

Traumatic Isolated Bladder Rupture: A Case Report

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Abstract: *Blunt injury of the urinary bladder is well known and usually associates pelvic fractures. Isolated bladder injury is a rare condition. Herein, we described an unusual case of isolated intraperitoneal bladder rupture that occurred on the second post injury day in a young male in the absence of pelvic fracture. The diagnostic workup, course and the need for surgical repair of the injury is presented.*

Keywords: isolated bladder rupture

1. Introduction

Intraperitoneal bladder rupture is one of the causes of acute abdomen. Although an open surgical repair is the standard treatment, some authors have reported laparoscopic repair of intraperitoneal bladder rupture.¹⁻⁵ We report a case of combined extraperitoneal and intraperitoneal traumatic bladder injury, which was repaired.

2. Case Report

A 36-year-old man presented to our emergency department with severe abdominal pain 12 h after he fell down after the motor bike accident while he was drunk. Physical examination revealed acute abdomen with muscular defense and rebound tenderness. While the results of plain abdominal X-ray were normal, ultrasonography showed a distended urinary bladder. Gross hematuria was drained through a urinary catheter. Computed tomography showed a small amount of fluid collection in the abdominal cavity and inflamed adipose tissue in the pelvic cavity around the bladder. patient was managed conservatively for 2 days but patient abdomen were tense and rebound tenderness was present patient was passing stool and flatus. patient was taken for surgery and intraoperatively there was intraperitoneal rupture of urinary bladder, closure were done in two layers and drain were kept in the pelvis and intraperitoneal lavage were given.

The patient convalesced quickly and had no abdominal pain on postoperative day 4. The drain was indwelled for 9 days until the bowel was confirmed to be intact after an oral diet intake for several days. The urethral catheter was removed 11 days after the operation, at which time a cystography showed no extravasation.

The patient was discharged with complete recovery the day after the urethral catheter was removed, and quickly returned to his preoperative daily life. The patient had no voiding complaint 4 weeks after the operation.

3. Discussion

The most common cause of bladder rupture is a traumatic injury. In 10% of bladder rupture patients, combined extraperitoneal and intraperitoneal perforation occurs.¹⁻⁶ The magnitude of force creating combined bladder rupture has

been accompanied by a high rate of non-urologic injuries and mortality.

The treatment of bladder ruptures should be based on the mechanism and extent of the injury. Surgical exploration should be performed in all penetrating bladder ruptures because of the nature of bladder and associated injuries. In blunt trauma, recent guidelines have recommended conservative treatment by catheter drainage for most extraperitoneal bladder ruptures. However, a policy of repairing cases with severe extravasation may be necessary, whereas an open surgical repair has been recommended as the gold standard for intraperitoneal ruptures.⁷⁻⁹

Recently, laparoscopy has been reported to be useful for initial exploration if a patient with an intraperitoneal bladder rupture has maintained hemodynamic stability. If there are no other indications for laparotomy, the laparoscopic repair surgery can be performed consecutively.³⁻⁵ A laparoscopic procedure is less invasive and more beneficial to the patient from the point of postoperative pain, hospitalization and early return to preoperative daily life.² Among preoperative evaluations of bladder ruptures, cystoscopy may be useful for selecting patients for whom a laparoscopic approach is appropriate, because it is important to accurately determine preoperatively the location and severity of intraperitoneal and extraperitoneal ruptures. The degree of extravasation seen on cystography is insufficient for evaluating the severity of extraperitoneal rupture because it may not correlate with the size of the perforation in the bladder wall.⁶ Furthermore, many cases in which intraperitoneal ruptures located around the trigone or close to the ureter may be more adequate for standard open repair, because of the difficulty of laparoscopic approach as reported by Parra.¹ Figure 4 shows our algorithm for selecting the treatment of bladder rupture.

In conclusion, bladder rupture should be kept in mind in case of traumatic abdomen. Preoperative cystoscopy in addition to other imaging examination may be useful.

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