Giant Calculi within the Bulbar Urethra: A Rare Case Report

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Abstract

Urethral stones are rarely seen. We report a 75-year-old male with a prior history of prostatectomy, who presented with hematuria and urinary frequency. He was referred to our Department for annual radiologic control. Imaging modalities showed a giant stone in his urethra which was successfully extracted.

Keywords: calculi · urethra · prostatectomy · MRI · CT scan

Introduction

Urolithiasis might show anywhere along the urinary tract, but manifests in the urethra in only 0.3% of cases [1]. Urethral stones can occur de novo from urinary stasis or from calcification within a foreign body nidus in the urethra. It is frequently associated with a urethral stricture or diverticulum. Urethral calculi can also be migratory and transferred from the upper urinary tract or bladder [2,3]. Because of its non-specific symptoms, the diagnosis of this disease could be challenging, which necessitates the evaluation of the lower genitourinary tract by radiologic imaging and permits to minimize the appearance of complications [4,5].

Case Report

A 75-year-old man, diagnosed as having adenocarcinoma of the prostate. He underwent a radical Prostatectomy associated with radiation and chemotherapy. The patient presented to our department for his ordinary radiologic imaging control and underwent a pelvic MRI which showed a T1 and T2 hypointense mass in his bulbous urethra, non-enhanced after gadolinium (Figure 1). Unenhanced abdomino-pelvic CT was performed to characterize this masse, demonstrating a giant stone around the urethra of approximately 3x3x6 cm (AP x T x H) (Figure 2) with no associated anatomical abnormalities in the upper urinary tract. Clinically; our patient was stable but reported several months of hematuria and urinary frequency with no history of fever or pain. On local examination, he had a tender palpable mass at the perineum. Blood tests showed normal WBC count and renal function. Because of its size, endoscopic treatment was the treatment of choice. It was performed with no complaints during the 2 months of follow-up.

Discussion

Urethral calculi are a rare condition, which occur often in men because of their long and tortuous urethra [6-8]. It can be primary or migratory with a reflective symptomatology to its pathogenesis. Urethral stones could be ranked to two varieties: primary and migrant. Primary urethral stones might form in situ, secondary to urethral anomalies that could lead to infection and urinary stasis such as urethral diverticula and/or urethral strictures [9]. This type of calculi presents with progressive clinical signs, such as irritative voiding, urethral discharge, and/or bleeding, foreign body sensation in the penis or the vagina, because of its slow-growing character. Migratory urethral calculi
are more common. They derive from the upper urinary tract or bladder and obstruct the urethra, which might generate acute lower urinary tract symptoms, such as perineal or penile pain and irritative signs. The symptoms can mimic the clinical picture of renal colic, if the outflow obstruction conducts to hydronephrosis [5,10,11].

To rule out some differential diagnoses such as prostatitis, cystitis, or pyelonephritis, blood tests and urinalysis should be realized [12]. Abdominal ultrasonography can demonstrate urinary retention, and penile ultrasonography which is not usually performed without a certain suspicion might have an essential role by highlighting urethral stones. Others imaging modalities could be contributory and show a urethral calculus. A plain x-ray covering the lower abdomen and pelvis might confirm the diagnosis if the calculus is radiopaque. Because of its sensitivity and specificity, unenhanced abdomino-pelvic CT is considered as the cornerstone in the diagnosis of calculi in the urinary tract, which enables an early treatment and permit to reduce the emergence of complications, like incontinence, urethrocutaneous fistulas and renal failure [3,13-17].

The objective of the treatment is to eliminate the stone without damaging the urethra and furnishing analgesia to the patient. The eventual treatment is depending on the individual clinical context, but the method of choice relies on catheterizing the urethra or introducing a supra-pubic cystostomy, followed by endoscopic management of the stone [13,17].

**Conclusion**

Urethral calculi are a rare case. Following a correct diagnosis based essentially on radiologic imaging including the lower urinary tract, a prompt and adequate treatment is indicated to provide analgesia to the patient.

**References**