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Surgical Management of Traumatic Testicular Evisceration in a Rabbit (*Oryctolagus cuniculus*)

Khan Sharun*, Kalaiselvan E., Amitha Banu S., Manjusha K.M., A.M. Pawde, S.K. Maiti and Amarpal

Division of Surgery, ICAR-Indian Veterinary Research Institute, Izatnagar, Bareilly, Uttar Pradesh, India

*Corresponding author: sharunkhansk@gmail.com

ABSTRACT

Traumatic testicular evisceration is not an uncommon condition in rabbits (*Oryctolagus cuniculus*). In order to attain dominance among mates, leporids exhibit territorial aggression which often lead to trauma among the cage mates. Testicular evisceration can be either unilateral or bilateral. Surgical management is considered as the pertinent method of correcting traumatic testicular evisceration. An eight-month old rabbit buck weighing 1.8 Kg was brought with the history of left testicle evisceration as a consequence of attack from the cage mate. Unilateral orchiectomy was performed under general anesthesia for the surgical removal of eviscerated left testicle. Post-operative management included antibiotics and anti-inflammatory drugs for a period of 3 days. The rabbit made an uneventful recovery.

Keywords: Surgical management, Trauma, Evisceration, Testis, Rabbit, *Oryctolagus cuniculus*

Traumatic injuries in mammals are common and often results in varying degrees of superficial or deep wounds depending on the type of injury occurred (Kumar *et al.* 2016). The lanky skin of scrotal sac is prone to traumatic torsion. As a sequel of tear in scrotal skin, evisceration of the testicle occurs in the affected side (Nurhusien *et al.* 2015). In order to attain dominance among mates, leporids exhibit territorial aggression which often lead to trauma among the cage mates. Testicular evisceration can be either unilateral or bilateral in nature (Bradley *et al.* 2006).

Rabbits have hairless scrotal sacs called as the hemiscrotal sacs. These sacs are separated and is located in the inguinal region, cranial to prepuce and ventral to anus. A characteristic anatomic feature in rabbit is that the inguinal canal remains open throughout life, so that the elongated testicles glides freely along the inguinal canal (Lennox, 2008). Following the torsion, reperfusion injuries develop, consequently damaging both ipsilateral and contralateral testicles due to the generation of reactive oxygen species (Anim *et al.* 2005).

The present paper aims to reports a case of testicular evisceration secondary to trauma in a rabbit and its successful surgical management by orchiectomy.

Case history and Clinical findings

An eight-month old, intact male rabbit was presented to Referral Veterinary Polyclinic, Indian Veterinary Research Institute, Izatnagar with history of eviscerated left testicle along with spermatic cord as a consequence of fighting between the cage mates that occurred a few hours before. On examination, the left testicle was found to be exposed, enlarged and hanging from scrotal sac without any bleeding. Right testicle was found to be intact and without any secondary damage. Upon physical examination, rabbit was found to be active and alert. All the

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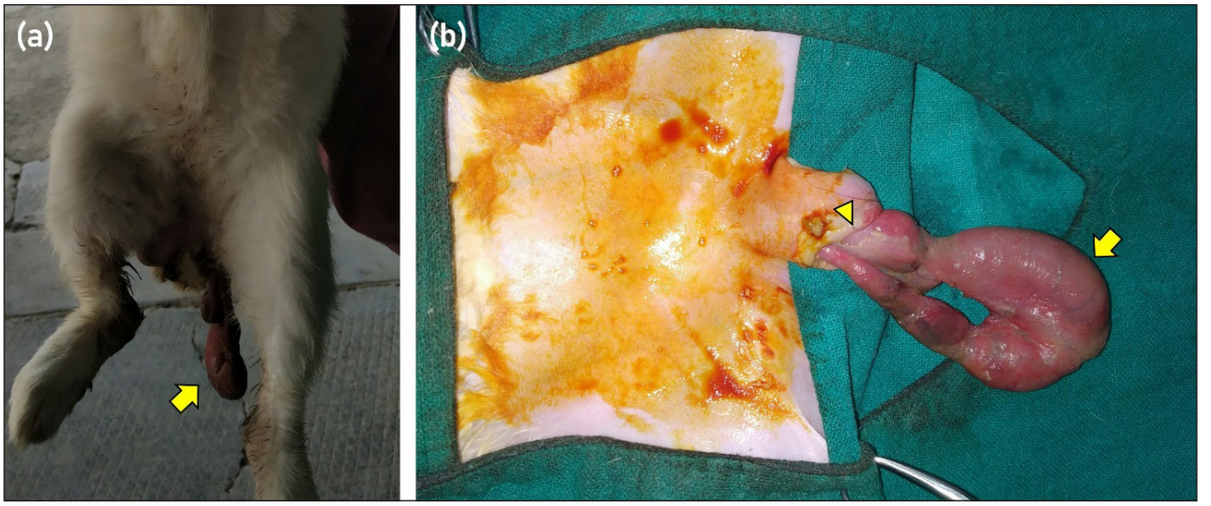

Fig. 1: **(a)** Rabbit presented with testicular evisceration (arrow); **(b)** Pre-operative image of the enlarged eviscerated testis (arrow) and the point of evisceration (arrow head)

physiological parameters were within normal range.

