

International Journal of Advanced Biochemistry Research



ISSN Print: 2617-4693
ISSN Online: 2617-4707
IJABR 2024; SP-8(9): 1311-1313
www.biochemjournal.com
Received: 22-06-2024
Accepted: 26-07-2024

Dr. David Jeevanraj G
PG Scholar, Department of
Veterinary Surgery and
Radiology, College of
Veterinary Sciences,
Proddatur, Andhra Pradesh,
India

Dr. Anjali K
Assistant Professor (CTF),
Department of Veterinary
Clinical Complex (Surgery),
College of Veterinary Sciences,
Proddatur, Andhra Pradesh,
India

Dr. Kavya Y
Veterinary doctor,
Mobile Veterinary Clinic,
Veterinary Hospital, YSR
Kadapa, Andhra Pradesh,
India

Dr. Divya Sri T
Veterinary Assistant Surgeon,
Veterinary Dispensary,
Arugolanu, West Godavari,
Andhra Pradesh, India

Successful surgical management of traumatic teat fistula in cattle

Dr. David Jeevanraj G, Dr. Anjali K, Dr. Kavya Y and Dr. Divya Sri T

DOI: <https://doi.org/10.33545/26174693.2024.v8.i9Sp.2342>

Abstract

A three year old female cattle was presented to Veterinary Dispensary, Arugolanu, with a history of traumatic injury at udder region due to fence on the previous day. On physical examination udder was edematous and milk was leaking from the side of the teat and thus confirmed as teat fistula. Under sedation and ring block, teat fistula was reconstructed using three layer suturing technique and the patency of teat canal was maintained by infant feeding tube. Animal showed uneventful recovery after 15 days without any post operative complications.

Keywords: Cattle, traumatic injury, teat fistula, reconstructive surgery

Introduction

Teat and udder affections are more common in dairy farms. Any injury to teat and udder will affect the milk production of the animal and thus leading to heavy economic losses. So, early diagnosis and treatment of these injury plays a vital role in the health maintenance and production of milk and delay in the treatment may result in mastitis and necrosis of the teat (Singh, 2014) ^[1]. The udder and teats are more vulnerable to external trauma or injury due to several factors like their anatomical location, increased size of udder and teats during lactation, faulty methods of milking, repeated trauma to the teat mucosa, injury by teeth during milk suckling by calves, accidental stepping on teat and paralysis resulting from metabolic disturbances during parturition (Tiwarly R *et al*, 2005) ^[2]. Teat injuries are common during parturition because of cow's uncomfortable movement and increased size of udder and while crossing the wire fence (Premsairam *et al*, 2020) ^[3]. Anomalies of the udder and teat can be divided into three main subgroups, such as, conditions affecting the epithelial surface of udder and teat, conditions affecting the teat cistern and conditions affecting the streak canal. Teat fistula is the anomaly of epithelial surface of udder and teat, which is defined as an abnormal opening or a passage between the teat cistern and the teat surface (Singh *et al*, 1993) ^[4] Early presentation, proper surgical closure or other suitable treatment will yields better results. This study describes the successful surgical management of teat fistula by reconstructive surgery.

Case description and clinical signs

A three year old non descriptive female Cattle was presented to Veterinary Dispensary, Arugolanu with a history of external injury to right forequarter of the udder that occurred during crossing of barbed fence wire. Clinical and physical examination revealed swollen teat, pain on palpation, tissue loss and a full thickness laceration was noticed along with leaking of milk from the lacerated site (Fig. 1). Based on the clinical signs the condition was diagnosed as teat fistula right forequarter.

Materials and Methods

Teat fistula was managed by reconstruction of the wound. Initially the animal was sedated using inj. Butorphanol @ 0.01 mg/ kg B.wt, inj. Xylazine @ 0.02 mg/ kg B.wt and inj. Ketamine @ 0.04 mg/ kg B.wt. Later, animal was controlled in lateral recumbency with affected teat downwards and ring block was performed by using 2% Lignocaine at the proximal part of affected teat after applying tourniquet at the base of the teat (Fig. 2). The surgical site was aseptically prepared with 7.5% povidone iodine solution.

