

Open Scrotal Dog Bite Injuries: A Series of 3 Cases

Mouad El Badr^{1*}, Ayoub Naciri¹, Yassine Daghdagh¹, Adil Kbirou¹, Amine Moataz¹, Mohamed Dakir¹, Adil Debbagh¹, Rachid Aboutaieb¹

¹Department of Urology, CHU Ibn Rochd, Casablanca, Faculty of Medicine and Pharmacy of Casablanca, Hassan II University of Casablanca, Morocco

DOI: <https://doi.org/10.36347/sjmcr.2026.v14i10.018>

| Received: 19.08.2026 | Accepted: 05.10.2026 | Published: 08.10.2026

*Corresponding author: Mouad El Badr

Department of Urology, CHU Ibn Rochd, Casablanca, Faculty of Medicine and Pharmacy of Casablanca, Hassan II University of Casablanca, Morocco

Abstract

Case Report

Introduction: Open scrotal dog bite injuries are rare in urological practice but potentially severe, given the risk of skin loss, testicular injury, and infectious complications, including rabies. Their management remains poorly standardized and is based on limited case series. **Case presentation:** We report three cases of open scrotal trauma caused by stray dog bites, managed at the Department of Urology, CHU Ibn Rochd, Casablanca. The patients were three males aged 19, 29 and 36 years, admitted to the emergency department for a scrotal bite wound, with variable injury severity ranging from a simple skin laceration to testicular exteriorization. Management combined, according to lesion severity, simple skin suture or surgical exploration with debridement and wound edge approximation, systematic tetanus and rabies serovaccination, and antibiotic prophylaxis with amoxicillin-clavulanic acid. Outcome was favorable in all three cases, without testicular loss or infectious complication. **Conclusion:** Scrotal dog bites are a rare urological emergency requiring careful clinical and ultrasonographic assessment for testicular injury, surgical management tailored to lesion grade, and systematic tetanus and rabies prophylaxis. Early surgical exploration should be widely indicated for any complex scrotal wound to optimize testicular salvage and functional and cosmetic outcome.

Keywords: Dog bite; Scrotal trauma; Urological emergency; Rabies prophylaxis; Genital surgery; Case series.

Copyright © 2026 The Author(s): This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC BY-NC 4.0) which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited.

1. INTRODUCTION

Dog bites are a frequent reason for emergency department consultation, but genital and scrotal involvement remains exceptional, estimated at less than 1% of all genitourinary trauma. Dogs are responsible for approximately 80–90% of animal bites managed in hospital settings [1,3]. Scrotal trauma caused by dog bites poses a particular diagnostic and therapeutic challenge, owing to the rich vascularity and mobility of the scrotum, the potentially polymicrobial nature of canine oral flora, and the associated risk of rabies transmission in endemic areas [1].

Clinical presentation is highly heterogeneous, ranging from a simple superficial skin laceration without involvement of the internal genital organs to extensive tissue loss with exposure or even avulsion of the testis or spermatic cord [2,4]. This heterogeneity explains the absence of a unified therapeutic consensus, management having to be tailored case by case according to lesion grade, notably relying on the American Association for the Surgery of Trauma (AAST) organ injury scale [7,8].

Through this series of three cases collected in our department, we report the clinical, paraclinical and therapeutic features of these rare injuries, and discuss management principles in light of recent literature data.

2. CASE PRESENTATIONS

2.1. Case 1

A 29-year-old man, with a history of appendectomy at age 15, presented to the emergency department with an open scrotal injury secondary to a stray dog bite sustained 7 hours earlier. The clinical picture was marked by a painful right scrotal wound without any other associated sign. Clinical examination found the patient conscious, afebrile, and hemodynamically stable. Local examination revealed a 2-cm wound of the right hemiscrotum with irregular edges and moderate skin loss. The ipsilateral testis was palpable, of normal volume and consistency, without notable tenderness.

Scrotal Doppler ultrasound showed no testicular or spermatic cord involvement, confirming tunical

integrity and preserved testicular vascularization. Given the absence of internal genital organ injury, the patient underwent simple skin suture of the wound under local

anesthesia, after minimal wound edge debridement. The postoperative course was uneventful.



Figure 1: Case 1 (29-year-old man) — right hemiscrotal wound with localized skin loss, testis not exposed

2.2. Case 2

A 36-year-old man, with no notable medical history, presented to the emergency department after a stray dog bite to the right hemiscrotum and the anterior right thigh, sustained 4 hours earlier. Clinical examination found the patient conscious and afebrile. Genital examination revealed an open wound of the right hemiscrotum with exposure of the right testis and visibility of the ipsilateral spermatic cord, associated with significant skin loss.

Given the severity of the wound and the exposure of the scrotal contents, the patient underwent surgical exploration in the operating room with surgical debridement. Exploration confirmed the integrity and viability of the right testis and spermatic cord, without associated injury to the tunica albuginea or cord vessels. Conservative debridement and freshening of the skin edges were performed, followed by wound edge approximation and layered closure. The postoperative course was favorable.



