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Gangrenous Cystitis Complicating a Post-Traumatic Bladder Perforation: A Clinical Case Report

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Abstract **Case Report**

Gangrenous cystitis is a rare and serious condition associated with high morbidity and mortality. We report the case of a 30-year-old man who presented with gangrenous cystitis complicating a post-traumatic bladder rupture secondary to a fall from a height of six meters. The diagnosis was based on clinical, radiological, and intraoperative findings. Urgent medical and surgical management led to a favorable outcome. This case highlights the importance of early diagnosis and aggressive management of any severe urinary tract infection following bladder trauma.

Keywords: Gangrenous cystitis, Bladder rupture, Blunt abdominal trauma, Ischemic necrosis, Urological emergency, Surgical debridement.

INTRODUCTION

Gangrenous cystitis corresponds to partial or total ischemic necrosis of the bladder wall. It constitutes an exceptional urological emergency, most often described in the context of severe infection, local ischemia, or trauma. The association with a post-traumatic bladder perforation is particularly rare, which gives this case major scientific interest.

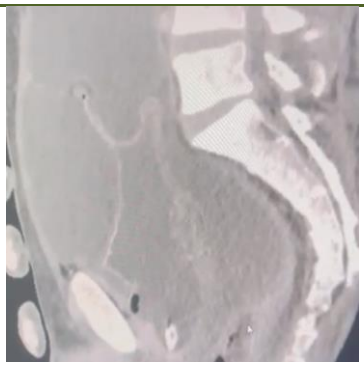
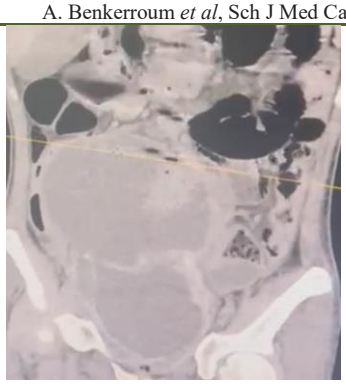
CLINICAL OBSERVATION

A 30-year-old man, with no significant medical history, was admitted for blunt abdominal trauma following a fall from a height of six meters.

The initial assessment of the injury consisted of a lumbar MRI, given that the patient presented with paraplegia, which revealed a lumbar fracture treated by vertebral cementoplasty.

AJ 30 post-trauma the patient presented with febrile abdominal distension, without hematuria.

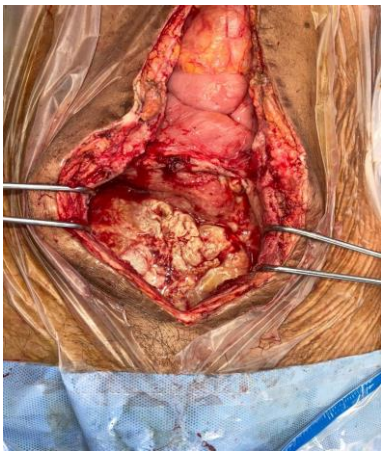
The abdominopelvic scan revealed a bladder breach associated with a supravesical collection and a subocclusive syndrome.

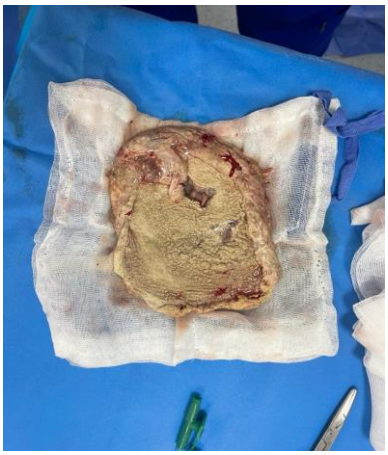



Probabilistic antibiotic therapy consisting of beta-lactams and macrolides was started.

An exploratory laparotomy confirmed localized gangrenous cystitis with bladder perforation; the peritoneum was intact. Debridement followed by bladder suturing with bacterial sampling of pus and serous fluid was performed.


