Original Research Article

Surgical Management of Prepucial Prolapse in 6 – Male Breeding Bulls

Abstract

6 - Malebreeding bulls were presented to VCC of CVAS Bikaner with the history of traumatic injury to prepuce followed by its contamination and infection. All the six breeding bulls under study had common anatomical/structural deformities of the preputial sheath and IV degree prolapse. Initially medical/clinical management was carried out in all bulls to reduce the swelling and infection. The animals were medicated with injection Streptopenicillin 5.0 g IM; injection Meloxicam @ 0.2 mg/kg IM and antiseptic dressing of the prepuce was done with 5 % solution of Povidone iodine. Preputial prolapse was repaired successfully via circumcision technique. All bulls were given sixty days of sexual rest after treatments to prevent further injury and reoccurrence of the preputial prolapsed condition. No post-operative complications and recurrence were recorded.

Introduction

Prolapse of the prepuce is a serious condition in the breeding bull. These preputial injuries occures more frequently in Bos indicus or Bos indicus cross bulls because of their tendency to have a longer preputial sheath and excessive preputial skin predisposes them to injury. There are four categories of pruputial prolapse; Grade I: simple prolapse with slight to moderate edema without laceration, necrosis or fibrosis, Grade II: moderate to severe edema may have superficial laceration or slight necrosis, but no evidence of fibrosis, Grade III: severe edema with deep laceration, moderate necrosis, and slight fibrosis and Grade IV: chronic prolapse with severe edema, deep laceration, severe necrosis and fibrosis with or without abscessation (Prado and Morgan, 2002). According to (Vadalia et al., 2020), traumatic injury to prepuce followed by its contamination is the main cause for the preputial prolapse in breeding bulls.

Chronic prepucealprolapse leads to injury of parietal layer of the prepuce of bulls which is associated with increased incidence of infections and subsequent permanent prolapse and it can lead to induration and constriction of the preputial orifice (Donaldson and Aubrey, 1960; Hofmeyr, 1968). These bulls are refuses the mating because of pain caused by erection and protrusion of the penis (Zemjanis, 1962). There are various techniques for

surgical correction of the prolapsed prepuce have been developed (Hofmeyr, 1968).The surgical repair of preputial laceration following establishment of a healthy bed of granulation tissue in the preputial laceration the damaged tissue may be removed if it obvious that excessive scar tissue or wound contracture prohibits normal penile extension. The surgery consists of resection and anastomosis of the damaged tissues and apposition of healthy skin margins. Bulls undergoing surgery should have at least 60 days sexual rest prior to resuming breeding (C. Armstrong2021)..

Materials and method

All the six breeding bulls presented with common anatomical/structural deformities of the preputial sheath and IV degree prolapse.Initially medical/clinical management was carried out in all bulls to reduce the swelling and infection. The animals were medicated with injection Streptopenicillin 5.0 g IM; injection Meloxicam @ 0.2 mg/kg IM and antiseptic dressing of the prepuce was done with 5 % solution of Povidone iodine. Before surgery all bulls were kept off-fed and water for 24 hrs. All were sedated with xylazine @ 0.2 mg/kg body weight and epidural anaesthesia was done by using 10 ml Lignocaine HCL. All the bulls were restrained in lateral recumbency and then close clipping of prepucial hairs was done, and the preputial cavity was irrigated with antiseptic solution (5 % solution of Povidone iodine). The external layer of the prepuce was thoroughly scrubbed in the same solution to remove the necrotic debris from the ulcerated areas. A snuggly Intravenous (IV) set tube was placed inside the lumen of prolapsed prepuce and then a tourniquet was then tied around the prepuce just proximal to proposed area of incision. 10-15 mL of 2% Lignocaine hydrochloride was infiltrated around the prepuce. The external and internal preputial layers were sutured with the help of no. 1 polygalactin 910 (vicryl) along the intended resection line by simple interrupted sutures then after ligation of blood vessels, a circumferential was made around the base of prolapsed prepuce and prepuce was amputated distal to the sutures. Both the internal and external layers of prepuce were sutured together with the help of no. 1 polygalactin 910 (vicryl) by simple continuous pattern. Tourniquet and IV tube were removed. Post-operatively, injection Streptopenicillin 5.0 g IM; injection Meloxicam @ 0.2 mg/kg IM and antiseptic dressing of the prepuce were done with 5 % solution of Povidone iodine. Daily flushing of preputial cavity with Povidone iodine was done. Skin sutures were removed on 12th post-operative day and the bull was given complete sexual rest for 2 months. Recovery was uneventful in all the cases with no post-operative complications.

Result and Discussion

In present study all the cases were recovered without any complication. Preputial problem is one of the most common abnormal conditionwhich adversely affects penile protrusion and copulation (Arthur et al., 1996). Chronic IV grade preputial prolapse with edema, fibrosis and necrosis requires immediate surgical intervention. In this study, in all the cases the prolapsed preputial tissue was removed surgically through circumcision with no any post-operative complication. Baxter et al. (1989) also reported 76% return to breeding soundness in bulls which were treated by circumcision method. Similar findings were reported in present case where the bull resumed normal breeding soundness after four months sexual rest.

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Fig no. 1 Showing placement of Circumcision for removal of fibrosed prolapsed prepuce

Fig no. 2 completely healed prepuce on 2nd post-operative week