

Unilateral Testicular Enlargement in a Ram Treated with Bilateral Orchidectomy and Scrotal Ablation: A Case Report

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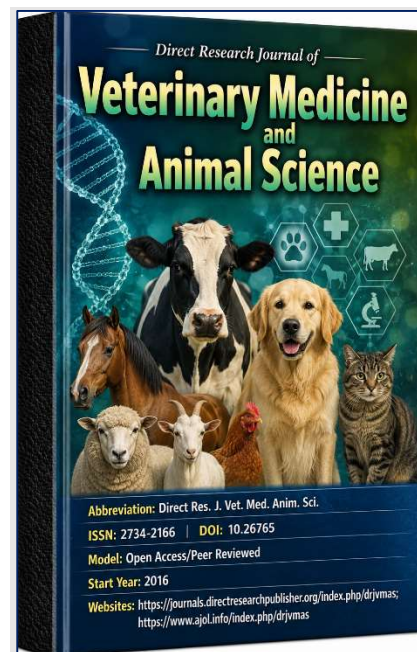
Case Report

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ABSTRACT

Tropical Unilateral testicular enlargement in rams is an uncommon clinical condition that may arise from inflammatory, traumatic, neoplastic, or congenital disorders and can severely compromise animal welfare and reproductive performance when left untreated. This case report describes the successful surgical management of a chronic unilateral testicular enlargement in a 2-year-old Uda ram presented to the Veterinary Hospital Complex, Ita-Eko, Abeokuta, Nigeria, with a two-month history of progressive enlargement of the left hemiscrotum. The swelling had progressively increased until it reached the ground, causing impaired locomotion and predisposing the animal to repeated trauma (Figure 1). Clinical examination revealed a bright, alert ram with normal physiological parameters, while physical examination demonstrated a markedly enlarged unilateral scrotum and a contralateral testis that appeared normal on palpation. Differential diagnoses included hydrocele, haematocele, chronic orchitis/orchiepididymitis, testicular neoplasia, and scrotal hernia. Owing to financial constraints, ancillary diagnostic procedures, including ultrasonography and histopathology, were not performed. Surgical intervention was therefore elected based on clinical findings. Although unilateral orchidectomy was initially planned, intraoperative assessment revealed extensive vascular involvement and difficulty in safely isolating the affected structures, necessitating conversion to bilateral orchidectomy (Figure 2). Because of the excessive scrotal enlargement and redundant tissue, complete scrotal ablation was simultaneously performed to facilitate wound healing and improve postoperative recovery (Figure 3). The excised testes demonstrated marked asymmetry consistent with the gross pathological findings observed during surgery (Figure 4). Postoperative treatment consisting of antibiotics, anti-inflammatory therapy, tetanus prophylaxis, supportive care, and routine wound management resulted in uncomplicated healing, with no evidence of haemorrhage, infection, or wound dehiscence. The ram maintained normal appetite and activity throughout recovery and was discharged in stable condition after one week. This case demonstrates that bilateral orchidectomy combined with scrotal ablation can provide an effective surgical solution for severe chronic unilateral testicular enlargement when advanced diagnostic facilities are unavailable. It further highlights the importance of timely surgical intervention and illustrates a practical management approach for chronic scrotal disorders in resource-limited veterinary practice.

Keywords: Uda ram, unilateral testicular enlargement, bilateral orchidectomy, scrotal ablation, case report, veterinary surgery, resource-limited practice



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INTRODUCTION

Scrotal and testicular enlargement in rams may arise from a variety of pathological conditions, including orchitis, epididymitis, hydrocele, haematocele, inguinal hernia, testicular torsion, neoplasia, and traumatic lesions (Ahmed *et al.*, 2022; Zehri *et al.*, 2021). Chronic enlargement can significantly impair locomotion, predispose affected animals to injury and secondary infection, and negatively impacts reproductive performance.

Scrotal enlargement in rams represents an important clinical and economic concern in sheep production systems because the testes play a central role in fertility and breeding efficiency. Conditions affecting the testes and associated structures can result in reduced sperm production, impaired libido, infertility, and eventual culling of affected breeding animals. In extensive management systems, testicular abnormalities often remain unnoticed until they become advanced, resulting in substantial enlargement and associated welfare concerns (Chenoweth, 2005).

Consequently, routine reproductive examinations are recommended for early detection of abnormalities affecting testicular function and structure. Hydrocele, characterized by abnormal accumulation of serous fluid within the tunica vaginalis, is one of the recognized causes of scrotal enlargement in rams and other domestic animals. The condition may develop secondary to trauma, inflammation, congenital defects, impaired lymphatic drainage, or testicular torsion. Chronic hydroceles can attain considerable size, causing discomfort, interference with locomotion, and degeneration of testicular tissue due to prolonged pressure effects (Fowler & Olander, 2019). Similarly, haematocele, which involves accumulation of blood within the vaginal cavity, may occur following traumatic injury, vascular rupture, or surgical complications and may clinically resemble hydrocele or neoplastic conditions.