The postoperative course, after the patient was started on antibiotic therapy targeting Proteus hauseri detected in the bacteriological analysis of the intraoperative sample, was unfavorable, marked by pain, abdominal distension, and abnormal infectious and renal function. Consequently, a second laparotomy was performed, or a cystectomy with bilateral ureterostomy was carried out.





DISCUSSION

Gangrenous cystitis is a rare urological entity characterized by ischemic necrosis of the bladder wall, which can rapidly progress to serious complications such as sepsis and peritonitis [1-2]. Fewer than one hundred cases have been described in the literature, with predisposing factors including diabetes, acute retention,

severe urinary tract infections, pelvic radiotherapy, and urological trauma [3-4]. The main mechanism involves local ischemia, often exacerbated by polymicrobial bacterial contamination. The bacteria involved are most often Gram-negative (E. coli, Klebsiella spp.), streptococci, and anaerobes [5-6]. In this case, abdominal trauma with bladder perforation likely caused parietal vascular damage, direct contamination of the bladder cavity, and a local inflammatory reaction promoting necrosis [3,7].

Clinical diagnosis is often delayed due to the nonspecificity of symptoms (fever, pelvic pain, hematuria) [1]. Imaging, particularly abdominopelvic CT scans, is an essential tool. Suggestive signs include irregular wall thickening, lack of enhancement after contrast injection, intramural gas bubbles, infiltration of perivesical tissues, and associated cavity abnormalities [2-5-8]. Definitive confirmation remains intraoperative [4-6].

Gangrenous cystitis constitutes a medical-surgical emergency. Management is based on three pillars: - Broad-spectrum empirical antibiotic therapy, adapted to urine and intraoperative cultures [5]. Urinary drainage to reduce intravesical pressure and limit the spread of infection [6]- Surgery according to the extent of the lesions: debridement with bladder suture for localized lesions [7], partial cystectomy for segmental lesions [1], total cystectomy for diffuse forms [2] In our case, an exploratory laparotomy with debridement and suture allowed satisfactory control of the infection.

Mortality remains high (30–50%) in historical series [1-2]. Factors associated with a good prognosis include early diagnosis, rapid surgical intervention, limited extent of necrosis, and absence of serious comorbidities [3-6].

Any severe post-traumatic urinary tract infection should raise suspicion of gangrenous involvement. A CT scan is essential but should not delay surgery. A multidisciplinary approach (urology, surgery, anesthesia, infectious diseases) improves the prognosis [4-5-7].

CONCLUSION

Gangrenous cystitis complicating a post-traumatic bladder perforation is rare but serious. Rapid, multidisciplinary management significantly improves the prognosis.

REFERENCES

1. Thomas AA, Lane BR, Thomas AZ, Remer EM, Campbell SC, Shoskes DA. Gangrenous cystitis: a rare but life-threatening condition. Urology. 2007;70(3): 556.e1–3.
2. Chuang YC, Huang CC, Sun GH. Necrotizing cystitis: case report and literature review. Int J Urol. 2003; 10:543–6.
3. Santucci RA, McAninch JW. Bladder trauma: diagnosis and management. J Urol. 2000; 164:1119–25.
4. Bissada NK, Amin M. Gangrene of the urinary bladder. J Urol. 1982;127(2):212–5.
5. EAU Guidelines on Urological Trauma. European Association of Urology. 2025.
6. Fabbri M, Caruso C, Galli F. Gangrenous cystitis: management and prognosis. Rev Med Interne. 2018; 39:815–21.
7. El-Bahnasawy MS, El-Hefnawy AS, Osman Y. Gangrenous cystitis: diagnosis and therapeutic challenges. Int Urol Nephrol. 2011; 43:697–702.
1. 8. Haidari Z, *et al*. Imaging features of gangrenous cystitis: CT and US correlation. Clin Imaging. 2015; 39:843–7.