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Unusual Case of Bladder Rupture Secondary to Cervical Fibroid: A Diagnostic Challenge

Abstract

Background:

Bladder rupture is a rare but serious complication, often associated with trauma or iatrogenic injury. Spontaneous rupture secondary to a cervical fibroid is exceedingly uncommon.

Case Presentation:

We report the case of a 48-year-old woman with learning difficulties and a known cervical fibroid who presented with acute abdominal pain, vaginal bleeding, and haematuria. Initial investigations revealed severe metabolic acidosis, hyperkalaemia, acute kidney injury, and a grossly elevated creatinine. Imaging demonstrated a prolapsed cervical fibroid and intra-abdominal free fluid, but no active bleeding. Exploratory laparotomy revealed bladder rupture and intraperitoneal urine accumulation. Myomectomy and bladder repair were performed with good post-operative recovery.

Conclusion:

This case highlights an unusual cause of spontaneous bladder rupture, emphasizing the importance of multidisciplinary assessment in complex pelvic pathology with non-specific presentations.

Introduction

Cervical fibroids are a less common subtype of uterine leiomyomas, accounting for less than 5% of cases. They are known to cause abnormal uterine bleeding and pelvic pressure symptoms. However, complications such as bladder compression are more common than direct invasion or rupture. Spontaneous bladder rupture is rare and usually related to trauma, malignancy, or prior instrumentation.

We describe a rare case in which a large cervical fibroid led to spontaneous rupture of the bladder, manifesting with acute abdomen, renal impairment, and metabolic derangement, ultimately requiring emergency surgical intervention

Methods

Patient Profile:

Age: 48 years

Medical history: Learning difficulties, recurrent anaemia secondary to heavy menstrual bleeding, known cervical fibroid documented over 3 years.

Clinical Presentation:

Acute lower abdominal pain for two weeks, worsening over several days

Persistent vaginal bleeding

Haematuria following catheterisation in A&E

No reported trauma or surgical intervention

Initial Assessment:

Tachypnoea (RR 35), low oxygen saturation (SpO₂ 92% on 15L), normocardic and hypertensive

Metabolic acidosis with elevated lactate and base deficit

Acute kidney injury with creatinine >1400 µmol/L and eGFR <5

Hyperkalaemia (K⁺ 8.2)

Investigations:

CT abdomen and pelvis with contrast

Bedside ultrasound

Vaginal examination under speculum

Results

Imaging Findings:

Large necrotic cervical fibroid (measuring approximately 20 cm) prolapsed beyond the vaginal introitus
Moderate to large volume intra-abdominal free fluid

Bilateral hydronephrosis
No contrast extravasation or active bleeding noted

Intraoperative Findings:
Laparotomy revealed frank urine in the peritoneal cavity (uoperitoneum)
Bladder rupture without visible perforation from fibroid itself, likely secondary to chronic compression and pressure necrosis

Successful myomectomy of large cervical fibroid
Bladder repair carried out by urology
Hysterectomy deferred due to patient condition

Conclusion:

This case highlights an unusual cause of spontaneous bladder rupture, emphasizing the importance of multidisciplinary assessment in complex pelvic pathology with non-specific presentations.

Discussion

Bladder rupture is an uncommon complication of uterine fibroids, especially in the absence of surgical or traumatic history. This case underscores the potential for large cervical fibroids to cause chronic bladder compression, ureteric obstruction, and ultimately spontaneous bladder rupture.

Initial diagnosis was challenging due to the non-specific clinical picture dominated by abdominal distension, acidosis, AKI, and haematuria. Imaging failed to clearly identify the bladder rupture, necessitating exploratory surgery. The presence of massive uoperitoneum, confirmed intraoperatively, explained the severe electrolyte derangement and renal compromise.

This case demonstrates:

The diagnostic difficulty in differentiating complex pelvic pathology when urological and gynaecological systems are simultaneously affected.

The value of considering uoperitoneum in cases of unexplained AKI, especially in the context of a distended abdomen and haematuria.

The critical role of multidisciplinary teamwork, involving emergency medicine, gynaecology, urology, and intensive care.

Early surgical intervention was key to recovery, and bladder repair with fibroid removal alleviated both the acute urological emergency and chronic gynaecological burden.

Keywords

: Cervical Fibroid, Bladder Rupture, Uoperitoneum, AKI, Myomectomy, Diagnostic Delay