

Acute abdomen due to bladder perforation in a patient with multiple sclerosis

Case Report

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Abstract: The authors presented a case report of the acute abdomen with pelvic abscess because bladder perforation in a 21-year-old patient with multiple sclerosis and intermittent catheterization of the urinary bladder.

Keywords: *Acute abdomen • Urinary bladder perforation • Pelvic abscess • Multiple sclerosis • Procedure*

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1. Introduction

Violent bladder perforation may be caused by some foreign bodies, blunt or sharp injuries, or by previous operations, pelvic irradiation, tumor growths, diverticula and vascular anomalies. Acute abdomen may occur due to intra- or extraperitoneal perforation, urinary or secondary purulent peritonitis, and pelvic abscesses [1,2].

We present a case report of an acute abdomen with a pelvic abscess in a 21-year-old patient with multiple sclerosis and intermittent catheterization.

2. Case report

A 21-year-old patient hospitalized at department of internal medicine for urosepsis with signs of acute abdomen and pelvic abscess was transferred to the emergency gynecologic department. The patient was suffering from multiple sclerosis with neuromotor deficit and neurogenic bladder treated by intermittent catheterization (on therapy with BG12-fumarate and corticosteroids). Gynecologic history was unremarkable, revealing normal menstruation cycle and no pregnancy. On admission, the patient was febrile (38.5°C), pulse 98/min, blood pressure 110/60, prostrated, apathetic and immobile. Laboratory findings: CRP 247; PCT-Q 7.3 mg/L; L 7.23; E 2.88;

Hb 88 g/L; Htc 0.25; coagulogram and renogram normal; Ca 1.9; Mg 0.53; albumins 28; total protein 48. The abdomen was tight, sensitive over the chest level, with signs of defense, no audible peristalsis. Ultrasonography and magnetic resonance showed the abdomen filled with thick fluid, aperistaltic intestine, a multicystic avascular growth of 6 cm in diameter in the space of Douglas on the left, with opalescent intracavitary precipitate, and polycystic ovaries. The balloon of the Foley urinary catheter was visualized. Lower median laparotomy under general endotracheal anesthesia (propofol, sevoflurane, rocuronium myorelaxant) was indicated because of the acute abdomen syndrome, along with placement of a central subclavian catheter. Diffuse fibropurulent peritonitis with abundant pus was found, along with an adhesive omentum block in the lower left hypogastrium, with the anterior wall and intestine delineating pelvic abscess. Upon removal of adhesions, the abscess was evacuated and referred for bacteriology. The bladder was indurated with thick fibrin deposits. A perforation was found posteriorly on the left, with urine leaking through it. Perforation was verified by retrograde application of indigo carmine. Wound debridement and bladder suture were done. As the appendix showed a secondary phlegmonous appearance, appendectomy and partial omentectomy were performed. The small and large intestines were explored, revealing numerous petechial hemorrhages on intesti-

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nal serosa (stress ulcer due to corticosteroid therapy?). Abdominal cavity lavage with warm saline was followed by placement of two abdominal drains.

The peri- and postoperative course was normal, with antibiosis (cefuroxime and metronidazole), thromboprophylaxis with low-molecular heparin, H-2 receptor blocker (pantoprazole) and analgesia. All follow-up laboratory findings showed lower values. *Proteus mirabilis* was isolated from urinary culture and Douglas space aspirate, while blood culture was sterile. Follow-up intravenous urography showed normal bladder contrast filling, without signs of extravasation, and an empty bladder upon micturition. The patient was discharged from the hospital on postoperative day 10 in good condition; however, three weeks after the operative procedure, the patient underwent exploration relaparotomy due for adhesive ileus; adhesions were removed and normal passage established. The postoperative course was normal, free from multiple sclerosis exacerbation with appropriate therapy.

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3. Discussion

Violent bladder perforation may occur due to impaired sensation, and may heal spontaneously or become complicated with acute abdomen and peritonitis.

Literature reports of acute abdomen due to bladder perforation during catheterization are rare. Garfinkle et al. [3] described two cases of neurogenic bladder perforation in 1976. Detrusor areflexia is a very rare complication of multiple sclerosis, which requires permanent or intermittent catheterization [4]. Vaidyanathan et al. discussed the dilemma between cystostomy and intermittent catheterization in a patient with detrusor areflexia in neuromuscular disorders and type of catheters [5].

Therefore, a pelvic abscess of unknown etiology may mimic an etiologic substrate, which should be considered in patients on permanent or intermittent catheterization for the underlying disease sequels (multiple sclerosis, myasthenia gravis, paraparesis, etc.).