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Surgical Management of Foreign Body Obstruction of Udder Gland Cistern

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Abstract:

A crossbred Holstein Friesian cow was presented with history of foreign body obstruction, swollen udder and absence of milk from affected teat. Physical examination revealed inflamed udder, pain on palpation and no foreign body could be detected. Owner reported that teat siphon was lodged in teat canal and had migrated inside the udder when an attempt was made to remove it manually by massaging. Under ring block anaesthetic technique, the surgical correction was performed and teat siphon was surgically removed. Routine post-operative therapy led to an uneventful recovery.

Keywords: Cow; foreign body obstruction; gland cistern; teat siphon

Full Text:

Introduction

Teat and udder affections are presumed to be very common in dairy cattle, but likely less reported. Early diagnosis and treatment of diseases of teat and udder is important for maintenance of their health, productivity and farmer's economy. Success of treatment mainly depends on extent of normal milk production at time of animal discharge and minimum post-operative period. The udder and teats are susceptible to external trauma or injury because of their anatomical location, increased in size during lactation, faulty methods of milking, repeated trauma to teat mucosa, injury by teeth of calves, accidentally stepped on teat, paralysis resulting from metabolic disturbances at parturition (Tiwary et al., 2005). Trauma to udder may extend from superficial injuries to deep penetrating wounds. The severity of trauma is judged by extent of damage to udder structures. Trauma can be broadly categorized into superficial and deep laceration and can be managed independently with appropriate measures (Roberts and Fishwick, 2010).

Materials and Methods

A four year old crossbred Holstein Friesian cow was presented with history of foreign body obstruction, swollen udder and absence of milk from affected teat. Physical examination revealed inflamed udder, pain on palpation and no foreign body could be detected by palpation of teat and udder. Owner reported that teat siphon was lodged in teat canal and had migrated inside the udder when an attempt was made to remove it manually by massaging. The case was diagnosed as

foreign body obstruction of udder gland cistern based on history and physical examination. Ceftriaxone (Intacef (a)) was administered @15 mg per kg b. wt. intravenously as prophylactic antibiotic half an hour before surgery. Local anaesthesia of affected teat was achieved using ring block technique using local anesthetic solution 2% Lignocaine hydrochloride (Lox (b)) and also local infiltration of Lignocaine was done along the site of incision. In addition a ring block, 5 ml of 2% Lignocaine hydrochloride was administered into the teat canal to provide analgesia to mucosa of teat canal.

The area around the site of incision was shaved and prepared aseptically. A 3-5 cm long linear incision was made on neck of teat where the angle was made between udder and teat (Fig. 1). An artery forcep was introduced into the gland cistern of udder to remove the foreign body (teat siphon) (Fig. 2). The surgical site was flushed thoroughly using normal saline. Modified mammary catheter was prepared aseptically using scalpel vein set and it was introduced into teat canal to avoid constriction of teat cistern. In first layer, the mucosal layer was sutured using no. 2-0 polyglycolic acid (Truglyde (c)) in a interrupted vertical pattern. In second layer, the muscular layer was sutured in simple continuous manner using no. 2-0 polyglycolic acid (Truglyde (c)). The skin was sutured using no. 1-0 nylon in a simple interrupted pattern. Modified mammary catheter was fixed to streak canal using nylon and supported to teat using adhesive tape. Gentamicin (Gentavet (d)) was administered intramammary twice daily to prevent infection. Routine post-operative care was provided for five days with Ceftriaxone (Intacef (a)) @20 mg/kg b. wt. intravenously twice day and Meloxicam (Melonex (a)) @ 0.3 mg/kg b. wt. subcutaneously once day. The skin sutures were removed on 10th post-operative day.

Results and Discussion

In present study, the foreign body recovered from surgery was teat siphon which was lodged inside the udder gland cistern. Teat siphon was regularly used by the owner for milking, since the animal was suffering from fibrosis of teat canal. The owner forgot to remove the teat siphon after milking and mean while the animal laid down and the teat siphon entered the teat canal and further inside the udder while physical handling of teat canal to remove it manually by massaging. It is necessary to advise the owners for proper usage and complications of teat siphon. In present study, the local anaesthesia achieved using ring block technique, local infiltration at site of incision and infiltration of local anesthetic solution inside the teat canal was sufficient to perform surgery. The local anesthetic block techniques an economical allow surgical interventions with animals in standing restraint which prevents further damage to udder structures (Marongiu, 2012). The suturing of deep lacerations of teat canal with three layer suture technique provides tight leak proof seal (Roberts and Fishwick, 2010). Failure to repair the teat adequately leads to development of teat fistulas. Inability to achieve an impervious seal during apposing will lead to fistula formation. It is required that suturing techniques used do not perforate the mucosal layer but aim to appose the underlying sub-mucosa and muscular layers (Roberts and Fishwick, 2010). In the present case, the three layer suture technique performed was adequate to prevent leakage and promotes proper healing. Indwelling modified mammary catheter prepared from scalp vein set was adequate to prevent stricture of teat canal, milk leakage, fistula formation and enhances faster wound healing. Use of suitable suture material, instruments of smaller size with proper functional usage, suitable restraining, effective anaesthesia and analgesia, post-operative care with antibiotic coverage and hygienic condition of wound are essential to obtain good success rate in case of teat and udder affections (Schmit et al., 1994).

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Fig 1. Showing site of incision

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Fig 2. Showing foreign body (teat siphon) and letting down of milk

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