

Surgical management of contused penis and prepuce with paraphimosis in large Indian crossbred bull - A case report

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Abstract

The present report describes a case of paraphimosis with contused penis and prepuce, which was reported in a large size Indian crossbred bull. After clinical examination, an attempt was made to treat the animal by using manual replacement procedure and medicinal therapy. However, the attempt failed, and surgical intervention was planned. Partial penile amputation was opted for the surgical treatment, and the animal made an uneventful recovery after 14 days.

Keywords: Amputation, Anaesthesia, Genital system, Paraphimosis

Highlights

- Paraphimosis is a critical condition in large breeds of cattle if untreated.
- It is rare in large breeds of cattle.
- Infectious and opened mass of the glans penis is life-threatening.
- Resection is a major treatment protocol.

Abnormalities in male genital system like penile deviation effects the overall breeding efficiency of a bull, as the amount of mating a bull is willing and able to perform may be hindered by injuries, penile deviations and the presence of an older dominant bull. Thus, breeding soundness in bulls is directly and indirectly influenced by the status of male reproductive organs (Barth and Ominski, 2000). Paraphimosis is inability to completely retract the penis back into the preputial cavity; occurs usually after erection (Davidson, 2010). Paraphimosis is basically seen in most breeding farms due to trauma and is diagnosed by history and clinical manifestations (Fesseha, 2020). Acquired paraphimosis is usually as a result of trauma to the penis, damaging the innervations of penis which causes paralysis of penile retractor muscles (Nevi *et al.*, 2015). The present case report depicts a successful surgical management of chronic paraphimosis in a large-sized Indian crossbred bull.

A 7-year-old Indian crossbred bull of approximately 450 kg was presented with a history of anorexia, bleating, dysuria, and constant penile protrusion, which could not be retracted back for the last 12 days. It was also reported that the condition gradually

became worse. On clinical examination, the glans penis was inflamed, edematous, swollen and exhibited pain on palpation. Careful inspection revealed adhesions between the preputial skin and gland penis with necrotic changes in some parts of the penile wound as the animal was dragging the wound on the ground [Fig. 1 (A)]. All the clinical parameters (rectal temperature, heart rate and respiration) were within the normal physiological range. The case was diagnosed as a contusion of prepuce and penis with paraphimosis.

Initially, an attempt was made to treat the case with a manual repositioning procedure and the use of medicinal therapy. The penis was cleaned with normal saline mixed with povidone iodine and tried to retract back after application of Lignocaine gel, but could not get success. Inj Melonex 15 mL, inj amoxicillin and potassium clavulanate 4.5 g and bolus Serrakind given for three days. However, there was no sign of improvement even after 3 days of treatment. Thus, decision was taken to treat the animal by surgical intervention using partial penile amputation. Preoperatively, food and water were withheld for 48 hours before surgery. On the day of the operation, cranial epidural anaesthesia was performed by

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Fig. 1. Photographs showing (A) Contused penis and prepuce with paraphimosis (B) Right lateral recumbency after administration of cranial epidural anaesthesia

