

Fragment of pubis through the urinary bladder wall causing urinary bladder calculus

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Abstract Bladder calculi can result from various types of foreign bodies. A number of intra-vesical foreign bodies have been described in the literature. However, there is no report on the bladder calculi resulting from the fracture of pubis; we present one unique case of bladder calculus caused by the fracture of pubis for 10 years that was succeeded by successive surgical procedures.

Keywords Bladder calculus · Fracture of pubis · Suprapubic cystolithotomy

Introduction

Bladder calculi can result from various types of foreign bodies. A number of intra-vesical foreign bodies have been described in the literature. Causes include iatrogenic, migration from adjacent organs, penetrating injuries and self-insertion [1, 2]. However, there is no report on bladder calculi resulting from the fracture of pubis, we present one unique case of bladder calculus caused by fracture of pubis for 10 years that was succeeded by successive surgical procedures.

Case report

A 31-year-old man presented with irritative voiding symptoms, perineal pain and intermittent hematuria for 1 year and was confirmed to have bladder calculus in the local hospital, and proceeded to suprapubic cystolithotomy. However, the stone was not removed because it was locked through the anterior wall of the urinary bladder and fixed to the pubis. The patient was transferred to our clinic 1 month later. During our interrogation, we learned that he had a pelvic fracture with gross hematuria and was cured by retention type catheter 10 years ago. On physical examination, the patient's general condition was fair. Chest and abdominal examination were unremarkable. Urine examination showed red bloods cell (8–10/HP), white blood cells (0–2/HP), and no pus cells. Renal function was normal. The kidney ureter bladder radiography (KUB) revealed a rotund high-density shadow of bladder area (Fig. 1). The CT scan showed an osseous piece toward the bladder behind the pubic symphysis (Fig. 2). Thus, bladder calculus was diagnosed and open surgery was successfully performed with suprapubic cystolithotomy, in which the stone was overhung in the anterior wall of urinary bladder and fixed to the pubis (Fig. 3). The stone was retrieved by bone chisel with many pieces of bone chips and removed from the anterior wall of the urinary bladder (Fig. 4). After operation, Foley catheter was detained for 7 days and a course of antibiotics was given. On follow-up, the patient was doing well for 6 months.

Discussion

The risk factors for the bladder calculi include urinary stasis, infection and the presence of foreign bodies. A multitude of foreign bodies, including intrauterine devices, wire,

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Fig. 1 KUB shows the calculus in the suprapubic region

medical sutures and artificial urinary sphincters, have been associated with bladder calculi [1, 3–5]. Usually the patients present with urethritis, cystitis, recurrent UTI, or hematuria as in our patient.

In our patient, bladder calculus was induced by the presence of fracture of the pubis for 10 years and it was

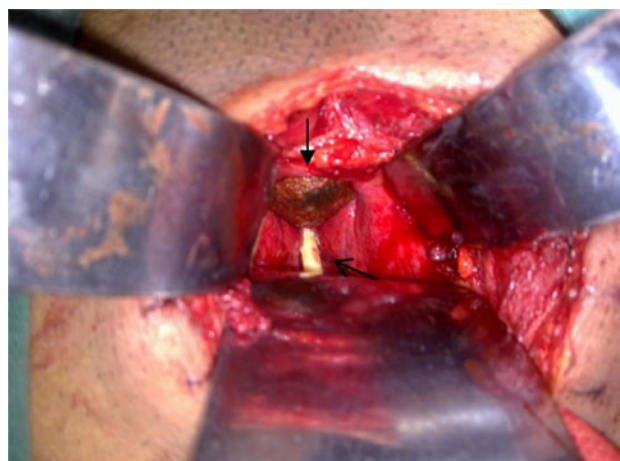


Fig. 3 The stone hanging in the anterior wall of urinary bladder and fixing to the pubis (arrow with *block head* the anterior wall of urinary bladder, arrow with *line head* Foley catheter)

unique as no other report was found in the literature. The cause of the calculus formation may be that the tip of fracture of pubis has pierced the bladder after pelvic fracture, and a geological formation like stalactites has hung like the stones in the bladder anterior wall after nearly 10 years of stimulation and deposition. While the stone is progressing, the patient has presented with irritative voiding symptoms, perineal pain and hematuria. Open surgery (suprapubic cystolithotomy) is the only method after diagnosing clearly.

