Short Communication

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Surgical Reconstruction of Perineal Laceration in a Crossbred Jersey Cow

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ABSTRACT

A 6-year-old Jersey × Holstein Friesian cow was presented with history of vulval tear due to improper handling of dystocia by the owner. The foetal membranes were hanging from the vaginal canal through vulval tear. Clinical examination revealed all physiological parameters were within the normal range. Obstetrical examination revealed extensive tear from the caudal vagina up to vulva and the fetal membranes were hanging from both vulval passage and through tear in the vulva. The reconstructive surgery was performed under epidural anaesthesia. Post-operatively the animal was treated with Inj. Calcium borogluconate 450 ml i.v. besides Inj. Ceftriaxone at 20mg/kg i.v., Inj. Flunixin meglumine at 2.2mg/kg i.m., and Inj. Chlorpheniramine maleate at 0.5mg/kg i.m. for three days. The skin sutures were removed on 10th post operative day. The animal recovered uneventfully.

Key words: Perineal laceration, Dystocia, Reconstructive surgery, Cow.

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INTRODUCTION

The dairy industry is significant to the Indian economy. Reproductive potential is the key which determine the life time performance of farm animals. Dystocia is an important obstetrical disorder which not only cause calf or cow death or both but may lead to other complications like retained placenta, uterine prolapse, uterine rupture, persistent laceration, laceration in the cervix, vagina, or vulva, uterine infections, or an increase in involuntary culling. It may also have a negative impact on milk supply and reproductive performance (Selvaraju *et al.*, 2020). Perineal laceration in domestic animals typically occurs following parturition and involves the structures with in the perineum.

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The perineum is defined as the region between the tail and the ischiatic arch; especially the region between the anus and the genital organs, which is bounded ventrally by the pelvic symphysis, laterally by the ischial tuberosities, and dorsally by the coccygeal vertebrae (Blood *et al.*, 2007). Perineal lacerations are classified from first to third degrees. First degree involves only the skin and vulvar mucous membrane, 2nd degree involves the skin, mucous membrane, the perineal body and constrictor vulvae muscle while 3rd degree involves structures damaged in 2nd degree, plus the anal sphinter and all tissues between the vagina and the rectum (Colbern *et al.*, 1985; Dreyfuss *et al.*, 1990). Perineal lacerations are usually less frequent in cattle compared to mares (Khar *et al.*, 1993 and Kazemi *et al.*, 2010).

CASE HISTORY AND OBSERVATIONS

A 6-year-old crossbred Jersey cow weighing about 300 kg was brought to Veterinary Clinical Complex, Veterinary College and Research Institute, Namakkal. The owner brought the cow with the history of difficulty in parturition and reported that he intertwined the calving. Because of that there is a tear in the vulval region through which urine came out. The animal had not shed the foetal membranes for past 8 hours and it was hanging from the vaginal canal and also through the vulval tear.

General clinical examination revealed all the physiological parameters were within the normal range. The animal had continuous straining and swelling in the perineal region. Examination of perineal region revealed hanging of foetal membrane through vaginal canal and vulvar tear (Fig 1). The length of vulval tear was about 15 cm and it is extended from caudal vagina to vulva. Based on the clinical examination, it was diagnosed as second-degree perineal laceration.

TREATMENT AND DISCUSSION

The hanging foetal membranes were removed manually through vaginal canal. Further vaginal examination revealed there was no foetal membranes and tear in the uterus and cervix. Lacerated wound was washed with

