

Post-Traumatic Scrotal Evisceration: A rare consequence of blunt perineal injury

Shadrack Barffour Awuah ^{1, *}, Cyril Ifeanyichukwu Ezugwu ² and Emmanuel Cherechi Egwuatu ²

¹ Emergency and Trauma Unit, St. Martins Catholic Hospital, Agroyesum, Amansie South District, Ashanti Region, Ghana.

² Emergency Room, Ahad Al-Masaraha General Hospital, Ahad Al-Masaraha, Jizan Region, Kingdom of Saudi Arabia.

World Journal of Advanced Research and Reviews, 2022, 13(03), 658-661

Publication history: Received on 18 February 2022; revised on 24 March 2022; accepted on 29 March 2022

Article DOI: <https://doi.org/10.30574/wjarr.2022.13.3.0261>

Abstract

Scrotal evisceration is a rare urological emergency which may occur as a result of a penetrating or blunt perineal injury. To preserve testicular viability and prevent infection, emergent surgical intervention is critical. We present a case of a 36-year-old farmer, who sustained a traumatic scrotal evisceration after a fall astride a wooden stump while working in his farm. The patient presented with a stable hemodynamic status, fully conscious, and without evidence of additional injuries. Examination revealed a 4cm anterior right hemiscrotal laceration with protrusion of the entire scrotal contents. Vascular structures were preserved and both testes appeared viable. Emergency room blood work-up and urinalysis were unremarkable. Scrotal ultrasonography showed evidence of an intact urethral and testicular anatomy. A broad-spectrum intravenous antibiotics and tetanus prophylaxis were administered, the wound was thoroughly irrigated and debrided. The exteriorized scrotal content was again inspected before it was gently reduced into the sac. The scrotum was repaired in anatomic shape with absorbable sutures. Postoperative recovery was satisfactory and uneventful, with adequate wound healing and preserved testicular function confirmed at six-week follow-up clinic visit. This case report emphasizes testicular resilience in the face of significant soft-tissue disruption and highlights the importance of early presentation and emergent multidisciplinary intervention including wound irrigation, debridement, infection and hemostatic control, as well as careful tissue reconstruction as critical steps in management. Although the presentation may be dramatic, appropriate timely intervention will help achieve full structural and functional recovery with excellent cosmetic results.

Keywords: Scrotal Evisceration; Genitourinary Trauma; Scrotal Reconstruction; Testicular Injury; Farm Accident

1. Introduction

Scrotal trauma accounts for a small fraction of all traumatic injuries, with mechanisms typically classified as blunt, penetrating, or degloving injuries. The mobility of the testes within the scrotal sac and the protective dartos fascia usually prevent severe injury. However, high-energy impact, especially against a non-yielding, sharp object, can overcome these protective measures, leading to rupture of the scrotal skin and potential evisceration of the testis and epididymis. Testicular evisceration with an intact tunica albuginea is a rare presentation, as severe trauma often results in testicular rupture. Blunt scrotal trauma is accompanied by testicular rupture in up to 50% of cases (Olivas et.al.,2021). The primary goal of management is an immediate surgical return of the exteriorized viable scrotal content to the scrotal sac, meticulous debridement of contaminated tissue, and primary closure to salvage the organ.

* Corresponding author: Shadrack Barffour Awuah

2. Case presentation

2.1. Patient information

A 36-year-old male farmer, presented to the emergency department (ED) with acute pain and a visible external injury to his scrotum. He reportedly lost balance, fell backwards and astride a wooden stump in his farm while attempting to manually uproot a bunch of grass just in front of the stump. This impact resulted in a laceration of the scrotal skin and extrusion of its content.



Figure 1 and 2 Images of the injury as presented to the emergency department

2.2. Clinical Findings

Upon arrival, the patient was hemodynamically stable (BP 118/72 mmHg, HR 84 bpm, SpO₂ 98 % on room air) but reported pain and scrotal injury.

