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Case Presentation

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Urinary Peritonitis After Inguinal Herniorrhaphy

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ABSTRACT

Urinary peritonitis is a rare but serious complication resulting from intraperitoneal bladder rupture, most commonly due to trauma or iatrogenic injury. Bladder injury during inguinal hernia repair is uncommon but may occur, particularly in cases of unrecognized inguinal bladder hernia.

We report the case of a 64-year-old man who developed urinary peritonitis five days after right inguinal herniorrhaphy. He presented with painful abdominal distension, generalized peritoneal irritation, anuria, and acute renal impairment. Imaging revealed intraperitoneal bladder rupture with a urinoma. Exploratory laparotomy confirmed a large bladder wall defect with massive uroperitoneum. Surgical repair with two-layer cystorrhaphy and drainage was performed, with favorable postoperative outcomes.

This case highlights the diagnostic challenges of postoperative urinary peritonitis and emphasizes the importance of suspecting bladder involvement during inguinal hernia repair. Early recognition and prompt surgical management are essential to prevent severe complications.

Keywords: Urinary peritonitis; Inguinal herniorrhaphy; Bladder injury; Bladder hernia; Uroperitoneum; Iatrogenic bladder rupture.

INTRODUCTION

Urinary peritonitis results from a large amount of infected uroperitoneum or urinary ascites. Iatrogenic or traumatic bladder rupture is a classic cause of uroperitoneum and peritonitis [1]. Injuries bladder were reported in 16 to 23.5% of cases during bladder hernia operations [2,3]. When the uroperitoneum is infected, a clear picture of generalized peritonitis is observed. Most often, this infection causes fever, diarrhea, or a paralytic ileus. In practice, the diagnosis of peritonitis is suggested clinically by the presence of... Pain, abdominal guarding and rigidity "like a wooden belly" [4]. Clinical signs suggestive of bladder rupture, such as inability to urinate without bladder distension, anuria, acute urinary retention, and gross hematuria, are often overlooked. Nevertheless, abdominal ultrasound and CT scans can help guide the diagnosis [2].

We report the case of a 64-year-old man who underwent a herniorrhaphy for an indirect inguinal hernia and whose bladder was injured. He presented to the emergency department 5 days after the surgery with urinary peritonitis.

CASE PRESENTATION

A 64-year-old man with a history of hypertension was admitted to the emergency department for painful abdominal distension, with signs of peritoneal irritation associated with anuria and absence of urinary urges, which had been

developing for 5 days post-operatively following a herniorrhaphy for a right inguinal hernia.

On examination, he was in poor condition, with a blood pressure of 127/62 mm Hg and a pulse of 112 beats/min. The physical examination revealed significant abdominal distension and generalized tenderness, a right kelotomy scar, and on rectal examination, an empty rectal ampulla. The prostate was enlarged, smooth, regular, and painless. A catheter and a nasogastric tube were inserted. Broad-spectrum antibiotics with anaerobic coverage were started. His blood tests revealed marked leukocytosis of 12,330 cells/mm3 and impaired renal function with a creatinine level of 84.6 mg/l. Ultrasound revealed significant ascites. An abdominal and pelvic CT scan with contrast was performed, showing a 52x56 mm urinoma secondary to iatrogenic rupture of the bladder dome and the right lateral wall (Figure 1). An exploratory laparotomy was performed. The abdominal cavity contained approximately 5 liters of cloudy, free fluid. The loops of the small intestine were dilated without obvious pathology, probably due to a paralytic ileus. Further exploration revealed ileovesical adhesions and a large defect in the posterior bladder wall (Figure 2).

A two-layer cystorrhaphy was performed, and a transurethral catheter was left in place. The peritoneum was irrigated with warm 0.9% saline solution, and a drain was inserted at the level of the Douglas pouch. The postoperative course was uneventful. The drain was removed on postoperative day 3, and the patient was discharged on postoperative day 5 with the Foley catheter in place.