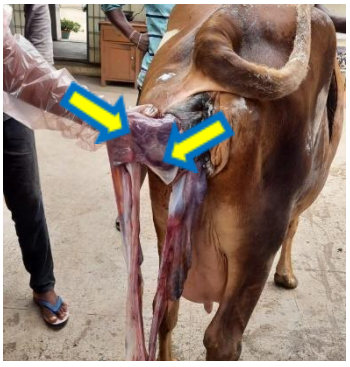

Fig. 1. Hanging of foetal membrane through vaginal canal and vulvar tear

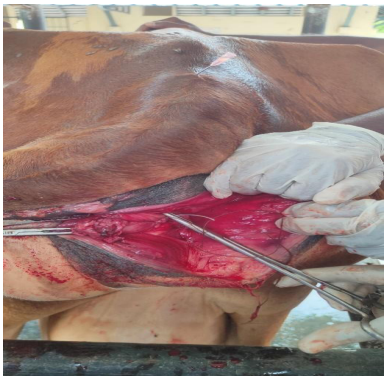

Fig 2. Suturing of contractor vestibulae muscle

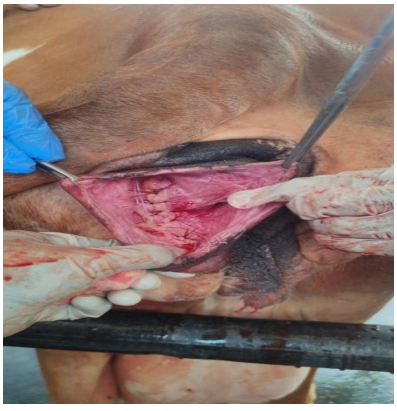

Fig. 3. Suturing of vulvar constrictor muscle

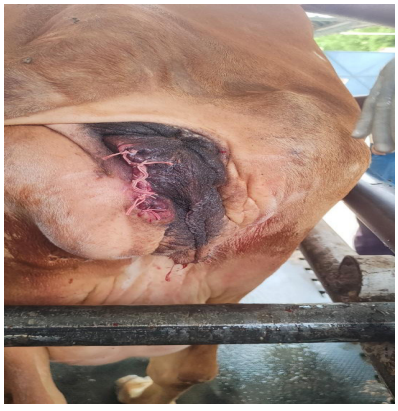

Fig. 4. Skin closed with cross mattress suture pattern

diluted povidone iodine solution with normal saline. Epidural anaesthesia was given using 5 ml of 2% lignocaine for reducing the straining and pain. Then the contractor vestibulae muscles were sutured with No. 2 chromic catgut using simple continuous suture pattern (Fig 2). The vulvar constrictor muscle sutured with No. 2 using interlocking suture pattern (Fig 3). Subcutaneous sutures were done with No.2 chromic catgut. Then vulvar skin was closed with cross mattress suture pattern using sterile cotton thread (Fig 4). Inj. Ceftriaxone at 20 mg/kg i.v., Inj. Flunixin meglumine 2.2mg/kg i.m., Inj. Calcium borogluconate 450 ml slow i.v., Inj. Chlorpheniramine maleate at the dose rate of 0.5mg/kg i.m., was administered. The antibiotic, anti-inflammatory and anti-histaminic drugs were followed for next 3 days. The owner was advised to use fly-repellent antiseptic spray to prevent contamination and maggot wound. Then the skin sutures were removed on 10th post operative day. Complete healing of the laceration was achieved without obvious complications.

The most important cause of perineal laceration is dystocia and faulty handling procedures. Obstetrical trauma usually occurs through forced extraction or careless use of obstetrical instruments such as fetotomy knife and embryotome wire by personal assisting the parturition (Cuneo *et al.*, 1993; Farhoodi *et al.*, 2000). Heifers tend to have perineal laceration as they have higher risk of dystocia. Apart from that they also tend to have violent expulsive effort because of nervousness during parturition. It was reported that post-surgical treatment of perineal laceration usually led to formation of scar tissue that causes the inelasticity of the vaginal mucosa and sub mucosa. Other than that, it also causes fragile vaginal canal and impair of muscles of the vestibule and vulva (Farhoodi *et al.*, 2000) which predispose the dam to the recurrence of perineal laceration in the subsequent calving. Prevention of perineal laceration is closely related to successful management of dystocia cases.

CONCLUSIONS

It was concluded that perineal laceration reconstruction must be done to avoid occurrence of perineal hernia and peritonitis as well.

CONFLICT OF INTEREST

The authors have no conflict of interest to declare.

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