

Intraperitoneal Bladder Stones Following Transurethral Cystolithotripsy: A Case Report

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Case report

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Abstract

Background:

Bladder stones are common diseases, constituting 5% of urinary stones. However, iatrogenic bladder rupture with intraperitoneal bladder stones is a rare complication after a transurethral cystolithotripsy (TUCL).

Case presentation:

A 73-year-old male was sent to the emergency department (ED) with presentations of dyspnea and hematuria after receiving a transurethral cystolithotripsy (TUCL) with laser. Upon arrival, his vital signs were relatively stable. An abdominal X-ray showed a radiopaque lesion within the pelvis. Physical examinations showed diffuse abdominal tenderness with muscle guarding. The initial focused assessment of sonography for trauma (FAST) was positive. Computed tomography (CT) revealed bladder rupture with intraperitoneal bladder stones. The patient received conservative supportive care with antibiotics and foley drainage and was discharged 3 weeks later smoothly.

Conclusion:

For emergency physicians, bladder rupture should be taken into consideration in patients with intraperitoneal bladder stones following TUCL. Computed tomography remains a standard of diagnosis although ultrasonography is a convenient screening tool for ascites.

Background:

Intraperitoneal bladder stones have been rarely reported, possibly caused by the iatrogenic procedure. It's sometimes complicated with urinary ascites, internal bleeding mimics. We report a rare case with bladder rupture with intraperitoneal bladder stones following transurethral cystolithotripsy.

Case Presentation:

A 73-year-old man, previously diagnosed with large bladder stones, was referred to the emergency department with presentations of dyspnea, hematuria, and abdominal discomfort after he received a transurethral laser cystolithotripsy at a local hospital. Upon arrival, his vital signs were as follows: blood pressure of 150/81 mmHg, his body temperature of 36 °C, pulse rate of 66 beats/min, and respiratory rate of 24/min. On physical examinations, irritable mood, cold sweats, and diffuse abdominal tenderness with muscle guarding were noted. An abdominal X-ray showed a radiopaque lesion within the pelvis (Fig. 1). The focused assessment with sonography for trauma (FAST) revealed massive hypoechoic fluid over the Morison's pouch, splenorenal recess, and Douglas' pouch, and internal bleeding was suspected. Abdominal and pelvic computed tomography (CT) with contrast was performed and showed bladder rupture with two bladder stones inside the bladder, the other one out of the bladder, massive urinary

ascites, and some air pockets around the bladder. (Fig. 2). No active bleeders could be identified. The patient received conservative supportive care with antibiotics and foley drainage and was discharged 3 weeks later smoothly.

Discussion & Conclusion:

Bladder stones are common diseases, constituting 5% of urinary stones. Transurethral cystolithotripsy (TUCL) is the choice of current interventions for bladder stones in adults and children [1, 2]. Although it has the same efficacy as percutaneous cystolithotripsy (PCCL) and shorter hospital stay than PCCL, complications could occur [1, 3–5]. A rare complication of bladder rupture with stone slipping out would be encountered.

The symptoms of bladder rupture, presenting with pelvic pain, renal failure, urinary ascites, and sepsis mimic intra-abdominal internal bleeding, because of urinary ascites [6]. The FAST may be a rapid and sensitive tool for the new onset of ascites. However, CT is the standard of diagnosis for bladder rupture. Although the standard management of bladder rupture with intraperitoneal bladder stones includes surgical repair, conservative treatment with drainage sometimes could work instead of surgical intervention [7].

For emergency physicians, bladder rupture should be taken into consideration in patients with intraperitoneal stones following TUCL. CT remains a standard of diagnosis although ultrasonography is a convenient screening tool for ascites.

Abbreviations

TUCL: transurethral cystolithotripsy; CT: computed tomography; FAST: The focused assessment with sonography for trauma; PCCL: Percutaneous cystolithotripsy.

Declarations

Ethics approval and consent to participate: Not applicable

Consent for publication: Written informed consent was obtained from the patient for publication of this case report and any accompanying images

Availability of data and material: Not applicable

Competing interests: The authors declare that they have no competing interests

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Authors' contributions:

Hsiao, Y.T. described case and drafted the manuscript.