Inflammatory diseases of the testes and epididymis are among the most frequently reported causes of scrotal swelling in ruminants. Orchitis and epididymitis may result from bacterial infections such as *Brucella ovis*, *Actinobacillus seminis*, *Histophilus somni*, *Corynebacterium pseudotuberculosis*, and other opportunistic pathogens. Chronic inflammatory changes may lead to fibrosis, abscess formation, enlargement of the affected testis, and permanent impairment of reproductive capacity (Menzies, 2012). In endemic regions, these conditions constitute important causes of infertility and economic losses in sheep enterprises.

Although less common than inflammatory disorders, testicular and paratesticular neoplasms have also been documented in domestic animals and should be considered in cases of persistent unilateral enlargement. Neoplastic lesions may include seminomas, Sertoli cell tumors, Leydig cell tumors, many of which present as painless progressive enlargement of the testis (Foster, 2016). Distinguishing these conditions from inflammatory

and fluid-filled lesions often requires ultrasonographic evaluation, cytology, or histopathological examination. When severe enlargement results in compromised mobility, chronic pain, recurrent trauma, or irreversible testicular damage, surgical intervention becomes necessary. Orchidectomy remains the treatment of choice for many advanced testicular disorders and may be performed either unilaterally or bilaterally depending on the nature and extent of the lesion. Preservation of reproductive function is generally desirable in valuable breeding animals; however, extensive vascular involvement, severe tissue distortion, or uncertainty regarding the underlying pathology may necessitate more radical surgical procedures to ensure complete resolution of the condition and prevent postoperative complications (Fubini & Ducharme, 2017). Orchidectomy in small ruminants is commonly performed for reproductive management and treatment of severe testicular diseases. In unilateral cases, preservation of the contralateral testis is generally preferred to maintain breeding potential. However, intraoperative findings such as extensive vascular involvement, anatomical distortion, or compromised tissue viability may necessitate bilateral orchidectomy (Mikhail *et al.*, 1988).

This report describes the surgical management of a ram with chronic unilateral scrotal enlargement using bilateral orchidectomy and scrotal ablation under field-constrained conditions.

CASE PRESENTATION

A 2-year old Uda ram was presented to the Veterinary Hospital Complex, Ita-Eko, Abeokuta, Ogun State, Nigeria on 10th February, 2026 with a history of progressive unilateral scrotal enlargement over a two-month period. The owner reported that the swelling was initially small but gradually increased in size until it reached the ground (Figure 1). There was no history of trauma, infection, or prior treatment. On clinical examination, the ram was bright, alert, and responsive with normal appetite and activity levels. Vital parameters were within normal physiological limits. Physical examination revealed a markedly enlarged, pendulous scrotum on one side, extending to the ground level. The contralateral testis appeared normal on palpation. Based on physical findings, differential diagnoses included: Hydrocele, Haematocele, Chronic orchitis/orchiepididymitis, Testicular neoplasia and scrotal hernia. Due to financial limitation, further diagnostic investigations such as ultrasonography, fine needle aspiration and histopathological examination were not performed. Consequently, a definitive diagnosis could not be established and the clinical diagnosis remained based on history, physical examination findings, and intraoperative observations. Considering the severity of the condition and its impact on mobility and welfare, surgical intervention was elected with owner's consent.



Figure 1: Showing Unilateral Testicular Enlargement of A 2 Year OLD Uda RAM, Reaching the Ground



Figure 2: Showing the Performance of Bilateral Orchidectomy in A 2 Year Old UDA Ram With Unilateral Testicular Enlargement

Surgical Management

The ram was adequately restrained and sedated. Local anesthesia was achieved using infiltration of 2% lidocaine around the spermatic cord and planned incision site. Unilateral orchidectomy was initially planned to remove the affected testicle while preserving the contralateral testis. However, intraoperative findings revealed extensive vascular involvement and significant difficulty in

isolating the affected structures. These findings increased the risk of haemorrhage and made unilateral excision impractical (Figures 2 & 4). Due to the excessive size of the scrotum and marked tissue redundancy, scrotal ablation was also performed to facilitate wound healing and improve postoperative outcomes (Figure 3). Routine closure was performed, and the surgical site was managed aseptically.



