



Perineal Vesicocutaneous Fistulae Secondary to Bladder Calculi: A Case Report

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Abstract

Vesicocutaneous fistula is a connection between urinary bladder and skin. It is a rare complication of urinary bladder calculi. We report a case of a 52-year-old man with bladder stones presented by vesicocutaneous fistula. The patient presented with multiple perineal openings that were draining urine continuously for eleven years. Fistulogram revealed that the perineal openings were connected to each other and to the bladder. Cystolithotomy was performed and fistulae tracts were left to close spontaneously. This is the fifth reported case of vesicocutaneous fistula secondary to bladder calculi worldwide, and the first case to appear in the perineum.

Keywords: Bladder calculi; Perineal abscess; Vesicocutaneous fistula

Abbreviation

TB: Tuberculosis; UTI: Urinary Tract Infection

Introduction

Bladder calculi are more common in developing than developed countries. They account for only 5% of urinary stones in the latter [1]. They are much more common in males than females, where male to female ratio is about 8:1 [2]. It is classified into primary or secondary, according to absence or presence of any functional, anatomic, or infectious factors. Its main predisposing factors are bladder outlet obstruction, neurogenic bladder and foreign bodies [3].

Patient may complain of dysuria, hematuria, suprapubic pain, intermittency, obstruction, renal failure or bladder rupture [4,5]. Vesicocutaneous fistula formation is a very rare complication of bladder calculi, only four cases have been reported worldwide [6]. Herein, we report the fifth case worldwide of vesicocutaneous fistula due to bladder calculi.

Case Report

A 52-year-old man came to our hospital complaining of continuous fluid discharge from his perineum for about eleven years with no urine coming from the urethra. His medical history started twelve years ago as a perineal abscess that was opened and debrided. Twenty days from this procedure he had got into urine retention with failed catheterization. He was diagnosed to have bladder stones, for which he underwent cystolithotomy operation, *via* a midline incision. Two small bladder stones were extracted and a urethral catheter was put intraoperatively. After two postoperative weeks, the catheter failed to drain urine and the urine was leaking from the cystolithotomy incision site. Then the catheter was removed, and most of urine continued to leak from the incision site with a little amount from the urethra. The incisional wound fistula started to heal and close six months later. This was followed by leakage of urine from perineum through three openings, with less amount of urine passing through urethral meatus. This condition persisted for about eleven years until he came to us on the fourth of July, 2016. There was no history of diabetes, hypertension, TB, or any other chronic disease. Initial examination showed that, there were about 7 perineal openings with foul discharge and macerated skin (Figure 1), and a midline scar of the previous operation. Catheterization attempts were unsuccessful, with resistance at the proximal urethra. His laboratory results were normal. Pelviabdominal ultrasonography showed multiple variable sized bladder stones with one of them in the prostatic urethra, with average sized prostate and normal upper urinary tract. Bladder stones appeared on plain X-ray film too (Figure 2). Fistulography was done through one of perineal openings and it revealed its connection to each other and to the bladder (Figure 3). Cystolithotomy was performed with extraction of all bladder stones that were seven in number (Figure 4), with

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Figure 1: Multiple perineal fistulae openings [7].



Figure 3: Multiple bladder stones with multiple fistulae appear on fistulography film (white arrow shows bladder stones, and black arrows show fistulae tracts).



Figure 2: Multiple bladder stones on KUB films.



Figure 4: Seven variable sized stones extracted from the bladder.

one of them impacted in the prostatic urethra, and was extracted with difficulty. Fistulae were left to heal spontaneously. Perineal discharge started to decrease after the operation until it disappeared completely on post-operative day 10. Urethral catheter remained for 15 days and then removed and the patient was discharged completely dry.

Discussion

Bladder calculi account for only 5% of all urinary stones [1]. Bladder stone formation is precipitated by a lot of factors, including bladder outlet obstruction, urinary stasis, UTI and foreign bodies [3]. Patient complains of dysuria, hematuria, suprapubic pain, intermittency, obstruction, renal failure, bladder rupture, or vesicocutaneous fistula [4, 5].

A fistula is a connection between two, or more, epithelial linings. Vesicocutaneous fistula is a connection between urinary bladder and the skin. Usually, it is caused by trauma or surgery on the urinary bladder, but may be caused by other etiologies like malignancy or inflammatory conditions. Vesicocutaneous fistula secondary to bladder calculi is a rare condition. Only four cases have been reported in the literature worldwide [7], and this is the fifth one.

In present case, the problem started with a vesicocutaneous fistula at the midline incision post cystolithotomy operation, before it was closed spontaneously few months later. After closure of the midline fistula, and with bladder outlet obstruction, mostly from missed stone, urine leaked through another fistula in the perineum.

This perineal fistula started with a perineal abscess, which was not adequately drained, and so, it gradually invaded the deep tissues. Moreover, the history of previous fistula after the first cystolithotomy operation indicated the weakness of bladder wall.

A perineal abscess together with bladder outlet obstruction by stones eventually allowed the fistula to form, that presented by multiple small openings in the perineal region.

In conclusion, removal of all bladder stones or any other cause of lower urinary tract obstruction, together with treatment of UTI, and adequate drainage of any perineal abscess or infection, are mandatory steps in cases like this. Close follow-up is an essential step to detect recurrence.

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