Based on history and physical findings, the case was diagnosed as unilateral traumatic evisceration of left testicle. It was decided to manage the case surgically by performing unilateral orchiectomy under general anesthesia.

Treatment

The rabbit was prepared for aseptic surgery. The wound on the eviscerated left testicle was cleaned using antiseptics, debrided, and prepared for surgery. Xylazine was given at the rate of 5 mg/kg body weight intramuscularly as pre-anesthetic medication. After 10 minutes general anesthesia was induced using Ketamine hydrochloride at the rate of 50 mg/kg body weight intramuscularly. The animal was positioned in dorsal recumbency and the surgical area was prepared aseptically. The spermatic vessels were ligated in standard protocol and the eviscerated testis was transected and removed. The excess of hemiscrotal sac was also ablated. For preventing post-surgical herniation, vaginal tunic was closed using polyglactin 910 (3-0) in horizontal mattress pattern. The skin edge of the hemiscrotal sac was apposed using nylon (3-0) in simple interrupted suture pattern.

Post operatively animal was treated with antibiotic enrofloxacin at 5 mg/kg body weight q24h intramuscularly and anti-inflammatory agent meloxicam 0.2 mg/kg body weight q24h intramuscularly for three days. Owner was advised to provide probiotic tablets for a period of 5 days. The skin sutures were removed on 12th post-operative day. The rabbit made an uneventful recovery without any complications.

DISCUSSION

After attaining sexual maturity in rabbit buck at about 4-6 months of age, they often exhibit dominance through aggressive behavior. Hence, it is not usually advised to keep two male rabbit together in a cage (Bradley *et al.* 2006). Descend of testicles in case of rabbits begins at 10-12 weeks of age. The preferred age for castration or orchiectomy in rabbits is about 4-6 months. In cases of traumatic evisceration of testis, the best method employed for management is orchiectomy or castration (Vella and Donnelly, 2012). Since rabbits sits on its inguinal area,

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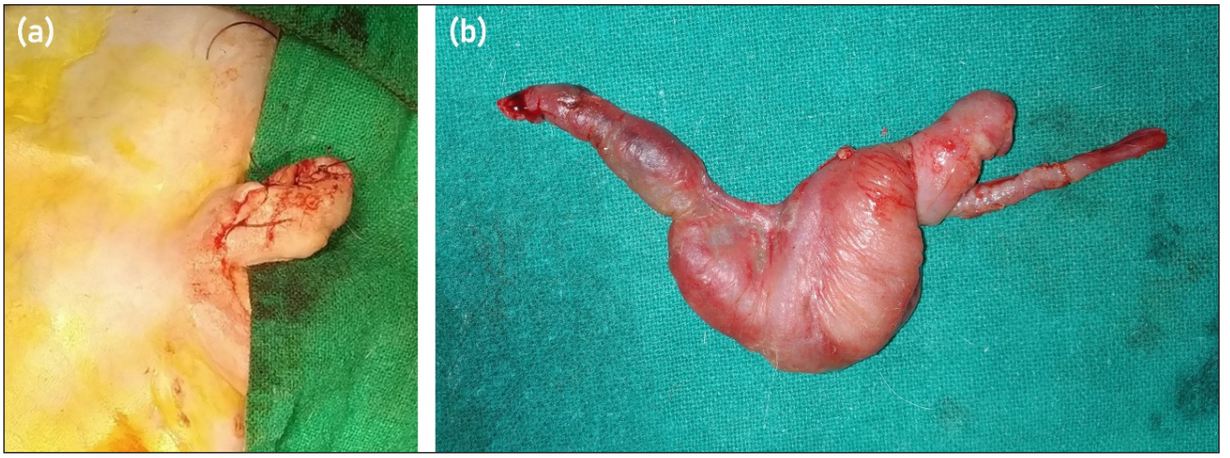

Fig. 2: **(a)** Post-operative image of the scrotum after the skin suture; **(b)** The left testis that was removed by orchiectomy

apposition of the scrotal sac is mandatory after castration (Nurhusien *et al.* 2015). Antibiotic administration in rabbits are associated with certain risks due to their unusual digestive system. Some of the antibiotics adversely affect the intestinal microflora which are essential for the process of digestion in rabbits. So, administration of antibiotics should be always clubbed with probiotics.

CONCLUSION

Time of presentation is an important factor that helps us to choose between unilateral or bilateral orchiectomy for the management of testicular evisceration. In case of early presentation, the condition can be managed with unilateral orchiectomy alone as there is minimal damage to the contralateral testicle. While in prolonged cases, bilateral orchiectomy is advised due to the extensive damage produced. Sound knowledge about anatomy, physiology, and the behavior of rabbits is essential for the proper diagnosis, treatment, management, and prevention of such condition.

Compliance with the ethical standard

Conflict of interest: The authors declare that they have no conflict of interest.

Ethical approval: This article does not contain any studies with human or animal participants performed by any of the authors. All protocols followed were as per the guidelines from the standard textbooks in Veterinary Medicine and Surgery and were ethical.

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