Case Report

Spontaneous Rupture of Bladder : A Rare Clinical Entity

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Key Words : Spontaneous rupture bladder; Substance abuse;Urinary ascitis

Introduction

While bladder rupture commonly occurs in association with blunt or penetrating lower abdominal injuries, spontaneous rupture of bladder is relatively rare. Spontaneous rupture of bladder has been known to occur in a cancer bearing bladder, neurogenic bladders or in post irradiation bladder. We present a case of spontaneous rupture of bladder after acute alcohol intoxication who presented late and mimicked acute renal failure.

Case Report

A 32 year old serving soldier, while on leave, consumed a bottle of alcohol and fell asleep. He was awoken by sudden onset of severe hypogastric pain and passage of few drops of bloody urine. Over the next couple of days he developed progressive abdominal distension. He reported to a peripheral hospital four days after the onset of symptoms. The initial impression of the case was that of post alcoholic acute pancreatitis and he was managed accordingly. However the subsequent computed tomography (CT) scan of the abdomen showed normal pancreas and ascitis. He developed progressive reduction in urine output and increasing ascitis. His symptoms showed a fluctuant course, on few days he was symptomatically better and had urinary output of about 700-800ml, while on others there was a drop in urine output with a corresponding aggravation of pain abdomen and ascitis. The serum creatinine increased progressively from 2.0 to 8 mg /dl over four weeks. He was then referred for management to this hospital as a case of acute renal failure of uncertain aetiology. During peritoneal dialysis, the urinary output started increasing rapidly to about 1.5 litre /hour, within two hours of dialysis. A bladder injury by the dialysis catheter was suspected and a urology opinion was taken.

A review of the history showed that the onset of symptoms was after a binge of alcohol, there was a fluctuant course of symptoms and urine output, and there had been difficulty in passing urine with haematuria, hence a diagnosis of spontaneous rupture of bladder was suspected. A CT cystogram was done which confirmed the presence of a large tear at the dome of bladder with the Foley's catheter lying in the peritoneal sac. The patient was stabilised with haemodialysis and then taken up for surgery. Intra operatively a large rent measuring 10x2 cm was seen on the bladder dome. A biopsy of the edge of the tear was taken and two layered closure with a separate suprapubic cystotomy was done. The

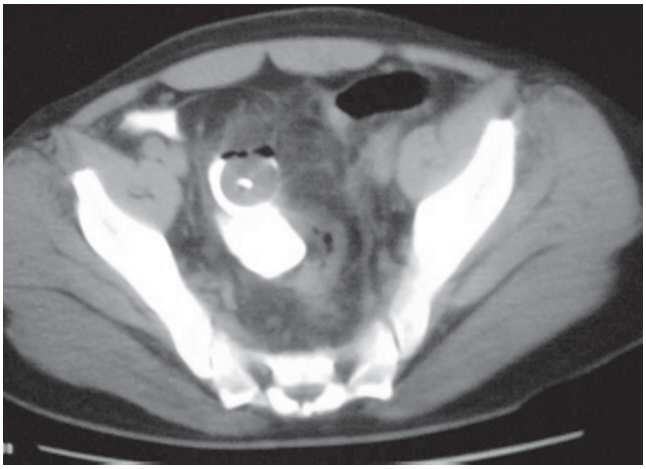

Fig. 1 : CT cystogram showing Foley's catheter bulb in peritoneal cavity and dye spill

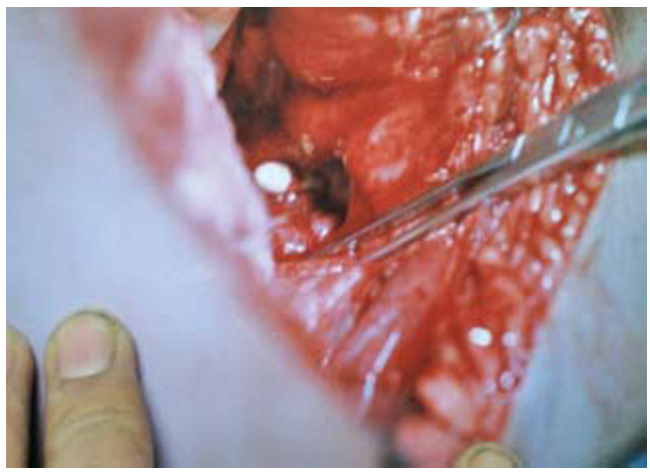

Fig. 2 : Intraoperative view of tip of Foley's catheter emerging from rent in bladder dome

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histopathology report of the biopsy was normal. The individual made an uneventful postoperative recovery.

Discussion

Spontaneous bladder rupture is uncommon and only 25 cases have been reported in the literature with alcohol abuse [1]. Substance abuse with alcohol, cocaine and amphetamine have all been associated with this entity. In other cases pelvic irradiation, inflammation of the bladder from interstitial cystitis or eosinophilic cystitis or tuberculosis, enterocystoplasty, erosion of an indwelling catheter or a large vesical calculus have been implicated [2].

The pathogenesis involves bladder overdistension and thinning of the dome from diuresis. The patient ignores natural cues to void due to alcoholic stupor. Thereafter even trivial increase in intra abdominal pressure like coughing can rupture the bladder. The patient is woken up by severe hypogastric pain and progressive abdominal distension developing from urinary ascitis. Urinary ascitis causes reverse autodialysis wherein urea and creatinine molecules are absorbed into the blood and produce a picture of pseudo renal failure [3]. While most ruptures are intraperitoneal with resultant urinary ascitis, extraperitoneal ruptures have also been described.

The key to management is a high index of suspicion. A history of an alcoholic binge followed by hypogastric pain and oliguria with haematuria are all pointers to spontaneous bladder perforation. A waxing and waning course of events is typical and is attributed to adherence of omentum and gut loops to the rent in the bladder and their subsequent dislodgement with distension of the bladder. A CT cystogram is diagnostic. Standard methods of bladder closure with a separate suprapubic cystostomy are recommended. A bladder biopsy is necessary to exclude any pathology. The condition is often diagnosed late and is associated with a high morbidity and mortality of 50% [1].

Conflicts of Interest

None identified

References

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Answers to MCQ

1) b	2) c	3) b	4) a	5) a
6) a	7) d	8) a	9) b	10) c