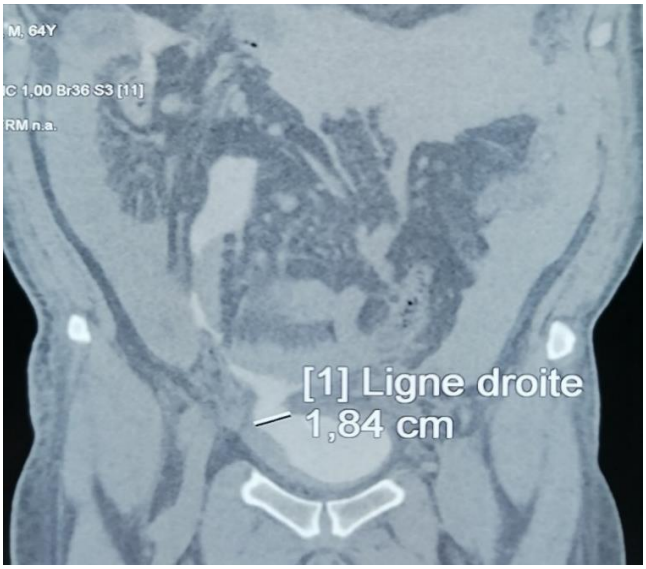

Figure 1: Breach of the bladder dome and right lateral wall of 1.84 cm with a urinoma of 52x56 mm.

Figure 2: Breach in the posterior wall of the bladder.

DISCUSSION

Urinary peritonitis results from a significant amount of infected uroperitoneum or urinary ascites. Its distinctive feature lies in the difficulties of diagnosis due to its less typical clinical manifestations. Iatrogenic or traumatic bladder rupture is a classic cause of uroperitoneum and peritonitis [1]. In our case, it was a bladder rupture during a right inguinal hernia repair [2]. Most bladder hernias develop as direct hernias and can be overlooked during indirect hernia surgery [5]. Human Immunodeficiency Viruses (HIV) is a rare entity, representing only 1 to 4% of inguinal hernias. It results from the combination of abdominal wall weakness and elevated intra-abdominal pressure. The most common symptoms are inguinal swelling, lower urinary tract disorderswhich are not specific, the classic Mery's sign, characterized by two-stage urination facilitated by pressure on the hernial bulge and the disappearance of the hernia after bladder emptying, is a highly suggestive but inconsistent clinical sign; some cases are asymptomatic [5,6].

Like most of the patients are asymptomatic and that Hernias are most often diagnosed by physical examination alone, without the aid of radiological examinations; only 10% of bladder hernias are diagnosed preoperatively [3]. Complications related to 'Operation for a bladder hernia is mainly due to the absence of suspicion of a bladder hernia'preoperative pathology.

The operating surgeon can therefore be less concerned about the possibility of a bladder component such as a direct hernia, which can lead to bladder injury. A protruding bladder is often mistakenly identified as a hernial sac or a spermatic cord lipoma, resulting in injury. In most cases, the diagnosis of inguinal bladder hernia is made intraoperatively [7]. The treatment consists of a resection or a reduction followed by a herniorrhaphy [2]. However, in our case, the diagnosis was made when the patient finally presented to the emergency department with urinary peritonitis. The bladder wall was injured during the herniorrhaphy, which gradually progressed to peritonitis over a period of 5 days.

We are aware of several limitations of this study, including the lack of detailed information on the initial procedure, the surgeon's experience, and the technique used. Furthermore, we suspect that the frequency of Bladder-associated Urinary Infection (BUI) during inguinal hernia repair, as reported in several articles, may be underestimated due to a lack of available reports. Early recognition during the procedure and immediate intervention could also lead to inaccurate data, resulting in a lack of information on this complication. Nevertheless, this case of uroperitoneum following inguinal hernia repair suggests that even during routine elective procedures, the surgeon should be well aware of the presence of bladder ears, which can mimic a hernial sac. Knowledge of this specific anatomical variant and of laparoscopic inguinal hernia repair can prevent serious complications.

CONCLUSIONS

We report a case of urinary peritonitis caused by a herniorrhaphy. Bladder hernia, although uncommon, must be kept in mind during inguinal hernia surgery to avoid disastrous complications.

DECLARATIONS

Conflict of interest

The author declares no conflict of interest.

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Author contributions

All authors confirm that they have made substantial contributions to all of the following:

- The conception and design of the study, or acquisition of data, or analysis and interpretation of data.
- Drafting the article or revising it critically for important intellectual content.
- Final approval of the version to be submitted.
- Sound scientific research practice.

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Compliance with ethical guidelines

The authors declare that this submission is in accordance with the principles laid down by the Responsible Research Publication Position Statements as developed at the 2nd World Conference on Research Integrity in Singapore, 2010.

Ethical approval

This article is a case report involving a human subject. Prior to commencement of the study, ethical approval was not required due to the descriptive nature of a single case report.

Consent for publication

Informed written consent was obtained from the patient for inclusion in the study. Additional informed consent was obtained from the patient for the publication of identifying information and clinical details.

Availability of data and materials

No datasets have been generated or analysed during the current study.

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