

Urinary Bladder Wall Necrosis Mimicking Hollow Viscus Perforation

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ABSTRACT

We report a case of unusual urinary bladder wall necrosis mimicking hollow viscus perforation in a 48yr male patient came to casualty with complaints of pain abdomen, vomiting since 1 day with history of blunt trauma 15days back. On evaluation per abdomen tenderness present in all quadrants, erect abdomen radiography suggestive of gas under diaphragm and abdominal sonography revealed peritonitis. Patient was taken to emergency laparotomy suspecting bowel perforation but intra operative finding turned out to be urinary bladder rupture.

Keywords – Trauma, urinary bladder wall necrosis, bladder rupture, hollow viscus perforation.

INTRODUCTION

Bladder rupture is most commonly due to abdominal and/or pelvic trauma from blunt, penetrating or iatrogenic trauma. Around 60% to 85% of all bladder injuries result from blunt abdominal trauma but the incidence of intraperitoneal urinary bladder (UB) rupture is relatively uncommon from blunt injuries^[1]. Isolated UB rupture following blunt trauma has an insidious presentation and often results in delayed diagnosis and management^[2]. The mechanism of injury includes sudden compression of the full bladder, forceful impacts, or a pelvic fracture^[2, 3]. The clinical features include gross haematuria^[6] but may be presented with lower abdominal pain, inability to void and perineal ecchymoses^[3]. It may be associated with laboratory abnormalities like metabolic derangements and increased total leucocyte count. Differentiation of extraperitoneal

from intraperitoneal is essential for the management of bladder injuries. CT scan is the standard tool for stable blunt abdominal injuries evaluation. CT cystogram is considered the test of choice to diagnose bladder injuries.

CASE PRESENTATION

A 48yr old gentleman with no comorbidities came to casualty with pain and distension of abdomen. He had history of RTA (road traffic accident), blunt trauma, 15 days back with cervical cord contusion which was treated conservatively and was discharged after 10 days of hospitalisation with Foley's catheter in situ. Clinically he was conscious, cooperative, heart rate - 110/min, blood pressure - 90/60mmHg, respiratory rate - 20/min. Per abdomen - generalised tenderness with minimal guarding and distension, no rigidity, no organomegaly, bowel sounds - sluggishly

heard in all quadrants. External genitalia and DRE (digital rectal examination) revealed no abnormality, Foley's in situ – 800ml/24hrs and no haematuria, he was resuscitated and investigated. X-ray erect abdomen suggested gas under diaphragm. Ultrasonography revealed mild to moderate echogenic ascites with septation, peritonitis. Sludge with mildly thick-walled urinary bladder. CT scan of the patient was not done as patient was taken for Emergency laparotomy, suspecting hollow viscus perforation. Intra-operative findings were bladder wall necrosis of 5cm over the dome

with small bowel adhesions with purulent peritoneal fluid of approximately 900ml, the bulb of catheter was not visible initially but later after debridement of necrotic tissue from bladder bulb was visible. There was no sign of urine leak in the peritoneum. Release of bowel adhesions done and Foleys balloon taken out, otherwise rest of the bowel was normal. Primary repair of bladder dome was done with Vicryl 2.0 interlocking fashion 2 layered closure. Foleys removed on post-operative day 14. Post-operative follow-up was uneventful.