Examination revealed a 3-cm transverse laceration in the anterior right hemiscrotal wall with protrusion of the tunica vaginalis and testis. The eviscerated tissue appeared pink, well perfused and viable. A minimal active bleed at the site of injury, no evidence of urethral injury or pelvic instability. The contralateral hemiscrotum was intact

Physical examination revealed a large, irregular, laceration of the scrotal skin, consistent with a penetrating/lacerating injury from the stump. The right hemiscrotal contents was seen protruding through the torn scrotal skin. The dislodged testis and epididymis appeared intact, with its enveloping tunica albuginea showing no signs of rupture, and no injury to or extrusion of testicular parenchyma. The wound was visibly contaminated with soil and organic material from the farm setting.

2.3. Diagnostic workup

An urgent color doppler scrotal ultrasound was done to quickly assess the underlying structures. The result confirmed the presence of a scrotal skin tear with right hemiscrotal organ evisceration, an intact morphology of the eviscerated testis and, most importantly, demonstrated good and intact vascular supply within the testicular parenchyma, indicating viability. There was no evidence of an associated hematocele or testicular rupture. Routine blood work including complete blood count (CBC) and coagulation profile, was taken, in preparation for surgery. The urinalysis result was also within the normal limit.

2.4. Management

Our management was focused on maintaining a stable hemodynamic status, immediate wound care, infection control, preservation of viable testicular tissue, and restoration of scrotal integrity with preserved function.

Initial broad spectrum intravenous antibiotics administration was started immediately with Ceftriaxone and metronidazole to empirically cover against gram-positive, gram-negative, and anaerobic flora commonly implicated in perineal wounds. In accordance with trauma protocol, tetanus prophylaxis was updated and adequate analgesia provided using intravenous paracetamol and a single dose of diclofenac.

A multidisciplinary emergency team on call was activated followed by obtaining an informed consent. The patient was then immediately transferred to the emergency operating theatre. Under spinal anesthesia, the entire perineal and scrotal regions were inspected on the table, wounds were aseptically prepared and draped, wound edges gently explored to exclude urethral and perineal extension. Copious irrigation was performed using warm normal saline followed by diluted povidone-iodine solution to reduce surface contamination. Tissue debridement and removal of persistent soil debris under direct vision was carefully done to avoid iatrogenic injury to the spermatic cord and the vascular structures.

Both testes were thoroughly inspected and an intact tunica albuginea with no evidence of hematoma, rupture, or torsion was noted. The pink colour and good capillary refill of the exposed right testis confirmed viability. The testis was then gently reduced into the scrotal sac and fixed (orchiopexy) to avoid possibility of a future torsion. Tissue repair with absorbable sutures was in anatomical layers beginning from the dartos fascia through to the skin. A Penrose drain that was removed after 48 hours was placed to prevent hematoma or seroma formation. Finally, a light pressure dressing and suspensory support were applied for edema control and to encourage healing.

Postoperatively, pain was managed with analgesic, infection checked by prolonging the broad-spectrum antibiotics administration for further five days. Adequate nursing care with scrotal elevation and wound care were performed daily throughout the period of hospitalization. Outcome was uneventful and discharged on the third postoperative day with instructions on hygiene, avoidance of strenuous activity, and follow-up appointments. A long-term follow-up at three months showed a satisfactory healing and cosmetic outcome.

3. Discussion

Traumatic scrotal evisceration is a rare genitourinary trauma. It often results from blunt perineal impact or penetrating injuries such as machinery accidents, animal bites, or falls astride sharp objects. The elasticity of the scrotum and the efficient cremasteric reflex typically allow for a prompt retraction of the testes in the face of injury, providing it some degree of protection against potential rupture. However, a high-impact force directed to the perineum can lead to avulsion of the scrotal wall while sparing the testes. Previous reports have documented similar mechanisms of injury, often occurring in agricultural or industrial settings where contact with contaminated surfaces increases the risk of infection (Bodiwala et al., 2019; Yadav et al., 2021).

Early presentation and prompt surgical exploration remain the cornerstone of management in scrotal trauma. This enables a timely accurate assessment of testicular viability, hemostasis, and wound decontamination. Ultrasonography is particularly valuable for confirming vascular integrity before and after repair (Bhat et al., 2020). In this case, timely administration of empirical broad-spectrum antibiotics, thorough wound irrigation with normal saline, wound debridement, and layered closure under sterile conditions were crucial for preventing infection and ensuring complete recovery. The absence of testicular rupture despite extensive soft-tissue damage supports earlier documented findings that the testes have remarkable resilience especially when the tunica albuginea remains intact (Nason et al., 2018).