Figure 2: Case 2 (36-year-old man) — degloving-type wound of the right hemiscrotum with testicular exteriorization and visible spermatic cord, associated with linear wounds of the right thigh

2.3. Case 3

A 19-year-old young man, with no medical history, was admitted to the emergency department for a

stray dog bite to the right hemiscrotum, sustained one hour earlier. Clinical examination found the patient conscious, afebrile, without signs of hemorrhagic shock.

Local examination revealed skin loss of the right hemiscrotum resulting in exteriorization of the right testis, which appeared macroscopically intact, with no visible injury to the tunica albuginea.

Scrotal ultrasound showed disruption of the outer scrotal layers (dartos and spermatic fascia) without rupture of the tunica albuginea, consistent with a moderate-grade injury according to the AAST classification, without testicular parenchymal involvement. Given the testicular exteriorization and the extent of skin loss, the patient underwent surgical exploration in the operating room, confirming testicular integrity, with debridement of necrotic edges followed by wound edge approximation and layered skin closure.

The postoperative course was uneventful, without early complications.

(Photographic documentation not available for this case in the present publication.)

2.4. Common Management

Regardless of lesion grade, all three patients received standardized prophylactic management: tetanus serotherapy and vaccination, post-exposure rabies vaccination given the stray and unvaccinated status of the attacking dogs, antibiotic prophylaxis with amoxicillin-clavulanic acid for 10 days, and appropriate analgesic treatment. No local or systemic infectious complication, and no sign of rabies, was reported during follow-up.

2.5. Summary Table

Case	Age	Delay	Site / injury	Testicular injury	Imaging	Treatment
1	29 y	7 h	Right hemiscrotal wound, 2 cm, localized skin loss	Testis palpable, intact	Normal Doppler ultrasound	Simple skin suture
2	36 y	4 h	Right hemiscrotum + thigh, testis exposed, cord visible	Testis and cord intact (exploration)	Direct surgical exploration	Exploration, debridement, wound edge approximation
3	19 y	1 h	Right hemiscrotum, testicular exteriorization	Testis intact, tunica albuginea preserved	US: outer layer disruption, intact tunica albuginea	Exploration, debridement, wound edge approximation

3. DISCUSSION

3.1. Epidemiology

Dog bites are among the most frequent causes of traumatic wounds managed in emergency settings, but genital and scrotal involvement remains rare, with head, neck and limb locations remaining largely predominant [1]. In the historical series by Gomes *et al.*, of 10 patients with genital trauma from animal bites, children represented the majority of victims, with a predominance of dog bites [6]. Young men and children, more exposed to contact with stray or poorly controlled dogs, constitute the population at highest risk, consistent with the age of our three patients (19, 29 and 36 years) [1,4,6].

3.2. Injury classification and pathophysiology

The severity of scrotal dog bites is usually described according to the American Association for the Surgery of Trauma (AAST) organ injury scale, which separately grades scrotal and testicular injuries from I to V, ranging from simple hematoma or superficial contusion to complete avulsion or testicular destruction [7,8]. This classification helps guide therapeutic decision-making: low-grade injuries (I-II), as in our first case, are most often managed conservatively, whereas higher-grade injuries with exposure of the scrotal contents, as in our cases 2 and 3, require formal surgical exploration [7].

From a pathophysiological standpoint, dog bites combine a traction-laceration mechanism related to the powerful mandibular pressure of the dog with polymicrobial bacterial contamination (aerobic and anaerobic canine oral flora), exposing patients to a

specific infectious risk distinct from scrotal wounds of other origin [1,4].

3.3. Diagnostic work-up

Scrotal Doppler ultrasound plays a central role in the initial work-up, allowing assessment of tunical integrity, testicular vascularization, and the presence of hematoma or parenchymal disorganization. Bahoosh and Akhavadegan emphasized the importance of systematic imaging, even in the presence of small, benign-appearing scrotal skin lesions, reporting a case of mismatch between a minimal scrotal wound and severe underlying testicular injury not clinically suspected [3]. This finding supports the systematic use of scrotal ultrasound for any genital dog bite, even in the absence of obvious clinical severity signs, as was done for our three patients.

3.4. Therapeutic management

Treatment follows principles common to all bite wounds: copious and prolonged irrigation with saline and antiseptic solution, debridement of devitalized tissue, followed by closure adapted to the extent of tissue loss and the integrity of the internal genital organs. In the absence of testicular injury, as in our first case, simple skin suture after debridement is sufficient [1]. In contrast, in the presence of exposed scrotal contents or significant tissue loss, as in our cases 2 and 3, formal surgical exploration in the operating room is recommended, allowing verification of tunical and cord integrity, conservative debridement, and closure by wound edge approximation, or more complex reconstruction in cases of major tissue loss [2,5].

