**CASE REPORT**
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# TRIPLE LAYER SUTURING AND USE OF INFANT TUBE AS TEAT SIPHON IN MANAGEMENT OF TEAT LACERATIONS IN CROSSBRED CATTLE

**Ashish Soni[1*], A.S. Parihar[2], Vivek Kumar Maurya[3] and Jagmohan Rajput[4]**

[1]Assistant Professor, Department of Veterinary Medicine, [2] Assistant Professor, Department of Veterinary Surgery and Radiology, [3,4]Postgraduate scholars,
College of Veterinary Science and Animal Husbandry, Mhow,
Madhya Pradesh - 453446
Nanaji Deshmukh Veterinary Science University Jabalpur

Corresponding author: vetsforever@gmail.com

## ABSTRACT

Two Holstein Friesian crossbred cows were presented with a deep laceration of the teat following a barbed-wire injury. Following debridement and aseptic dressing, a three-layered suturing technique was employed under mild sedation with local anaesthesia. Reconstructive surgery was successfully conducted and the site showed satisfactory recovery within a few days. Skin sutures were removed 12 days post-surgery, with no complications reported throughout the healing process

**Keywords:** Barbed wire, local anaesthesia, reconstructive, sedation, sutures

## INTRODUCTION

Teat injuries in large animals are prevalent, often resulting from direct external trauma, and contribute to significant economic losses comparable to various infectious diseases (Mulon, 2016). While many teat lacerations can be effectively treated through direct suturing, some fail to heal properly due to devitalized tissue or other complications (Hickman *et al.,* 1995). These injuries are categorized by depth and full thickness, which involves damage from the skin to the mucosa with milk leakage and partial thickness, which preserves the integrity of the teat cistern (Nicolas, 2008). Surgical intervention aims to repair lacerations, restore normal milk flow and maintain the anatomic integrity of the udder (Nichols, 2009). This report highlights a successful surgical approach for managing a traumatic teat laceration in two Holstein Friesian crossbred cows.

## CASE HISTORY AND OBSERVATION

Two Holstein Friesian crossbred cows were referred for evaluation due to laceration of the teats caused by a barbed-wire. Examination revealed deep lacerations accompanied by mucosal and sub-mucosal tears, slight haemorrhage, tissue debris and milk leakage. Despite the injury, the

cows were otherwise fit, with all vital signs within normal physiological ranges.

## TREATMENT AND DISCUSSION

The procedure commenced with the careful positioning of the cows in right lateral recumbency post-sedation using Xylazine at a dosage of 0.01 mg/kg IM. An infiltrative local ring block of 8 mL of 2% Lignocaine HCl was administered at the base of the teat prior to surgical intervention. In both the cases the casting was executed using Reuffs method, with all four legs secured and an elastic tourniquet was applied to ensure haemostasis. Surgical site preparation involved thorough cleansing and irrigation with a 0.9% potassium permanganate solution followed by application of a 5% Povidone Iodine antiseptic, as referenced by Devi *et al.* (2020).

Debridement of the lacerated area was performed with a BP blade no. 22. An infant feeding tube as teat siphon was utilized to guide the teat canal and prevent inadvertent suturing. Suturing proceeded in three layers: the mucosa was closed with a simple continuous stitch of chromic catgut no. 2-0, followed by horizontal mattress sutures for the submucosa and subcutaneous tissue using 2-0 Polyglactin 910. Finally, the skin was apposed with black braided silk no. 1. Intramammary infusion of Cefoperazone Sodium was administered through the teat siphon.

The infant feeding tube measuring 10 French gauge (FG) is strategically fixed along the length of the teat to facilitate effective and efficient milk drainage. The suturing site was then sealed with cotton and adhesive tape for a 24-hour duration to mitigate contamination risks. Postoperative care included a five-day regimen of Ceftriaxone Tazobactam (@5mg/kg Body wt IM OD), Meloxicam (@0.5 mg/Kg body wt IM OD), Chlorpheniramine Maleate (10 ml IM OD), and multivitamins (100 ml PO OD). While the intramammary infusion (Pendistrin SH) once daily continued for an additional three days, with daily dressings performed using 5% Povidone Iodine until complete healing. Skin sutures and siphon were removed 12 days post-operation and

**Fig. 1 and 2** Case 01 (a & b) Suturing pattern

**Fig. 2 and 3** Case 02 (a &b) fixing of siphon

both the cases demonstrated satisfactory recovery.

## SUMMARY

Teat injuries in large animals are common and typically arise from direct external trauma, leading to substantial economic losses that can rival those caused by infectious diseases. Prompt intervention is crucial for effective recovery. Treatment often involves reconstructive surgery utilizing a three-layered suturing technique, performed under mild sedation with local anaesthesia, which has demonstrated excellent outcomes. Additionally, infant feeding tubes can be employed as a substitute for teat siphoning, aiding the recovery process.

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