In such injuries, successful outcomes will depend on rapid multidisciplinary coordination involving the emergency, surgical, and radiological teams. Delayed intervention with inadequate debridement can result in hematoma, abscess formation, or necrosis, leading to a life long complication of chronic pain and infertility. Adequate awareness of the potential for severe but surgically repairable scrotal injuries in rural and agricultural populations, is necessary if morbidity must be kept in check. The presented case is a testament that early intervention with a testicular preservation procedure, and strict infection control is key to achieving excellent anatomical, functional and cosmetic outcomes, not minding how dramatic the presentation may have been.

Traumatic scrotal evisceration is a time-sensitive surgical emergency. The likelihood of successful testicular salvage is directly related to the time elapsed between injury and surgical repair. For viable testes, exploration and repair within 72 hours (and ideally within hours) significantly increase the chance of maintaining endocrine and exocrine function.

4. Conclusion

This case highlights the importance of timely and organized management of male genitourinary injuries. Given the high contamination risk associated with agricultural injuries, early antibiotic therapy, meticulous wound debridement, and prompt surgical exploration were key to achieving adequate healing and to preserve testicular function. Pre-intervention imaging with ultrasonography is necessary to guide intraoperative decisions. Awareness of such rare injuries and adherence to strict infection control and layered repair principles are crucial to minimize morbidity. Early, coordinated intervention remains the cornerstone of successful outcomes in traumatic scrotal injuries.

Compliance with ethical standards

Disclosure of conflict of interest

Authors have no conflict of interest

Statement of informed consent

In accordance with international ethical standards, written informed consent was obtained from the patient and securely preserved by the authors.

Authors' contributions

Author 1 led the management team, Authors 2 and 3 coordinated the literature review and manuscript writing. All the authors jointly read and approved the final manuscript.

References

- [1] Olivas R, Uddin S, Chenam A. Blunt Trauma Resulting in Testicular Evisceration: A Case Report. *Cureus*. 2021 Mar;13(3):e14013. [Available at: (Source 1.7 - Case of Evisceration without Rupture)]
- [2] Al Saeedi A, Khalil IA, Omran A, Alobaidy A, Al Ansari A. A Literature Review and Two Case Reports: Is Traumatic Dislocation of the Testes a Surgical Emergency? *Cureus*. 2022 May 2;14(5):e24672. doi: 10.7759/cureus.24672. PMID: 35663688; PMCID: PMC9159640.
- [3] Hsu M-W, Hsieh P-F, Tsai L-H. Traumatic testicular dislocation: a case report and literature review. *Medicine (Baltimore)*. 2022;101:18(e29137). doi:10.1097/MD.00000000000029137.
- [4] Blok D, Flannigan M, Jones J. Testicular Rupture Following Blunt Scrotal Trauma. *Case Rep Emerg Med*. 2019;2019:7058728. doi:10.1155/2019/7058728.
- [5] Mevorach R. A. Scrotal Trauma. *Medscape*. 2019. (Overview article).
- [6] Sivan, K., & Subramaniam, T. (2021). Bilateral testicular evisceration sequel to trauma: challenges of management in emergency departments. *Curr Res Emerg Med*, 1(3), 1-3.
- [7] Iafrate M, Leone N, Mancini M, Prayer T, Bassetto F, Moro FD. Domestic trauma with penile and scrotum skin degloving and testicular avulsion. *J Surg Case Rep*. 2021 May 26;2021(5):rjab175. doi: 10.1093/jscr/rjab175. PMID: 34055285; PMCID: PMC8153698.
- [8] Nicola, R., Carson, N., & Dogra, V. S. (2014). Imaging of traumatic injuries to the scrotum and penis. *American Journal of Roentgenology*, 202(6), W512-W520.
- [9] Patel S. Scrotal trauma: A case report and review of the literature. *Urology Case Reports*. 2019 Jun;25:100913. [Available at: (Source 2.1 - Review of Literature and Complications)]