

# Is vesicolithotomy with bladder wash the answer for rectovesical fistula secondary to neglected vesical stone?

## *Complicated presentation but simple management*

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### ABSTRACT

من النادر جداً أن تسبب حصوات المثانة البولية الناسور المستقيمي المثاني ، التهاب المسالك البولية وتناول سوائل قليلة هي السبب الرئيسي لتكون حصوات المثانة ، وبالتالي ناسور مستقيمي مثاني . نقدم هنا حالة معقدة لحصوة مثانية تم إهمالها . تم تكوينها 3 مرات من قبل ، هذه المرة حضر المريض بشكوى خروج البول بالمستقيم مما أدى الي سلس برازي . تم علاج المريض بإزالة الحصاوي جراحياً وغسل المثانة وتلقائياً غلق الناسور المثاني المستقيمي .

It is extremely rare that the urinary bladder stones cause vesicorectal fistulas. Urinary tract infection and poor fluid intake are the main etiologies that precipitate vesical stone formation, and subsequent rectovesical fistula. We present a complicated case of neglected vesical stone, which recurred 3 times. The patient presented with passage of urine per rectum leading to fecal incontinence. He was managed only with vesicolithotomy and bladder wash with eventual spontaneous closure of the rectovesical fistula.

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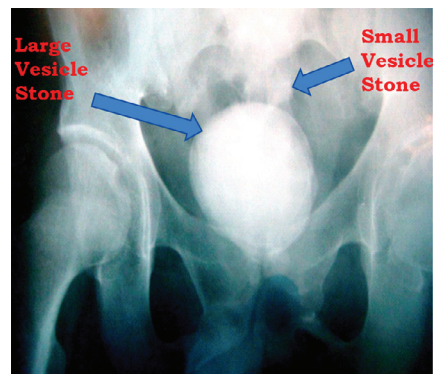
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Rectourinary fistula (RUF) is a rare, but major complication of radical prostatectomy (RP), most of the patients require surgical closure even after such diversions, and there is no standardized treatment for RUF because of its low prevalence.<sup>1</sup> Bladder calculi account for 5% of urinary calculi, and they are classified as having migrated from the upper urinary tract, primary idiopathic, or secondary calculi. Bladder stones are managed by extracorporeal shockwave lithotripsy, endourology procedures, or open surgery.<sup>2</sup> The common etiologies of rectovesical fistula are Crohn's disease, irradiation, traumatic, bladder, abscess in the bladder, or colo-rectal carcinoma, and passing urine per rectum as an uncommon symptom.<sup>3-5</sup> The most common causes of urinary bladder stone formation are well known: urinary tract infection (UTI), bladder outflow obstruction, and vesical foreign body. In addition, dietary factors and the amount of fluid intake are important factors.<sup>6</sup> Here, we present a case of intra-operative huge vesical stone measuring 15x12 cm. Our objective in presenting this particular case is to introduce a rare case with appropriate simple management of complicated clinical presentation.

**Case Report.** A 28-year-old male presented with supra-pubic pain associated with fever and difficulty in micturition 6 months prior to admission. He reported experiencing the passage of urine per rectum in the last 3 weeks. He had undergone vesicolithotomy 2 times in the past. Physical examination revealed supra-pubic tenderness. Digital rectal examination revealed there was a hard swelling in the anterior rectal wall in the prostate area. Investigations were as follows: complete blood count revealed a hemoglobin of 11 gm/dl; the white blood count was  $15 \times 10^3/\mu\text{L}$ ; urine analysis showed evidence of severe UTI; urea 30 mg/dl (normal range: 10-50 mg/dl); creatinine one mg/dl (normal

range: 0.7-1.1 mg/dl). An antero-posterior (AP) view of the kidney, ureter, and bladder (KUB) x-ray showed a huge, pear-shaped, radio-opaque shadow in the urinary bladder area with smooth edges representing a vesicle stone. It also showed another smaller radio-opaque shadow above and to the left side of the huge one, also representing a vesicle stone (Figure 1). Barium enema was performed, but was not informative because he was unable to hold the barium. He underwent a vesicolithotomy, and intra-operative findings revealed a huge stone 15×12cm and friable urinary bladder wall (Figures 2 & 3). He was catheterized for 5 days, and after removal of the catheter he again developed passage of urine per rectum, which stopped spontaneously after 2 weeks. The UTI was treated with ciprofloxacin infusion followed by oral treatment. Subsequent follow-up revealed that he responded very well to medication, and had no more symptoms or signs suggesting UTI, fistula, or new stone formation.

**Discussion.** Common etiologies that cause rectovesical fistula are, Crohn's disease, irradiation, traumatic, bladder, abscess in the bladder, or colo-rectal carcinoma.<sup>4,5</sup> In practice, huge vesical stones are not usually encountered.<sup>6</sup> Moreover, it is extremely rare that the vesical stones cause a vesicorectal fistula.<sup>7</sup> On extended literature review, only one case was reported in which a vesical stone was associated with a vesicorectal fistula. However, the etiology was a retained foreign body after rectal impalement around which the stone was formed.<sup>8</sup> The other case was a female patient with history of vesicovaginal fistula due to complicated obstructed labor who developed a complex fistula involving the rectum as well as the presence of a vesical stone.<sup>9</sup> The current case revealed a huge vesical stone measuring 15x12 cm (Figure 4). In this case, none of the above etiologies were found. A UTI infection could be implicated as a cause, in addition to the very late presentation with a long-standing vesical stone, which resulted in fistula formation. The urinary bladder of our patient was thin and friable during the operative procedure. Repeated UTI, poor fluid intake despite the hot dry environment in which the patient lives, and the late presentation, may have played vital roles in the pathogenesis of the urinary bladder stone in this reported case. A diverting colostomy as well as antibiotic therapy was reported to be used to treat severely ill patients with advanced colonic cancer with fistulas.<sup>6,7</sup> In this case, open vesicolithotomy with insertion of Foley's catheter and treatment with appropriate antibiotics showed remarkable healing of the fistula 3 weeks post-



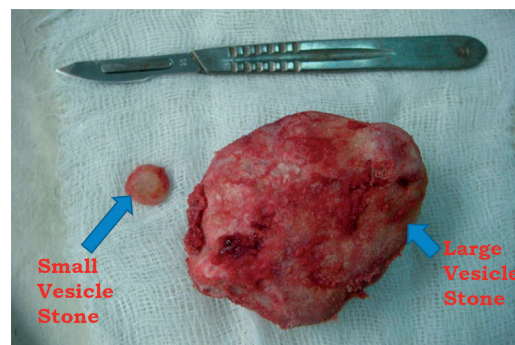
**Figure 1** - Pelvic x-ray showing a huge vesical stone.



**Figure 2** - Intra-operative findings during open vesicolithotomy.



**Figure 3** - Vesical stone after operation.



**Figure 4** - Huge vesical stone.

operatively. Percutaneous supra-pubic cystolithotripsy is advocated for the removal of large bladder stones.<sup>6,7</sup> In the presented case, open vesicolithotomy was appropriate to remove the giant stone with the history of multiple recurrences.

In conclusion, early treatment of UTI is vital in preventing vesical stone formation and its subsequent recto-vesicle fistula formation. Long-standing huge vesicle stones may present with fistulas.

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