



International Journal of Case Reports in Surgery

E-ISSN: 2708-1508
P-ISSN: 2708-1494
IJCRS 2022; 4(1): 04-06
www.casereportsofsurgery.com
Received: 03-10-2021
Accepted: 09-11-2021

Dr. Abhishek Shetty
Department of Surgery, Dr.
VM Govt. Medical College and
SCSMSR, Solapur,
Maharashtra, India

Dr. Riddhima Dubhashi
Department of Surgery, Dr.
VM Govt. Medical College and
SCSMSR, Solapur,
Maharashtra, India

Spontaneous rupture of urinary bladder due to chronic retention secondary to symplastic bladder leiomyoma: A rare tumor presenting as a rarer surgical emergency

Dr. Abhishek Shetty and Dr. Riddhima Dubhashi

Abstract

Introduction: The diagnosis of Spontaneous Rupture of Urinary Bladder is often delayed if not missed which leads to increased mortality from this condition.

Case report: In this paper the cause of spontaneous bladder rupture was chronic retention which was due to a rare bladder tumor.

Discussion: Leiomyomas form less than 0.5% of all bladder tumors. Spontaneous bladder rupture leads to peritonitis and hence a high mortality rate. Urinary ascites is the cause for deranged urea and creatinine despite a normal kidney function.

Conclusion: Diagnosis of spontaneous rupture of urinary bladder needs a high index of suspicion and its management should include early operative intervention.

Keywords: Spontaneous rupture of urinary bladder, symplastic bladder leiomyoma

Introduction

Spontaneous Rupture of Urinary Bladder is an uncommon life threatening condition, the diagnosis of which is often delayed or missed due to its low index of suspicion as a cause of acute abdomen. There are only a few reported cases in literature. Diagnosis is often made at laparotomy after multiple investigations fail to identify the condition ^[1]. It most commonly occurs as a complication of urosepsis secondary to chronic obstruction to urinary outflow tract ^[2]. As patients present with abdominal pain, anuria, ascitis and deranged creatinine many cases are misdiagnosed as spontaneous bacterial peritonitis with sepsis or hepatorenal syndrome. Benign tumours of the urinary bladder are rare and though leiomyomas are the most common benign tumours of bladder, they represent less than 0.5% of all bladder tumours ^[3]. As per our knowledge, this is the first reported case of spontaneous rupture of urinary bladder with an underlying leiomyoma.

Case Report

A 65 year old male presented to the emergency department with complaints of decreased urination and abdominal pain that had been progressively increasing in intensity since the past two days. He had previously been to the hospital with complaints of urinary retention and dysuria. Patient was vitally stable on presentation. Physical examination revealed diffuse abdominal tenderness and a normal genitourinary exam. A Foley catheter introduced at that time revealed reddish coloured urine. Abdominal plain film was not suggestive of any acute surgical pathology. An abdominal ultrasound revealed presence of ascitis which was attributed to his alcoholism. His routine reports revealed a serum creatinine of 6.7mg/dl for which he underwent three rounds of haemodialysis. Abdominal tenderness persisted even after decreasing trend of serum creatinine. His haemogram showed a white blood count of 36,000 with left shift and toxic granulations suggestive of sepsis. Ascitic tapping revealed 1000 nucleated cells of which 70% were neutrophils. It was monomicrobial (E.Coli) on culture. Although a preliminary diagnosis of sepsis secondary to spontaneous bacterial peritonitis explained the acute renal failure, the abdominal tenderness was diffuse and out of proportion with respect to his diagnosis. Also, his urine examination revealed plenty of pus cells and red blood cells raising a doubt as to the primary foci of infection.

Keeping in mind his deranged kidney function, a plain computed tomography scan was done. The scan revealed free fluid in the abdomen with multiple air foci which was suggestive of pneumoperitoneum secondary to a hollow viscus perforation.

Corresponding Author:
Dr. Abhishek Shetty
Department of Surgery, Dr.
VM Govt. Medical College and
SCSMSR, Solapur,
Maharashtra, India

A growth was visible at the bladder neck. Laparotomy was planned.



Fig 1: Evidence of Ascitis on plain CT



Fig 2: Growth seen at the neck of urinary bladder

Diffuse collections of pus with fluid were found in the abdominal cavity. The collections were drained and thorough washes were given. Bowel examination revealed no abnormality. When the incision was extended downwards, the final diagnosis was revealed to be spontaneous rupture of urinary bladder. Exploration of the bladder showed multiple rents with a thickened wall due to chronic inflammation.

There was a globular mass of about 2.5cm in diameter protruding from the bladder neck. The mass was separated and sent for histology. The rents were sewn in two layers, intravesical antibiotic washes were given and urinary catheter was placed under vision for drainage before closure of the bladder wall. The patient required fluid resuscitation intraoperatively which was continued postoperatively in the surgical intensive care unit. The dose of vasopressors were increased and higher antibiotics were commenced. Despite aggressive medical and surgical management, the patient succumbed to sepsis on his second postoperative day.

