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## Therapeutic management of paraphimosis in a bull calf: a case report

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### Abstract

A one year old crossbred bovine bull was presented with a history of sustained penile protrusion. On clinical examination, the protruded penis revealed oedematous, soiled with dirt and dung. It was cleaned gently with potassium permanganate solution (1:1000) and repositioned using antibiotic ointment. The bull was treated with antibiotic, analgesic and proteolytic enzyme. Recovery was uneventful and no recurrence.

**Keywords:** Crossbred bull, paraphimosis, therapeutic management

### Introduction

Paraphimosis is the inability to retract back the penis completely into the preputial sac. It happens often after erection of the penis (Davidson, 2010) [3] may be due to injury while copulation or semen collection. Both acquired and congenital factors are responsible for paraphimosis. Acquired factors are trauma, infection, priapism, penile haematoma, neoplasia, foreign bodies, onanism and excessive sexual activity. While congenital causes include narrowing of the preputial orifice and abnormal shortening of prepuce. The constriction of the penis behind the glans penis or swelling of glans penis makes it impossible to retract back through the naturally small preputial orifice (Mahesh *et al.*, 2016) [7]. Paraphimosis due to excessive sexual activity is usually seen in young male dogs (Boothe, 2003 and Hedlund, 2007) [2, 4]. This paper deals with successful management of paraphimosis in a crossbred bovine bull.

### History and observation

A one year old crossbred bovine bull was presented to the Veterinary Clinical Complex, College of Veterinary Sciences and Animal Husbandry, Central Agricultural University, Jalukie, Nagaland with a history of anuria, anorexia and sustained penile protrusion. According to the owner, the bull attempted mounting over a Holstein Friesian cow in estrus multiple times two days ago. The bull was restrained on right lateral recumbency for examination and treatment. Clinical examination revealed the glans penis oedematous, soiled with dirt and dung (Fig 1). The prepuce was found everted at the opening end where mucous membrane was noticed pale and dry. Rectal temperature, respiration and heart rates were within the normal range.



**Fig 1:** Protruded penis showing oedematous and soiled.

## Treatment and Discussion

Initially, the long preputial hair was trimmed around the protruded penis. The penis was cleaned gently with potassium permanganate solution (1:1000) to remove the dirt, dung and dust (Fig 2). The preputial sac was also flushed thoroughly. Antibiotic ointment (Poly-XLR®, Exceller Healthcare Pvt. Ltd.) applied liberally over the glans penis and inside the preputial sac (Fig 3). The glans penis was repositioned gently by sliding it into the preputial cavity. The bull was treated with Enrofloxacin injection (Flobac SA®, Intas Pharmaceuticals Ltd.) @ 5 mg/kg body weight to prevent secondary bacterial infections and Meloxicam injection (Melonex, Intas Pharmaceuticals Ltd.) @ 0.3 mg/kg body weight to reduce pain and swelling of glans penis intramuscularly for 6 and 3 days, respectively. Supportively, Serratiopeptidase bolus (Inflawin®, Exceller Healthcare Pvt. Ltd.) administered @ 30 mg BID orally for three days to reduce pain and swelling. The animal recovered uneventfully (Fig 4) and recurrence or any other penile abnormalities.

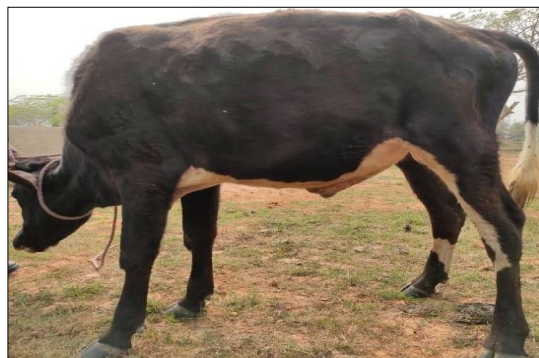
Acquired paraphimosis is a result of injury to the erected penis which causes damage to the innervations of the penis leading to the paralysis of penile retractor muscles (Nevi *et al.*, 2015) [9]. Initially, the exposed penile tissue appears normal and is non painful (Johnson, 2003 and Hedlund, 2007) [5, 4] requires less intervention to correct. As time elapse, the traumatised erected penis render inflammation leading to oedematous and impaired blood circulation. Further aggravates the condition due to persistent soiling and licking. In long standing cases, the protruded penis becomes necrotic, infected, adhered strongly with the mucous membrane of the prepuce renders permanent damage of the penile tissue and death of the animal. Therefore, it is very important to attend to paraphimosis case as early as possible to save the animal and to restore reproductive ability too. The present case was attended two days after paraphimosis. The bull was too young to mount the massive Holstein Frisian cow. The cause of the paraphimosis in the present case might be due to injury during mounting.



**Fig 2:** Cleaning of prolapsed penis with KMnO<sub>4</sub> solution.



**Fig 3:** Applying antibiotic ointment before reposition of the penis.



**Fig 4:** Uneventful recovery of paraphimosis after treatment.

The decision to treat paraphimosis conservatively or surgically depends to a large extent on the clinical signs and duration of the condition (Ali and Davoud, 2011) [1]. Purse string suture is a common retention suture, have been used to correct paraphimosis by many clinicians (Kumaresan *et al.*, 2014, Mahesh *et al.*, 2016, Mallesh *et al.*, 2017 and Ravikumar *et al.*, 2019) [6, 7, 8, 10]. However, the present case was successfully corrected therapeutically by administering antibiotic, analgesic and proteolytic enzyme.

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