



ISSN: 2456-2912

VET 2021; 6(6): 08-10

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www.veterinarypaper.com

Received: 07-09-2021

Accepted: 09-10-2021

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Unilateral scrotal hernia in a Balami Ram, surgical management: Case report

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DOI: <https://doi.org/10.22271/veterinary.2021.v6.i6a.387>

Abstract

In an effort to manage a case of unilateral scrotal hernia in a 3-year old Balami ram which was presented to the Veterinary Teaching Hospital, University of Maiduguri Nigeria, physical examination revealed massive swollen right scrotum (50 cm in circumference) compared to the left scrotum (20.4 cm in circumference). Clinical examination revealed the presence of the hernia ring. Trans-scrotal ultrasound further confirmed the presence of intestinal loops and fluid accumulation in the *Tunica vaginalis*. Surgery (herniorrhaphy) was performed following standard preoperative preparations. 0.1mg/kg xylazine intramuscularly was administered for sedation and 2% lidocaine HCL for regional anaesthesia around the inguinal region. Unilateral orchiectomy was performed. Postoperative care using 100mg flunixin-meglumine intramuscularly and penicillin-streptomycin 10 000 IU was instituted. Postoperative prophylaxis with 15000 IU of antitetanus serum was administered, animal recovered with no complication.

Keywords: Balami Ram, hernia, herniorrhaphy, ultrasound, flunixin-meglumine

Introduction

Scrotal hernia is a rare disorder in small ruminants (Robert, 1988) [7]. It forms as an extension of inguinal hernia, when the abdominal organs protrude through an enlarged inguinal ring into the scrotum (Al-Sobayil and Ahmed, 2007) [2]. Typically, hernias consist of three parts; foremost, a hernia sac formed by the skin, subcutaneous tissue and invaginated peritoneum. Secondly hernia contents which usually comprises a loop of bowel or omentum or both or rarely other viscera and thirdly a hernia ring or orifice, an opening in the abdominal wall which may be natural or acquired through which hernia content protrude (Nelson, 1988; Hassan, 2008) [6, 5]. In most cases, scrotal hernia is acquired, usually caused by trauma such as horn injury in group-housed males. However, Dennis and Leipold (1968) [3] described two congenital scrotal hernias in lambs found at necropsy. In addition to physical examination, plain or contrast radiography and trans-scrotal ultrasonography can be used in the diagnosis of scrotal hernia in sheep and goats (Ahmed *et al.*, 2000; Abdin-Bey and Ramadan, 2001) [1].

Case history

A 3-year old Balami ram was presented to the Veterinary Teaching Hospital, University of Maiduguri, with a major complaint of the animal having a large swollen right scrotum (Figure 1) with an abnormal gait which is often exhibited as splayed legs of the hindlimbs.

Clinical investigation

Physical examination revealed massively enlarged right scrotum which was highly distended (Figure 2) measuring 50 cm in circumference than the left scrotum 20.4 cm in circumference. The animal was gently placed on dorsal recumbency with the space occupying mass (intestinal loops and fluid) pushed back into the abdominal cavity via a hernial ring. Further clinical investigation using trans-scrotal ultrasonography revealed some areas of hyperechogenicity of loop-like structures (indicating the presence of intestines) as well as hypoechogenic area (indicating fluid) in the vaginal tunic of the scrotum (Figure 3).



Fig 1: The ram presented



Fig 2: Swollen right scrotum



Fig 3: Scrotal Ultrasound

Pre-surgical evaluation

Physiological parameters (temperature, pulse and respiratory rates) were within the normal range. The mucous membrane was pinkish. Feed and water were withheld for 12 and 6 hours respectively. The inguinal region was aseptically prepared for surgery. 2% xylazine (Xylazin®, Gandhibagh, Nagpur, India) at 0.1 mg/kg intramuscularly was administered for sedation which was followed by a regional block of 2 ml of 2% lidocaine (Xylocaine® Naman pharma drugs, Mumbai-2 India) to achieve regional anaesthesia.

Surgery

The ram was gently restrained on its left lateral recumbency. A linear skin incision about 5 cm was made on the right scrotum which was followed by a gentle blunt incision into the vaginal tunic. Heavy mass of intestinal loops as well as large quantity of fluid were seen. The fluid was gently drained exposing the hernia ring. The herniated intestinal loops were gently retracted back into the abdominal cavity. The affected testicle was exteriorized and its spermatic cord was double ligated using chromic catgut size 1 and transected. The hernia ring was closed with an umbilical tape using simple interrupted suture pattern. Excess loose skin and *Tunica vaginalis* of the affected scrotum were trimmed off to eliminate dead space. The scrotal skin was sutured with Nylon size 1 using Ford interlocking suture pattern. The animal was left with one testicle for breeding purposes (figure 4).



Fig 4: Left testicle after orchiectomy

Post-operative care

Analgesia was achieved postoperatively with intramuscular administration flunixin-meglumine 50mg/ml (Bremafluxin® Germany) for 3 days and Penstrep® Penicillin Dihydrostreptomycin 200/250mg/ml (KEPRO® Holland) Injection intramuscularly for 5 days was used to prevent possible post-operative infection.

The suture was removed at 10 days post-surgery. The recovery of the animal was uneventful and was reintegrated into the flock.

Discussion

Scrotal hernia is a rare occurring defect because the anatomic narrowing of the vaginal tunic within the neck of the scrotum normally prevents the bowels from descending into the

scrotum (Gilbert and Fubini, 2004) ^[4]. Scrotal hernia in small ruminants in particular is a rare defect as reported by Roberts (1988) ^[7], even though inguinal hernia is relatively common in bulls, boars and rams (Al-Sobayil and Ahmed, 2007) ^[2]. Inguinal hernia develops when loops of intestines or other abdominal organs protrude through a defective inguinal ring into the inguinal canal. When the protrusion of abdominal organs extends into the scrotum, a scrotal hernia is formed (St Jean, 1995) ^[8]. Although, Al-Sobayil and Ahmed (2007) ^[2] stated that most reported cases of abdominal hernia in food producing animals are associated with trauma arising from horns of other animals. This appeared to be the most common cause of such hernia.

The left scrotum appears to be the primary site for scrotal hernia in rams and mature bulls, probably as a result of the increased pressure of the rumen's weight, or lying in a sternal position with the left rear leg abducted (Gilbert and Fubini, 2004; Al-Sobayil and Ahmed, 2007) ^[4, 2]. However, this is not applicable to this case presented as unilateral scrotal hernia affecting the right side of the scrotum has also been described in lambs, young bucks and rams (Abdin-Bey and Ramadan, 2001; Al-Sobayil and Ahmed, 2007) ^[1, 2]. This may be attributed to blunt trauma arising from horn injury.

Conclusion

Herniorrhaphy and unilateral orchiectomy are surgical management procedures of choice in sound breeding rams with good recovery outcome.

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