Lien, W.C. performed the literature search and jointly wrote the manuscript.

All authors read and approved the submitted version of the manuscript.

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Figures

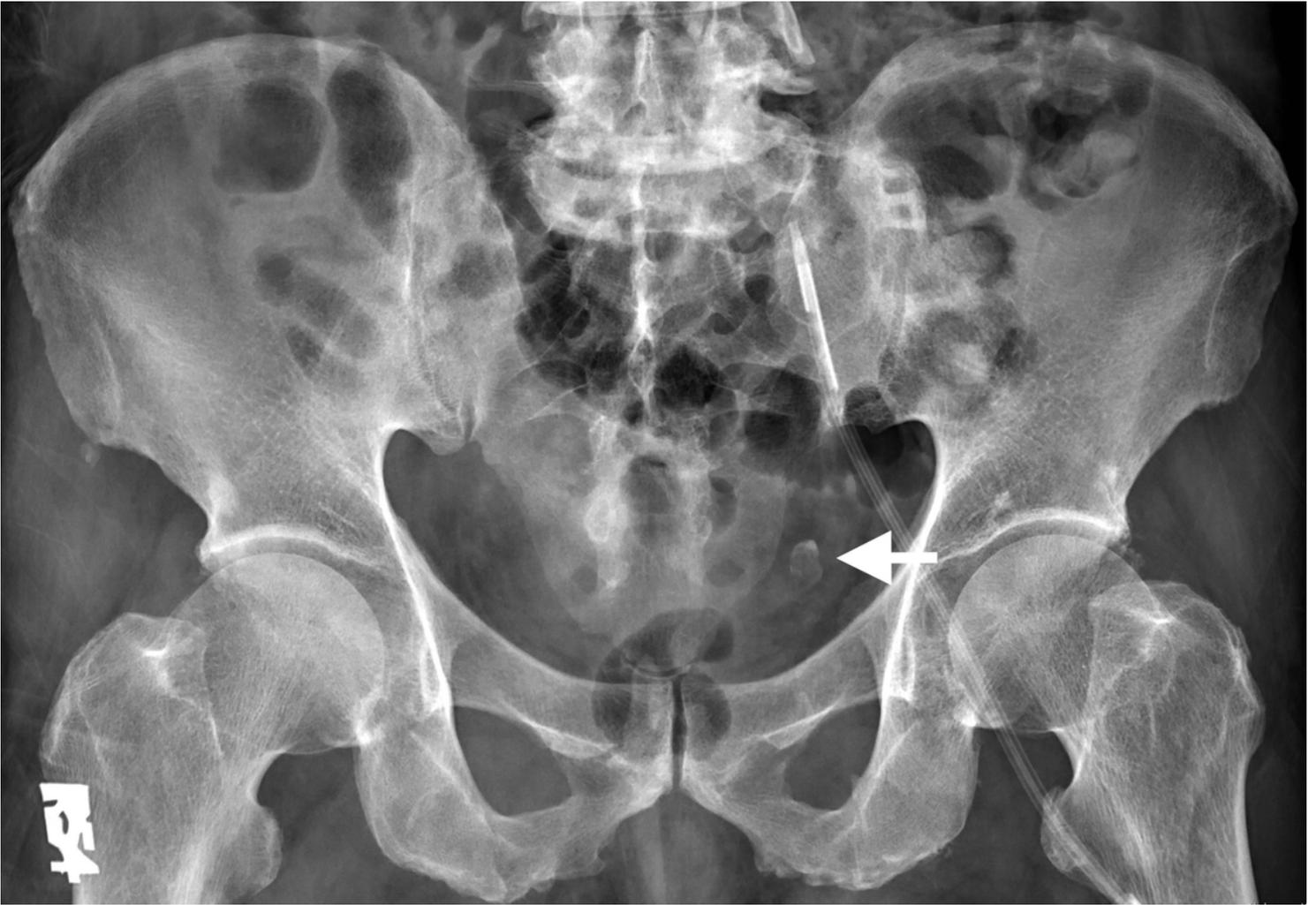


Figure 1

The focused assessment with sonography for trauma (FAST) revealed massive hypoechoic fluid over the Morison's pouch, splenorenal recess, and Douglas' pouch, and internal bleeding was suspected. Abdominal and pelvic computed tomography (CT) with contrast was performed and showed bladder rupture with two bladder stones inside the bladder, the other one out of the bladder, massive urinary ascites, and some air pockets around the bladder.