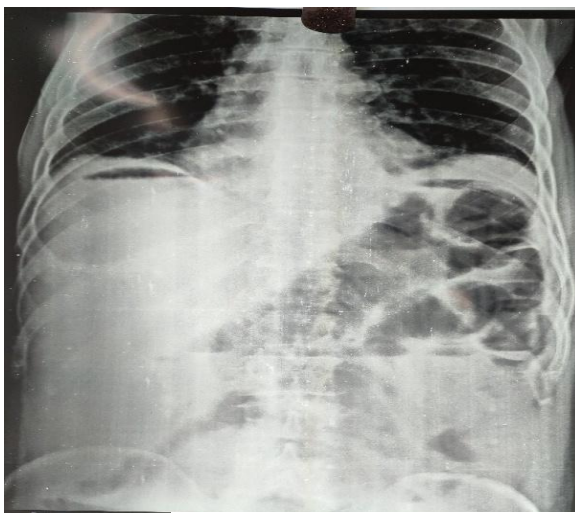


Fig-01: Gas under diaphragm

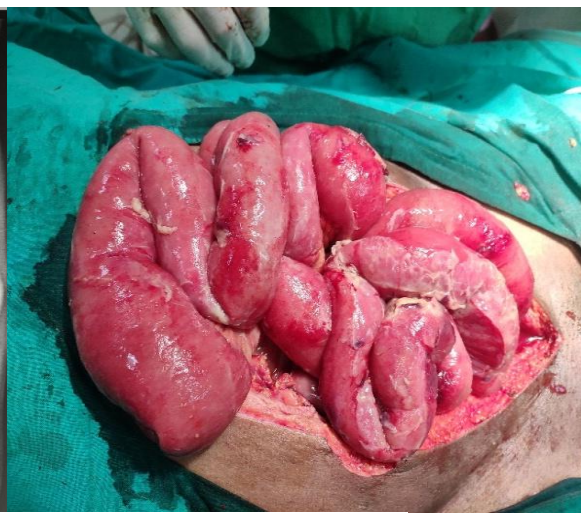


Fig-02: bowel adhesions



Fig-03: bladder dome wall necrosis

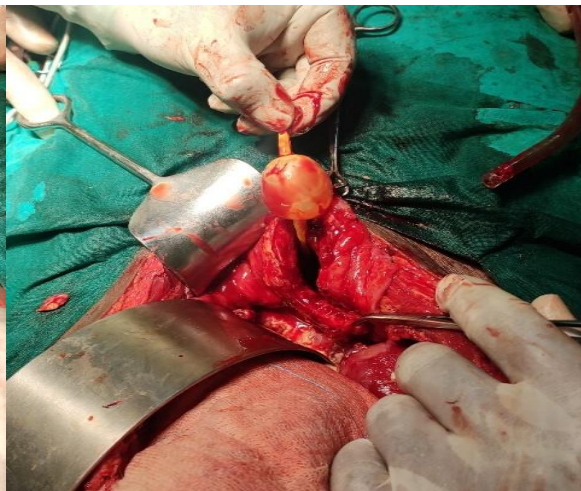


Fig-04: Foley's bulb from bladder

TYPES	BLADDER INJURIES
I	contusion
II	intraperitoneal
III	interstitial
IV	extraperitoneal
V	combined

DISCUSSION

Bladder rupture may be extra-peritoneal or intraperitoneal depending on the location of the injury and its relation with the peritoneal reflection. If the bladder

rupture is above the peritoneal reflection (on the bladder dome), the urine extravasation will be intraperitoneal and if the rupture is below the peritoneal reflection and not on the dome, the urine extravasation will be extraperitoneal. Over 80% of bladder rupture is associated with pelvic fracture with blunt trauma, on the other hand only 5% of pelvic fracture sustain a bladder injury [03-06]. Extraperitoneal rupture can be given conservative treatment and then repair if needed, but intraperitoneal rupture needs urgent repair. CT scan is the standard tool for stable blunt abdominal injuries evaluation. CT cystogram is considered the test of choice to diagnose bladder injuries. Delayed diagnosis of bladder injury could be either missed diagnosis or truly delayed rupture.

CONCLUSION

Our hypothesis is that the bladder wall injury in our patient was initially a partial contusion with necrosis that had progressed into a full thickness tear. Our case is unique in the absence of associated pelvic fracture, haematuria and presence of gas under diaphragm (usually a sign of hollow viscus perforation) in comparison to the other cases. Although rare, delayed bladder injury presentation is possible and should be suspected in trauma patient with unexplained abdominal findings.

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