Case Report

Indian Journal of Emergency Medicine
Volume 9 Number 2, April - June 2023
DOI: http://dx.doi.org/10.21088/ijem.2395.311X.9223.8

Peritonitis Following forceful Foley's Catheterisation

A. Josephine Leshiini[1], Anita Rawat[2], Kishalay Datta[3]

How to cite this article:
A. Josephine Leshiini, Anita Rawat, Kishalay Datta/Where to Bind, Hemoglobin or Methemoglobin: Confused Oxygen/Indian J Emerg Med 2023;9(2):97–99.

Abstract

Intraperitoneal rupture of urinary bladder is a complication faced during improper technique and forceful Foley's catheterisation. Peritonitis following intraperitoneal bladder rupture is a rare complication seen and theoretically noted. In this case report, we see how a forceful Foley's catheterisation led to intraperitoneal bladder rupture and thus, leading to peritonitis.

Keywords: Foley's catheterisation; Intraperitoneal bladder rupture; Urinary bladder rupture peritonitis.

INTRODUCTION

Bladder rupture, a relatively rare complication, is most commonly due to abdominal or pelvic trauma but may also occur due to spontaneous or iatrogenic procedures. The bladder is well protected within the bony pelvis in adults.[1] Approximately 60% of the total bladder injuries are extraperitoneal, 30% are intraperitoneal, and the remaining 10% are both extra and intraperitoneal.[1] Extraperitoneal rupture of bladder is generally seen in traumatic patients and is managed by Foley's catheterisation and other supportive measures. Intraperitoneal rupture of the urinary bladder is most of the times, managed by surgical intervention.[2,3]

Intraperitoneal rupture of the bladder is mainly due to iatrogenic injuries to the bladder that may be associated with urologic procedures, colorectal surgery, gynecological procedure and Foley catheter placement. The incidence of intraperitoneal bladder rupture is much higher in children because of the intra-abdominal location of the bladder at a young age.[4]

Attention must be given to irritating and persistent dull aching abdominal pain, presumed anuria corrected after the positioning of the Foley catheter, variable haematuria, leukocytosis, and eventual electrolytic alterations without fever. The main key to the diagnosis of bladder injury is awareness of this clinical presentation.

Author's Affiliation: [1]Post Graduate Trainee, [2]Senior Consultant, [3]Director and HOD, Department of Emergency Medicine, Max Super Speciality Hospital, Shalimar Bagh, Delhi 110088, India.

Corresponding Author: A. Josephine Leshiini, Post Graduate Trainee, Department of Emergency Medicine, Max Super Speciality Hospital, Shalimar Bagh, Delhi 110088, India.

E-mail: josephineleshiinii@gmail.com

Received on: 17-02-2023

Accepted on: 09-03-2023

CASE

A 77 year old male was brought to the emergency room with complaints of passage of blood in Foley's catheter soon after it was introduced 5-6 hours back. The patient was earlier taken to a nearby primary health center with complaints of not passing urine for the last 2 days (almost 30-50 ml of urine in a day). The patient was then catheterised in view of decreased urine output. Following bladder catheterisation, blood stained urine started coming into the Foleys tube. Patient was discharged home with cautious warning and patient counseling regarding initial hematuria during Foley's catheterisation. Initially, urinary output was good for a day but then, urine output decreased and patient became more sick with complaints of lower abdominal pain and high grade fever and recurrent vommiting. Patient was then referred to our center for further management. Upon arrival in the Emergency room, the patient was toxic looking, and the patient complained of severe lower abdomen pain. Foleys was in situ but not draining urine from the urinary bladder. On clinical examination, the urinary bladder was felt in the hypogastric region (palpable tender mass). Emergency ultrasound was done in the emergency room, the bladder was seen partially filled with fluid (urine) with Foley's catheter in situ. The patient was having minimal free fluid around the urinary bladder with minimal ascites.

The Foley's catheter was removed and was found to ruptured Folye's bulb with blood clots on the tip of the Foley's catheter. Patient was having hematuria upon removal of the Foley catheter. A 3 way Foley's catheter was inserted, bladder wash was given, large formed clots were into the Foley's tube during the bladder wash. Patient was admitted for further workup in the critical care unit under the urology team. CT cystogram with retrograde filling revealed large defect in the fundus and posterosuperior aspect of the urinary bladder. Patient was resuscitated and was taken up for emergency laparotomy with bladder repair.