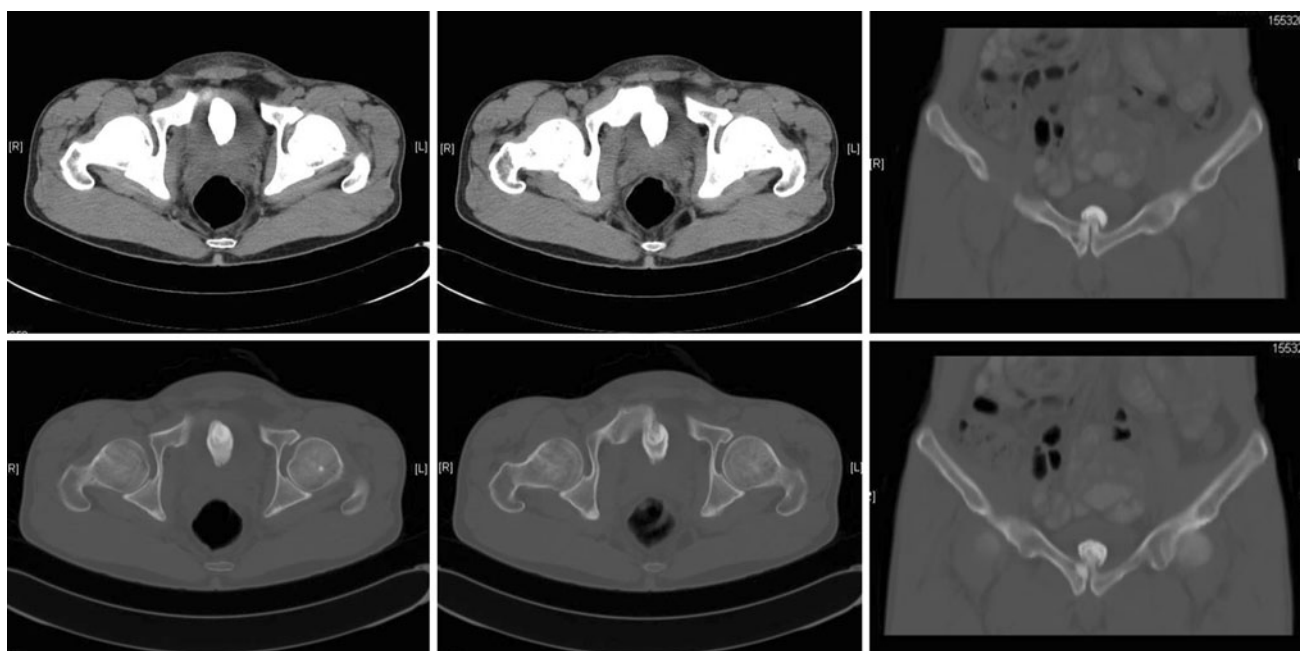
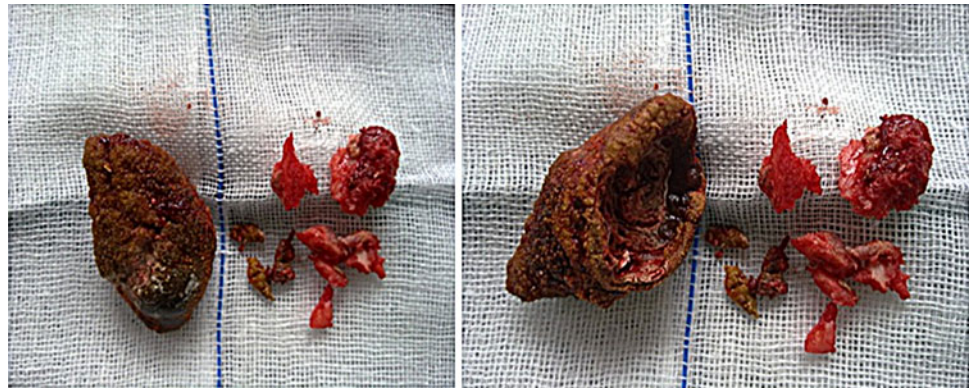


Fig. 2 CT scan shows an osseous piece toward the bladder behind the pubic symphysis

Fig. 4 The stone and many pieces of bone chips by bone chisel



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