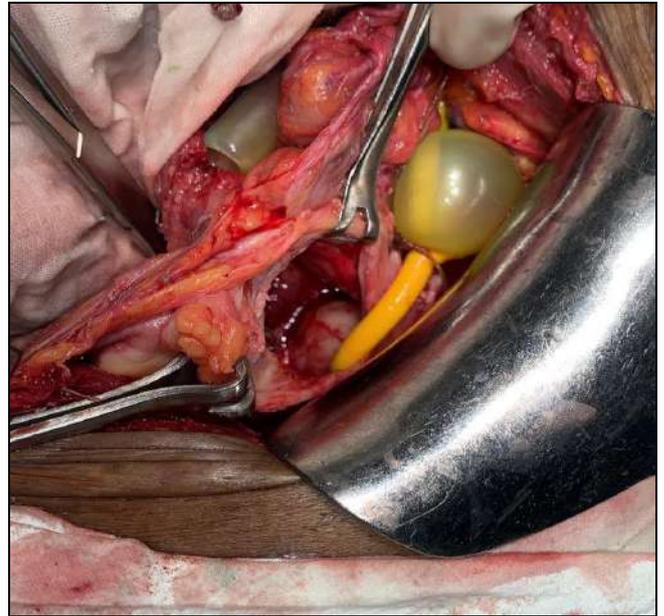


Fig 3: Bladder growth visualised at laparotomy



Fig 4: Tumor of size 2.5cm in diameter

Histopathological examination of the bladder mass showed proliferation of spindle shaped cells in eosinophilic cytoplasm with abundant multinucleated cells but absent mitotic figures or necrosis favouring the diagnosis of symplastic leiomyoma.

Discussion

Benign bladder tumors may consist of rhabdomyomas, myxomas, fibromas, leiomyomas, angiomas and osteomas. Although the commonest benign bladder tumour, bladder leiomyomas are rare overall comprising only 0.43% of all bladder tumours.

Leiomyomas may be intravesical, extravesical or intramural [4]. CT or MRI may be used to delineate tumor location and characteristics. Histological examination differentiates it from leiomyosarcoma. When discovered incidentally, cystoscopy and transurethral resection is attempted. Symplastic leiomyoma is an unusual variant of leiomyoma characterised by moderate to severe atypia but absence of necrosis or mitotic activity. The most common presentations of urinary bladder leiomyomas are obstructive urinary or irritative symptoms. Some also present with flank pain and haematuria. Obstructive urinary symptoms, as in our case, are usually seen when the tumour originates from the bladder neck.

The term 'Spontaneous Rupture of Urinary Bladder' was first used by Sisk and Wear in their paper in 1929 where they stated that if the bladder ruptures without external stimulation, it is spontaneous and deserves to be reported as such [5]. Spontaneous rupture of urinary bladder is a rare cause of acute abdomen and should be kept in mind as a list of differentials especially in patients with history of voiding difficulties. As the signs and symptoms are misleading, diagnosis is often missed even after radiological investigations. It has a high mortality rate of greater than 50% with most patients quickly progressing to sepsis and shock [6]. The most common causes of spontaneous urinary bladder rupture are infection, neurogenic bladder, urinary retention, pelvic irradiation and tumoral invasion. Many patients with SRUB have a combination of these causes. As the patient develops urinary ascitis, reverse auto dialysis across the peritoneal membrane occurs with urea and creatinine being reabsorbed into the bloodstream causing pseudo renal failure [7]. In patients who are hemodynamically stable, CT cystogram can be used to visualise the contrast leaking from the bladder rent. Management involves exploration and repair of the rent in two layers. If peritoneal contamination has occurred, removal of infected contents should be carried out. Most patients with extraperitoneal rupture can be managed conservatively.

Conclusion

This paper reports the rare finding of bladder leiomyoma leading to chronic urinary tract obstruction and subsequent spontaneous rupture of the urinary bladder. Spontaneous rupture of urinary bladder is a surgical emergency with misleading signs and symptoms hence a high index of suspicion is required for its appropriate diagnosis and surgical management.

References

1. Sawalmeh H, Al-Ozaibi L, Hussein A, Al-Badri F. Spontaneous rupture of the urinary bladder (SRUB); A case report and review of literature. *Int J Surg Case Rep.* 2015;16:116-8.
2. Kivlin D, Ross C, Lester K, Metro M, Ginsberg P. A Case Series of Spontaneous Rupture of the Urinary Bladder. *Curr Urol.* 2015 May;8(1):53-6.
3. Khater N, Sakr G. Bladder leiomyoma: Presentation, evaluation and treatment. *Arab J Urol.* 2013 Mar;11(1):54-61.
4. Xin J, Lai HP, Lin SK, Zhang QQ, Shao CX, Jin L, *et al.* Bladder leiomyoma presenting as dyspareunia: Case report and literature review. *Medicine (Baltimore).* 2016 Jul;95(28):e3971.

5. Sisk IR, Wear JB. Spontaneous rupture of the urinary bladder. *J. Urol.* 1929;21:517-521.
6. Lynn SJ, Mark SD, Searle M. Idiopathic spontaneous bladder rupture in an intoxicated patient. *Clinical Nephrol.* 2003;6:430-432.
7. Abirami K, Sivaramakrishna G, Lakshmi AY, Sivakumar V. Urinary ascites. *Indian J Nephrol.* 2012 Mar;22(2):143-4.
8. Dr. Aruna Kumari T, Dr. Anil Kumar G. A Study of thyroid dysfunction in chronic kidney disease Patients in a tertiary Care Hospital - A Prospective study. *Int J Adv Biochem Res* 2020;4(1):20-26. DOI: 10.33545/26174693.2020.v4.i1a.43