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Teat laceration and its successful surgical management in a crossbred cow

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Abstract
A successful surgical management of teat laceration in a 7 years old crossbred cow was placed on record in the present communication. After proper debridement of necrosed tissue, the laceration was corrected surgically followed by administration of supportive medicinal therapy. The cow recovered without further complications.

Keywords: Teat laceration, crossbred cow, barbed wire, repair, teat siphon

1. Introduction
Teat injuries are very common in local dairy cattle which may occur due to trauma caused by barbed wire, thorns and animal bites. In comparison to other frequently occurring diseases, these injuries sometime may result in premature culling of affected cows (Nicolas, 2008) [2]. Laceration of teats may also occur as a consequence of untreated contused wound due to stepping by sharp hoof of the same animal (Singh *et al.*, 2012) [5] as well as chemicals, insect bite, environmental conditions and the milking machine (Sreenu *et al.*, 2014) [6]. Teat injuries can be grouped in two categories: external or internal injuries. The external injuries include all types of laceration while the internal injuries include diseases of the teat cistern and papillary duct. Trauma to the udder may varies from superficial injuries to deep penetrating wounds. The severity of the trauma to the teat can be rated according to the damage of the udder structures. Deeper lacerations with penetrating wounds should be treated early to prevent secondary bacterial infection. The severity of the teat trauma can be judged by the extent of damage to the udder structures (Sreenu *et al.*, 2014) [6]. In order to prevent infection and subsequent economic losses to the farmers the affected teat should be treated as early as possible. In most of the cases the affected teat can be successfully corrected by reconstructive surgery. Management of teat trauma depends on the structures which have been traumatized. This paper reports and describes the successful surgical management of deep laceration of the teat in a recently registered cross bred of cow.

2. Case history and clinical observations
A 7 years old crossbred cow was presented to the Veterinary Clinical Complex of Lakhimpur College of Veterinary science with a history of teat injury due to trauma caused by barbed wire one day ago. Clinical examination revealed a deep lacerated wound on left cranial teat of the udder (Fig. 1). During clinical examination no fistula, leakage, disruption of mucosa could be noticed but necrotic debris with presence of haemorrhagic area. All the vital parameters could be recorded within the normal physiological range.

Fig 1: Lacerated left cranial teat

3. Treatment and Discussion

Pre-surgical sedation was achieved by intramuscular injection of Xylazine hydrochloride @ 0.1 mg/kg body weight. After attaining sufficient sedation the cow was positioned in a right lateral recumbancy tying all four legs together with a casting rope. Local analgesia of the teat was produced by ring block using Lignocaine hydrochloride 2% (Fig. 2). Similar surgical management was also reported by Kumar *et al*, (2017) [1] in a Holstein Friesian cow, where sedation and analgesia were achieved using Xylazine hydrochloride and ring block technique by lignocaine hydrochloride respectively.

To maintain asepsis, teat and udder area were cleaned with 0.9% $KMnO_4$ solution followed by painting with Providone Iodine (5%) antiseptic solution. Debridement of the lacerated area of the teat was done with a scalpel blade. To facilitate easy suturing of the lacerated teat, a plastic teat siphon was introduced into the teat canal as reported by Saibaba *et al.* (2016) [4]. Horizontal mattress suture were applied in the subcutaneous tissue by using chromic catgut no.1-0 to prevent the formation of dead space. The skin edges were apposed with simple interrupted suture using black braided silk no.1-0. The teat siphon was removed after complete suturing of the teat. Postoperatively a course of ceftriaxone, meloxicam and chlorpheniramine maleate @ 10mg/kg, 0.3mg/kg and 0.5mg/kg body weight via intravenous and intramuscular route for 5 days respectively were administered. Daily dressing of the wound was done with povidine iodine (5%) solution. The cutaneous sutures were removed on 14th postoperative day and the animal showed satisfactory recovery on clinical examination. Surgical affections of the teat are frequently reported in cows especially in high yielders. Injury of the udder and teat are common due to their anatomical location (Weaver *et al*., 2005) [7]. From the findings of the present communication it could be concluded that immediate surgical intervention and careful post operative management could bring out a satisfactory recovery. In the present report, the laceration was corrected immediately after presentation and the same procedure is also reported by Sreenu *et al*., 2014 [6]. Due to their anatomical location, increase in size of the udder and teats during lactation, the udder and teats are most susceptible to the external trauma or injury (Weaver *et al*., 2005) [7]. In case of goats, incidence of teat laceration is relatively high as compared to cows due to their pendulous udder and large teats. In bovines, lacerations may occur due to a direct injury which might even be self-inflicted (Singh *et al.*, 2012) [5]. Teat injuries occur due to trauma, chemical injury, insects, environmental conditions and the milking machine (Sreenu *et al*., 2014) [6]. Surgical correction of the teat should be completed during the first 12 hrs following injury because at later stages swelling of the teat can prevent the adequate reconstruction of the tissue. In the present report, it was an acute teat laceration and the surgery was attempted immediately after presentation and the same procedure is also reported by Sreenu *et al*., 2014 [6].

Fig 2: Ringblock by using 2% lignocaine hydrochloride

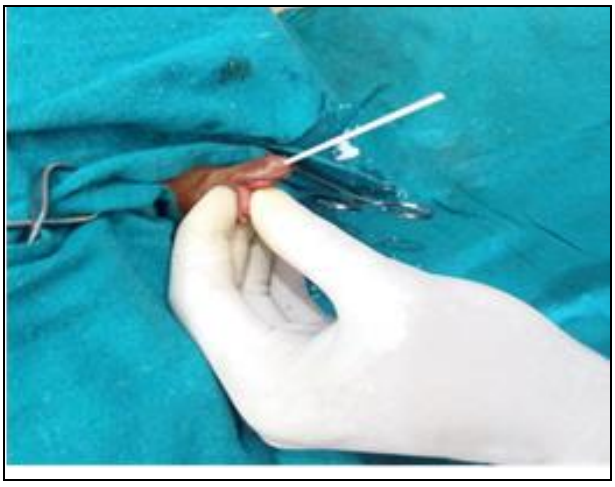

Fig 3: Introduction of plastic teat siphon in to the lacerated teat canal

Fig 4: Suturing of lacerated teat

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