In the most severe forms, not represented in our series, such as complete testicular avulsion reported by Boughaleb *et al.*, or penoscrotal degloving injuries described in an infant by Mucunguzi *et al.*, multidisciplinary management involving urologists and plastic surgeons may be required, with delayed reconstruction techniques such as skin grafting or flaps [2,5]. The testicular salvage rate reported in the literature remains generally satisfactory when surgical exploration is early, particularly when the tunica albuginea is preserved, as observed in our three patients [7].

3.5. Tetanus and rabies prophylaxis

Tetanus prophylaxis should be systematic for any bite wound, according to the patient's vaccination status. Post-exposure rabies prophylaxis, in turn, should be discussed on a case-by-case basis according to the World Health Organization (WHO) classification, which distinguishes three exposure categories. A transdermal bite from a stray animal or one of unknown vaccination status, as in our three cases, corresponds to a category III exposure, requiring prolonged wound washing for at least 15 minutes, immediate rabies vaccination, and administration of rabies immunoglobulin when available [9,10]. Genital bites are, moreover, considered — along with bites to the face, neck, and hands — as high-risk sites warranting particularly rigorous prophylactic management [9].

3.6. Prognosis and follow-up

The functional and cosmetic prognosis of scrotal dog bites is generally favorable when management is early and adapted to lesion grade, with high testicular salvage rates and good wound healing in most cases [1,6]. Medium-term follow-up remains recommended, however, as some authors have reported the secondary onset of chronic post-traumatic scrotal pain, even after an initially benign injury with a simple early course, which justifies informing patients of this risk and ensuring clinical reassessment at a distance [1].

4. CONCLUSION

Open scrotal dog bite injuries constitute a rare but potentially serious entity, with highly variable clinical presentation. Our series illustrates this spectrum of severity, ranging from a simple skin wound to testicular exteriorization, and highlights the value of systematic clinical and ultrasonographic assessment, surgical management graded according to internal genital organ involvement, and rigorous tetanus and rabies prophylaxis. Greater awareness of this condition among emergency and urology teams, together with the publication of additional case series, would help to better standardize its management.

Conflicts of Interest Statement

The authors declare no conflicts of interest related to this work.

Patient Consent

Written informed consent was obtained from each patient (or their legal representative where applicable) for the publication of anonymized clinical and photographic data for scientific and educational purposes.

Authors' Contributions

All authors contributed to patient management, data collection, manuscript drafting and critical revision, and approved the final version submitted for publication.

REFERENCES

1. Maachi Y, Boustani A, Lalaoui AS, Slaoui A, Karmouni T, Koutani A, Elkhader K. Isolated scrotal skin laceration following dog bite complicated by post-traumatic chronic scrotal pain: a case report. *Trauma Case Rep*. 2026;64:101390.
2. Boughaleb A, Tariqi R, El Bote H, *et al.*, An unusual etiology of testicular avulsion: a case report. *Int J Surg Case Rep*. 2024;121:109942.
3. Bahoosh M, Akhavadeghan H. Scrotal dog bite and mismatch between the skin and testis injury: a case report and review of literature. *Clin Exp Emerg Med*. 2022;9(1):67-69.
4. Karataş B, Kapı E. An unusual etiology of a scrotal dog bite injury and review of the literature. *Ulus Travma Acil Cerrahi Derg*. 2022;28(4):549-553.
5. Mucunguzi D, Atwine O, *et al.*, Management of severe penile and scrotal degloving injury following dog bite in an infant: a case report. *Clin Case Rep*. 2026 [Epub ahead of print].
6. Gomes CM, Ribeiro-Filho L, Giron AM, Mitre AI, Figueira ERR, Arap S. Genital trauma due to animal bites. *J Urol*. 2001;165(1):80-83.
7. Mohr AM, Pham AM, Lavery RF, Sifri Z, Bargman V, Livingston DH. Management of trauma to the male external genitalia: the usefulness of American Association for the Surgery of Trauma organ injury scales. *J Urol*. 2003;170(6 Pt 1):2311-2315.
8. Moore EE, Malangoni MA, Cogbill TH, Jurkovich GJ, Champion HR, Gennarelli TA, *et al.*, Organ injury scaling VII: cervical vascular, peripheral vascular, adrenal, penis, testis, and scrotum. *J Trauma*. 1996;41(3):523-524.
9. World Health Organization. Rabies [fact sheet]. Geneva: WHO; 2024 [cited 2026 Sep 8]. Available from: <https://www.who.int/news-room/fact-sheets/detail/rabies>
10. World Health Organization. Rabies vaccinations and immunization. Geneva: WHO [cited 2026 Sep 8]. Available from: <https://www.who.int/teams/control-of-neglected-tropical-diseases/rabies/vaccinations-and-immunization>