining role in the treatment of such cases. While stones can be removed with the aid of forceps if they are located in the anterior urethra, posterior urethra stones can be pushed into the bladder and then treated as bladder stones. If, however, there are additional pathologies like external mea stenosis or urethral stricture, patients may need to undergo meatotomy or internal urethrotomy. In the treatment of larger stones or enclaved stones, neither of which are not suitable for endoscopic therapy, practitioners may prefer ureterolithotomy or, if the stone can be pushed into the bladder, cystolithotomy. In our case, because the giant urethral stone was not suitable for endoscopic lithotripsy, we needed to perform lithotomy with the Millen method.

As a result, urethral stones may exist without lower urinary tract symptoms. It should be remembered that a definitive diagnosis may not always be possible through radiological methods. To this end, it is safe to state that endoscopic methods is the most reliable way for the differential diagnosis of such cases. In addition, preferring endoscopic methods to open surgery may be more appropriate in giant urethral stone cases as it was proved to be in our case.

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