Patient recovered well in the post-operative period and was discharged home healthy. Further follow-ups were uneventful.

DISCUSSION

Intraperitoneal perforation of the urinary bladder generally occurs in trauma, infections or inflammatory lesions, iatrogenicity (cystoscopy, prostatectomy), cancer, radiotherapy, and diverticulosis.[5] A few cases of bladder rupture after urinary catheterization without any other predisposing factors have also been described in the literature.[6] The bladder is particularly more vulnerable for such an injury due to its easy location, distensibility, and thin wall of the bladder.[7,8]

The diagnosis of intraperitoneal bladder rupture is challenging because the symptoms are vague (oliguria, pain, hematuria), with blood parameters (inflammatory syndrome, renal insufficiency, electrolyte imbalance), leading to misdiagnosis and inappropriate treatment. Retrograde urethro-cystography or an abdominal computed tomography scan with bladder opacification can establish the diagnosis and localize the site of rupture.[6,9] Weightage must be given in early clinical diagnosis of signs of peritonitis as this may prevent life threatening complications.

The treatment modality for intraperitoneal bladder rupture is surgical. The part of the bladder where it is ruptured, is surgically repaired and the urinary bladder site is kept urine free by using Foley's catheter for 10-12 days. A repeat CT cystogram is done to confirm the recovery process. Antibiotics coverage, proper nutrition plays a vital role in the healing process.

CONCLUSION

Intraperitoneal rupture of the bladder wall is a rare but non-avoidable complication during Foley's catheterisation. The urine extravasate into the systemic circulation and abdomen leading to peritonitis. The diagnosis is generally radiological imaging studies like CT cystography. Treatment for intraperitoneal bladder rupture is surgical repair with Foley's catheterisation and urine free period (for bladder) for 10-12 days. Avoidable circumstances must be taken care of during Foley's catheterisation and the procedure must be done with utmost care and patience with sound clinical skill and knowledge.

REFERENCES

1. Siccardi MA, Bordoni B. Stat Pearls [Internet]. StatPearls Publishing; Treasure Island (FL): Jul 25, 2022. Anatomy, Abdomen and Pelvis, Perineal Body.
2. Elkbuli A, Ehrhardt JD, Hai S, McKenney M, Boneva D. Management of blunt intraperitoneal bladder rupture: Case report and literature review. Int J Surg Case Rep. 2019;55:160-163.
3. Shimpi TR, Shikhare SN, Chung R, Wu P,

Peh WCG. Imaging of Gastrointestinal and Abdominal Emergencies in Binge Drinking. Can Assoc Radiol J. 2019 Feb;70(1):52-61.

4. Murata R, Kamiizumi Y, Tani Y, Ishizuka C, Kashiwakura S, Tsuji T, Kasai H, Haneda T, Yoshida T, Katano H, Ito K. Spontaneous rupture of the urinary bladder due to bacterial cystitis. J Surg Case Rep. 2018 Sep;2018(9):rjy253.
5. Kato A, Yoshida K, Tsuru N, et al. Spontaneous rupture of the urinary bladder presenting as oligurie acute renale failure. Intern Med. 2006;45:815–8.
6. Farraye MJ, Seaberg D. Indwelling foley catheter causing extraperitoneal bladder perforation. Am J Emerg Med. 2000;18:497–500.
7. Vilos GA, Haebe J, Crumley TL, Maruncic MA, King JH, Denstedt JD. Serum biochemical changes after laparoscopy may be indicators of bladder injury. J Am Assoc Gynecol Laparosc. 2001;8(2):285-290.
8. Tai CK, Li SK, Hou SM, Fan CW. Bladder injury mimicking acute renal failure after cesarean section: a diagnostic challenge and minimally invasive management. Surg Laparosc Endosc Percutan Tech. 2008;18(3):301-303.
9. Wirth GJ, Peter R, Poletti PA, Iselin CE. Advances in the management of blunt traumatic bladder rupture: experience with 36 cases. BJU Int. 2010;106:1344–9.