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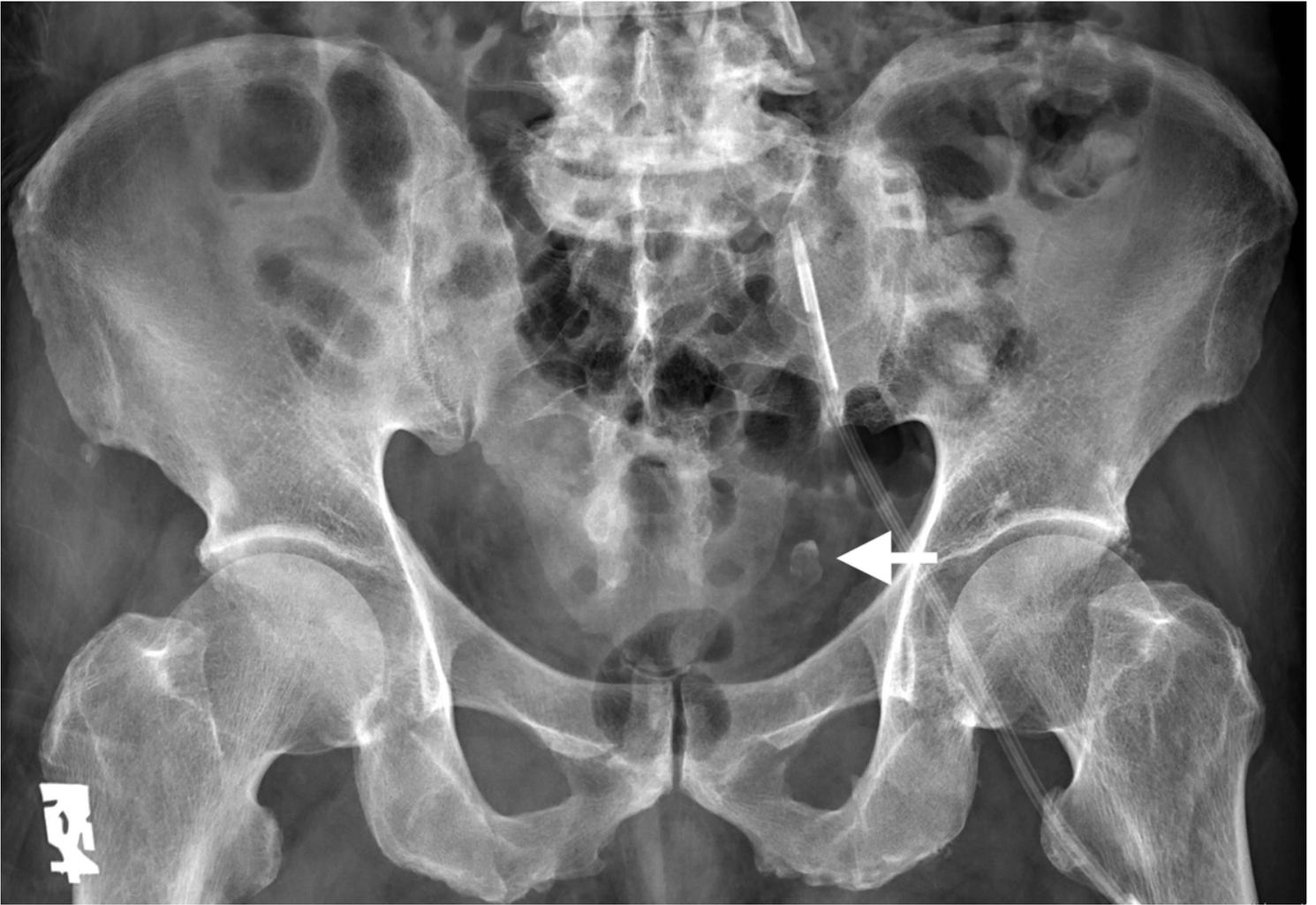


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