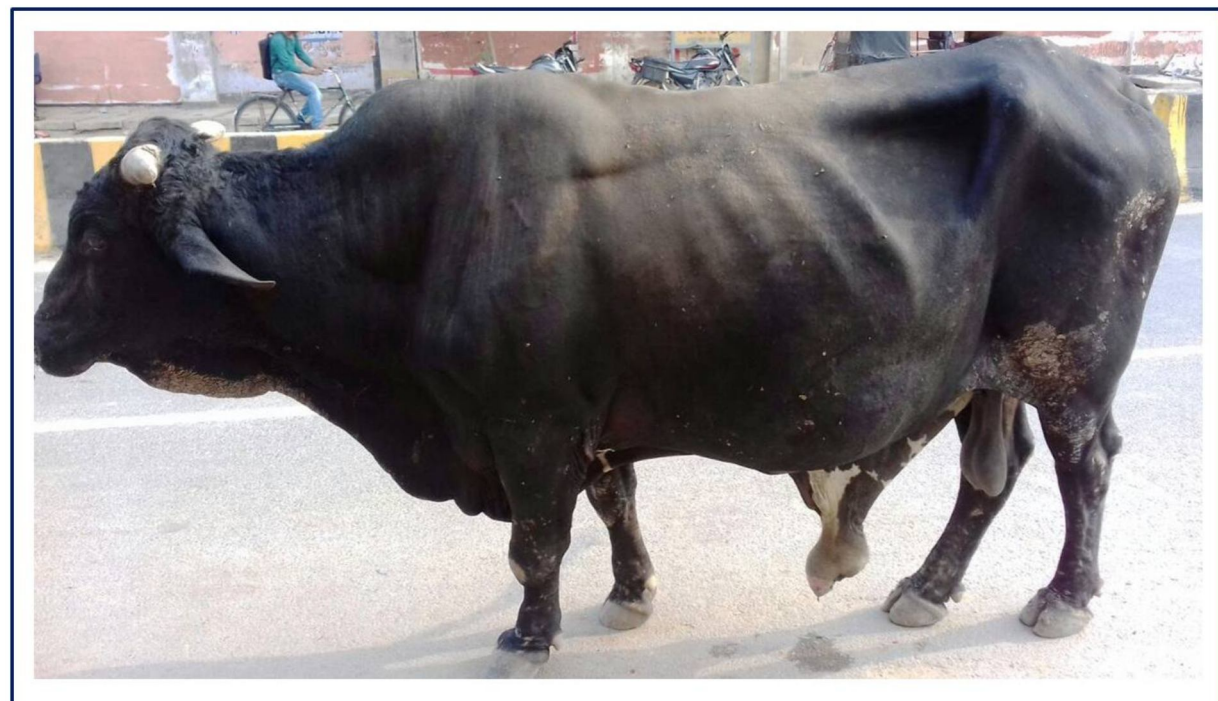


Fig. 2. Suture removed and healing of wound after 10 days of operation

administration of 25 mL of 2% lignocaine HCL. The animal was restrained in right lateral recumbency after the anaesthesia [Fig. 1. (B)], and the surgical site was prepared as per the standard procedure. All the necrotic tissues and debris were removed, the preputial hairs were clipped, and the exposed penis and prepuce were scrubbed with povidone iodine. The penis was extended manually as far as possible, and a tourniquet was applied above the point of amputation to control haemorrhage. Urethra was guided by a fine probe. The incision was made to form a flap; the retractor penis muscle was then severed as proximally as possible, and the incision was extended to dissect the urethra ventrally. The penis was transected after ligation of the dorsal vessels. The flap incisions were sutured with simple interrupted using No. 1-0 chromic catgut. The probe was removed, and the urethra was also sutured with simple interrupted using No. 1-0 chromic catgut to the adjacent tissue. The necrosed and excess part of the prepuce was also incised and removed. The tourniquet was loosened and checked for any bleeding point; the preputial wound was closed with simple interrupted using No. 1-0 non-absorbable suture material (Ethilon). Post-operative treatment includes inj. antibiotic (Intacef Tazo 3000 mg/375 mg I.M.) and inj. meloxicam (Melonex @ 0.2 mg/kg b.wt I.M.). Following regular dressing with povidone iodine, the suture was removed after 10 days (Fig. 2) and the wound eventually heals after 14 days.

Some of the male reproductive problems like preputial lacerations, penile haematomas, preputial prolapse, preputial-penile adhesions, inflammations and other anatomical/structural abnormalities of the prepuce and penis result in the reluctance of bulls to breed and inability effectively copulate with cows and heifers, diminishing their productivity (Anderson, 2008). Interestingly, some of the highly active

breeding bulls are reported to have 100% incidence of penile and preputial abnormalities that resulted from increased breeding pressure (Karle *et al.*, 2010). As acquired paraphimosis is usually due to trauma, based on history and clinical signs, the present case was also assumed to be of traumatic origin. In addition, this condition does not occur immediately but progresses over a period of time. After the injury, the bull is inclined to relax the retractor penis muscle and let the penis hang from the preputial sheath. Because of the narrowing of the penis behind the glans penis or inflammation of glans penis, it is very difficult to withdraw penis back through the orifice of preputial sheath (Mahesh *et al.*, 2016). In chronic cases, if the prepuce becomes partially necrotic, a preputial segment may need to be resected, and if the penile mass has started sloughing, penectomy may be indicated to conserve the genetic potential of the bull to reestablish the fertility (Prado *et al.*, 2016), which was done in this report with successful clinical outcome.

Conflict of interest: Authors have no conflict of interest in the study.

Author's contributions: DG, VL, VK: Carried out diagnosis and completed surgical procedure; SWM: Outlined the manuscript and deliberated the essential post-operative care plan.

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