Spontaneous intraperitoneal bladder rupture managed conservatively

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A B S T R A C T

Spontaneous intraperitoneal bladder rupture is a rare urological case. Repair usually done by operation and conservative management was unusual. We present a case of a 43-year-old man who presented to ED with lower abdominal pain and distension. He underwent a cystoscopy, several rupture and thin bladder wall was found. We decided to managed the patient conservatively with urinary catheter for 1 month. Upon follow up, the patient was in good condition. Conservative treatment with urinary catheter for 1 month may be considered in patients who are in good condition, do not have signs of peritonitis and sepsis.

1. Introduction

Spontaneous intraperitoneal bladder rupture (SIBR) is a rare urological case. It affects about one in every 126,000 people. There are many underlying causes of SIBR, the most common being tumors, diverticulum, and cystitis. CT cystography or conventional cystography is usually useful for differentiating rupture. SIBR is usually treated surgically, although it can sometimes be treated nonoperatively with catheter insertion. Here, we present a case of SIBR in a 43-year-old man treated nonoperatively with catheter insertion.

2. Case presentation

A 43-year-old man admitted to the Emergency Department (ED) with lower abdominal pain and distension that appears suddenly. The patient also complained of urinary retention 1 day prior. The patient denied history of trauma to the abdominal area and hematuria. There was no history of operation or radiation. The patient also denied excessive alcohol intake. The patient had a gait problem due to neurological disease from his early childhood, he also had a history of repeated cystitis, and history of voiding difficulty. He consumed alpha blocker daily in the past 6 months to help him void, but the patient had stopped taking it for a week.

Physical examination showed normal vital signs with suprapubic tenderness and abdominal distention. We inserted Folley Catheter 18 Fr and found 300 cc of initial urine. Laboratory results showed leukocytosis, urinalysis showed trace of blood and leukocytes. An abdominal ultrasound revealed a considerable amount of fluid collection in the retrovesica, with the balloon of the catheter found outside of bladder and bilateral hydronephrosis (Fig. 1).

We diagnosed the patient with SIBR and the next day the patient was scheduled for cystoscopy. During cystoscopy we found multiple intraperitoneal bladder rupture <1 cm, and we also found a thin bladder wall (Fig. 2).

We decided a trial of non-operative management of urinary drainage with an 18 Fr silicone catheter for 4 weeks. The abdominal pain and distention gradually improved and the patient was discharged within 2 days post cystoscopy with urinary catheter. After 4 weeks we decided to remove the catheter and the patient was able to void spontaneously with good uroflowmetry (Fig. 3).

3. Discussion

Bladder rupture can be intraperitoneal or extraperitoneal, with intraperitoneal rupture being the more common. The dome and the posterior wall of the bladder are the most common sites for SIBR as found in our case as well. On physical examination, patients usually have varied symptoms such as decreased mental status, severe abdominal pain, nausea, vomiting, hematuria, peritonitis and sepsis. Any patient who comes with these symptoms should have SIBR as differential diagnosis. CT cystography or conventional cystography are recommended for distinguishing the rupture. Although in our case, we were able to diagnose the rupture by using ultrasound because we found that the catheter balloon was outside of the bladder, to our knowledge there...
was only one other case of SIBR reported by Kumar et al. that can be identified using US.3

Bladder ruptures can present in a variety of ways, ranging from moderate voiding problems with tiny quantities of ascites to peritoneal irritation with elevated creatinine due to reabsorption. Urine tests may reveal microscopic hematuria if a rupture is present for more than 24 hours. Furthermore, reuptake of urine creatinine through the peritoneum causes an increase in serum creatinine. SIBR are normally treated with surgery, although they are occasionally be managed non-operatively with the installation of a Foley catheter.1 Good clinical state, mild symptoms, tiny perforation, no large hemorrhage, minimal urine infiltration, no significant infection, are all considered indications for conservative treatment. Following cystoscopy, a Foley catheter should be left in place for at least two weeks. Surgical treatment is recommended if the bladder rupture is caused by a local lesion such as a tumor, diverticulum, or inflammatory granuloma.1 Our patient was considered suitable for a conservative treatment because the hemodynamic was stable, no peritonitis nor sepsis was indicated. In this case after 4 weeks of catheterization we decided to remove the catheter and the patient had no difficulty in voiding with good result of uroflowmetry. In this case we found bilateral hydronephrosis in the patient due to chronic urinary retention from his past illness. Upon cystoscopy we found that the
bladder wall is very thin, due to the combination of chronic retention and infection, although most of the literature stated that chronic inflammation would prompt thickening of the bladder wall. As our patient also had some gait disorder due to unknown neurological disorder, there had been cases reported that neurogenic bladder may cause chronic retention and inflammation which subsequently leading to a weak bladder wall.

4. Conclusion

This case emphasizes the importance of including SIBR in the differential diagnosis for any patient who came with spontaneous unexplainable abdominal pain and distention with a history of urinary retention. On condition where there is high suspicion of bladder rupture, cystoscopy can be an invaluable modality in making diagnosis. For hemodynamically stable patient with no signs of peritonitis nor sepsis, conservative treatment using urinary catheter for at least 1 month may prove beneficial.

Section heading

General Urology.

Ethics approval and consent to participate

The study was approved by the Ethics Committees, and the patient’s family provided written informed consents.
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Availability of data and materials

All data related to this case report are available from the corresponding author on reasonable request.

Consent for publication

Written informed consent was obtained from the patient’s relatives for publication of this Case report and any accompanying images. A copy of the written consent is available for review by the Editor of this journal.

Author’s contribution

Dicky Kurniawan: Writing – original draft, editing, Sawkar Vijay Pramod: Conceptualization, Methodology, Supervision.

Declaration of competing interest

None.

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