CASE REPORT OPEN ACCESS

Spontaneous Urinary Bladder Perforation Causing Urinary Peritonitis

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ABSTRACT

Spontaneous bladder rupture is a rare condition occurring mostly due to chronic bladder outlet obstruction. Bladder diverticulum, bladder cancer and chronic inflammation can be the causative factors. We present a case of 32 year male who was initially suspected of having fecal peritonitis, but on exploration rupture bladder was found to be the cause of peritonitis .

Key words *Spontaneous urinary bladder perforation, Bladder outlet obstruction, Urinary peritonitis.*

INTRODUCTION:

Spontaneous bladder perforation is a rare diagnosis, which can be life threatening if recognized late. The symptoms resemble acute peritonitis in most of the patients, hence misdiagnosed. It is usually suspected in patients with history of bladder outlet obstruction resulting in increased intra-vesical pressure. Other causes include chronic constipation, bladder diverticulum, bladder cancer, radiotherapy to pelvis, pelvic cancer, etc. This case is reported to emphasize the importance of early diagnosis and treatment of spontaneous urinary bladder rupture so that morbidity is minimized.

CASE REPORT:

A 32 year old male, with no known co-morbid, presented in Emergency Room with abdominal pain, absolute constipation and anuria for two days. According to the patient, he had no history of lower urinary tract symptoms, trauma or instrumentation in the past. Abdominal examination was suggestive of generalized peritonitis. Digital rectal examination was unremarkable. He was vitally unstable with signs of septic shock secondary to peritonitis. He was resuscitated and investigations revealed hemoglobin of 12.2g/dl, hematocrit of 37.0 %, TLC of 14.1 x 10^9/l, urea of 75 mg/dl and creatinine of 2.6 mg/dl. ABGs report showed compensated metabolic acidosis. Other blood tests were in normal range. Urine analysis showed pH of 6.0, nitrite negative, WBCs of 4-6/ HPF, RBCs Nil / HPF. Per-urethral catheterization drained 100ml of urine. On ultrasound abdomen, urinary bladder was found empty with bulb of Foley catheter in situ and no free fluid was documented. Plain radiographs abdomen did not show signs of perforation. Dilated small bowel loops were present. Patient was shifted to emergency operation theater with the impression of acute intestinal obstruction by the general surgery colleagues and exploratory laparotomy done.

On exploration, there were two perforations in urinary bladder of 2cm size each on dome of the bladder, to which omentum was adherent. Bladder wall was fragile, though inside mucosa was normal looking. Gut loops were found distended but no perforation was noted. Urology team was involved and urinary bladder perforations were repaired in two layers. Suprapubic catheter and a pelvic drain were placed. Patient was kept in ICU where he developed type 2 respiratory failure and managed accordingly. In postoperative period continued urine was noted in the drain which gradually decreased in amount in subsequent days. Patient was discharged on 10th postoperative day with removal of the drain and per-urethral catheter and suprapubic catheter was clamped. Patient was followed after 7 days and supra-pubic catheter was also removed. But after 5 days, patient again presented in emergency with urine coming from the midline wound site, so patient was re-admitted, keeping in view the impression of vesico-cutaneous fistula and initially treated conservatively with per-urethral catheterization but urine continued to leak from surgical wound. He also lost weight, and was started on total parenteral nutrition. He was also evaluated for tuberculosis and work up was negative. As patient did not improve,

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and re-exploration was planned.

On re-exploration, there was still a non-healed previous perforation of the bladder which was repaired. Biopsy was also taken from the margins of perforation. Histopathology came out to be non-specific inflammation with no evidence of malignancy. Abdomen was closed after saline wash out and with placement of a drain and a suprapubic cystostomy. Patient still did not improve and drain continued to pour urine which was confirmed biochemically. So we planned for diversion of the urine by bilateral PCN placement. During course of illness he developed burst abdomen, for which he was again explored and abdomen closed by tension sutures but after a few days, he again developed burst abdomen along with entero-cutaneous fistula and an unhealed bladder, draining urine through the wound. He was initially managed conservatively by the general surgical team but he did not improve and developed another entero-cutaneous fistula. Patient continuously lost weight and deteriorated and went into sepsis and did not survive.

DISCUSSION:

Spontaneous urinary bladder rupture is an uncommon and life threatening condition. Early diagnosis, followed by surgical intervention is the key for good surgical outcome. In our case, etiology was not clear but it might be due constipation leading to increase in intra-vesical pressure resulting in bladder perforation.

In literature two cases were reported, in which one patient presented with painless progressive abdominal distention for one week while other had features suggestive of peritonitis. In both the patients, there was no history of trauma, and urethral instrumentation. Both the patients had decreased urinary output and increased serum urea and creatinine values with raised creatinine level in peritoneal aspirate which is a clue to diagnosis.[1] Another study also reported a case of urinary bladder rupture in a patient with cerebral palsy in whom no risk factors associated with urinary bladder found.[2] Neurogenic bladder as a cause of retention of urine and ultimately bladder perforation has also been reported.[3] Congenital bladder diverticulum can also rupture spontaneously and it is also reported in augmentation cystoplasty.[4-6] Our patient had none of these conditions. The management of bladder rupture is same in all the cases but outcome varies with the delay in the diagnosis. It is therefore important to make early diagnosis and plan treatment so as to ensure good recovery.

REFERENCES:

1. Dubey IB, Mohanty D, Jain BK. Diverse presentation of spontaneous rupture of urinary bladder: review of two cases and literature. The Am J Emerg Med. 2012;30:832-e3.

2. Aber A, Hyder SA, Arumuham V. An unusual case of spontaneous bladder perforation with associated autodialysis of the ensuing urinary ascites. Case Rep Med. 2011;2011.doi:10.1155/2011/145084

3. Mitchell T, Al-Hayek S, Patel B, Gilbert H. Acute abdomen caused by bladder rupture attributable to neurogenic bladder dysfunction following a stroke: a case report. J Med Case Rep. 2011;5:254.

4. Stein RJ, Matoka DJ, Noh PH, Docimo SG. Spontaneous perforation of congenital bladder diverticulum. Urology. 2005;66:881-e5-e6. doi:10.1016/j.urology.2005.04.004. 7.

5. DeFoor W, Tackett L, Minevich E, Wacksman J, Sheldon C. Risk factors for spontaneous bladder perforation after augmentation cystoplasty. Urology. 2003;62:737-41.

6. Metcalfe PD, Casale AJ, Kaefer MA, Misseri R, Dussinger AM, Meldrum KK, et al. Spontaneous bladder perforations: a report of 500 augmentations in children and analysis of risk. J Urol. 2006;175:1466-71.

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