Corresponding Author:

Dr. Anjali K
Assistant Professor (CTF),
Department of Veterinary
Clinical Complex (Surgery),
College of Veterinary Sciences,
Proddatur, Andhra Pradesh,
India

Milk was completely drained out by passing teat siphon into the teat canal. Wound margins were debrided using bard parker's blade no 22 (Fig. 3) and wound was thoroughly flushed with normal saline. Later, fistula was sutured by three layered suturing technique, first inner mucosal layer was sutured in simple interrupted pattern, second layer of suturing involving muscular and connective tissue in simple continuous pattern with polyglactin 910 No. 2/0 (Fig. 4). Skin was sutured with vertical mattress pattern using monofilament polyamide 2-0 (Fig. 5). To maintain the patency of the teat canal a sterile infant feeding tube was placed inside the teat canal and fixed by stay suturing and bandaging was done (Fig 6). Post operatively animal was given with antibiotic inj. Dicrysticin and anti inflammatory inj. Meloxicam for 5 days and 3 days respectively, wound dressing was done on alternate days. The sutures were removed after 11th post operative days.

Results and Discussion

The surgical wound was healed uneventfully without any complications by the end of 15 days postoperatively. Early diagnosis and treatment of udder and teat affections is important as these affections reflect on the animal's health and productivity and leading to heavy economical loss (Singh, 2014) ^[1]. Restoring milk flow, reducing the risk of mastitis, and preventing the culling of affected animals are the main objectives of treating teat affection (Misk N *et al.*, 2018) ^[5].

In the present case, the etiology of the teat fistula was due to barbed fencing wire. Similar reports were made by Hendrickson (2007) ^[6], who stated that poor structural housing integrity with sharp edges and wire pieces left standing out will cause lacerations while passing animals. Wound reconstruction was done using three layered suturing pattern as stated by Simon *et al.*, (2023) ^[7]. By using infant feeding tube teat canal patency was maintained. This is in accordance to Premsaïram *et al.*, (2020) ^[3]. Infective organisms gain entry through wound and leading to mastitis. So, surgical intervention needs to be performed during the first 12 hours following the injury (Simon *et al.*, 2023) ^[7]. In the present case, the surgical repair was performed immediately after presentation. Animal showed fruitful recovery without any complications within 15 days of post operative period.



Fig 1: Teat fistula of the right forequarter



Fig 2: Application of tourniquet at the base of the teat.



Fig 3: Debriding the wound margins using BP blade.



Fig 4: Suturing muscular layer and connective layer.



Fig 5: Skin suturing by vertical mattress suture pattern



Fig 6: Post operative showing of the infant feeding tube

Conclusion

In the presented case, immediate and effective surgical intervention played a crucial role for healing of teat injury. The use of reconstructive surgery, following a precise protocol of sedation and local anesthesia facilitated in successful repair of teat fistula. Post operative care including systemic antibiotic and anti inflammatory therapy and wound dressing also contributed to the uneventful healing of the wound.

References

1. Singh T. Affections of teat and udder in dairy animals. Proceedings of Animal Husbandry Officers' Workshop; c2014.
2. Tiwary R, Hoque M, Kumar B, Kumar P. Surgical condition of udder and teats in cows. The Indian Cow. 2005;1:25-27.
3. Premsairam C, Aruljothi, Balagopalan TP, Alphonse RMD, Prabavathy AA. Surgical management of traumatic teat fistulas with polyester sutures in crossbred cows. IOSR Journal of Agriculture and Veterinary Science. 2020;13(3):51-55.
4. Singh J, Singh P, Arnold JP. The mammary glands. In: Tyagi RPS, Singh J, editors. Ruminant Surgery. New Delhi: CBS Publishers and Distributors; c1993. p. 167-74.
5. Misk N, Misk T, El-Khamary A, Semeika A. Retrospective study of surgical affections of mammary glands in cattle and buffaloes and their management in the field. Journal of Veterinary Medical Science. 2018;80(10):1576-1583.
6. Hendrickson DE. Repair of teat lacerations. In: Techniques in Large Animal Surgery, 3rd ed. Iowa: Blackwell Publishing; c2007. p. 286-288.
7. Shiju Simon M, Methai A, Prasad AA, Pazhanivel N, Vijayakumar G. Management of traumatic teat laceration with fistulation in cows: A review of five cases. The Indian Veterinary Journal. 2023;100(9):37-40.