Figure 3: Showing a 2 Year Old Uda Ram after Bilateral Orchidectomy and Scrotal Ablation

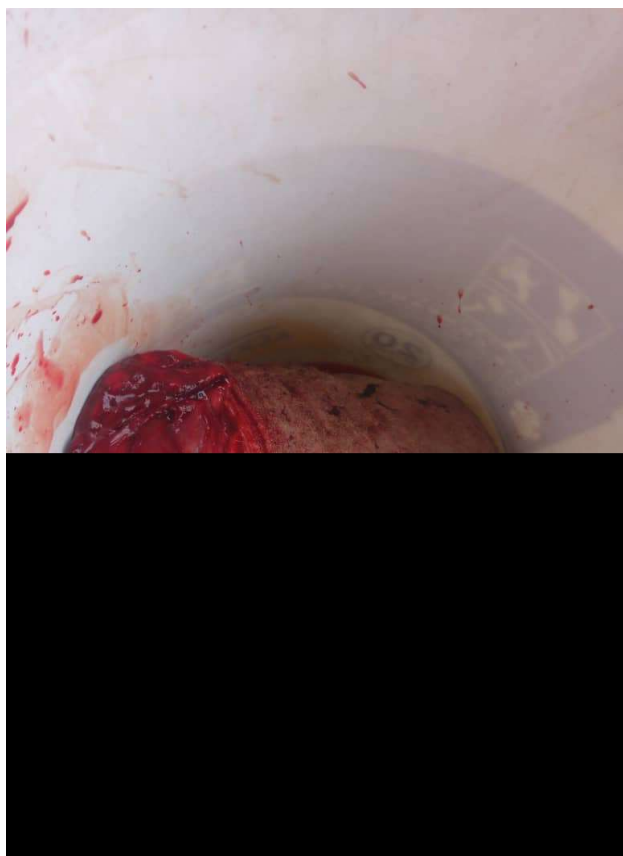


Figure 4: Showing the Excised Testicles of a Uda Ram after Bilateral Orchidectomy

Postoperative Care

Postoperative management included: Ceftriaxone (10mg/kg intravenous for 5 days, Dexamethasone (intramuscular) for 2 days, Tetatus toxoid (0.5mL), supportive therapy including multivitamins. The surgical site was cleaned daily, and the animal was closely monitored. Healing progressed without complications such as hemorrhage, infection, or wound dehiscence. The ram maintained normal appetite and activity throughout recovery. The patient was discharged after one week (13/2/26) in stable condition, with instructions for continued wound monitoring.

DISCUSSION

Unilateral scrotal enlargement in rams may result from a range of chronic conditions, including hydrocele, hematocele, orchitis, neoplasia, or trauma. In this case, the gradual progression over two months and absence of systemic illness suggested a localized chronic condition rather than an acute inflammatory process. Similar observations were reported by Ahmed *et al.*, (2022), who noted that severe testicular pathology may advance considerably before systemic compromise becomes clinically evident.

Despite the severity of the swelling, the ram remained clinically stable, which is consistent with reports that chronic scrotal conditions may progress significantly before systemic signs become evident (Zehri *et al.*, 2021).

The favourable postoperative outcome in the present case agrees with recent reports describing successful orchidectomy in animals with advanced testicular pathology. Ahmed *et al.* (2022) reported complete recovery following orchidectomy for severe testicular necrosis, while Omran *et al.* (2023) emphasized the importance of timely surgical intervention in preventing complications associated with chronic testicular disease. Likewise, Dejman *et al.* (2025) documented successful management of advanced Brucella orchitis through orchidectomy after conservative therapy was considered unlikely to preserve testicular function. Similar to these reports, surgical intervention in the present case resulted in uncomplicated wound healing and restoration of normal activity.

Preservation of the unaffected testis is generally is generally preferred in breeding animals; however, intraoperative findings in this case necessitated bilateral orchidectomy. Extensive vascular involvement and anatomical distortion increased surgical risk and justified modification of the initial surgical plan. Such intraoperative decision making is well documented in similar cases (Mikhail *et al.*, 1988).

Scrotal ablation was performed due to the extreme enlargement and redundancy of scrotal tissue. Large pendulous swellings predispose animals to trauma, contamination, and impaired locomotion. In such cases, simple orchidectomy, simple orchidectomy without scrotal

ablation may result in poor functional and cosmetic outcomes.

A limitation of this case was the absence of ancillary diagnostic procedures such as ultrasonography, fluid analysis, or histopathology, which would have allowed definitive diagnosis. However, this reflects common constraints in field practice. The successful clinical outcome suggests that the chosen surgical approach was appropriate. Early recognition and prompt surgical management of chronic scrotal enlargement remain important to reduce complications and improve animal welfare (Omran *et al.*, 2023; Dejman *et al.*, 2025).

Conclusion

This case demonstrates successful management of massive unilateral scrotal enlargement in a ram using bilateral orchidectomy and scrotal ablation. Although, unilateral orchidectomy was initially intended, intraoperative findings necessitated bilateral removal to ensure surgical safety. Early intervention in chronic scrotal conditions is essential to prevent complications and improve animal welfare, particularly in resource-limited settings.

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Credit Authorship Contribution Statement:

Okunowo, O.O and Alabi, M.M wrote the draft manuscript. All other authors reviewed and approved the final manuscript for submission and peer review before final publication by this journal.

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