

Surgical Management of Chronic Cervico-Vaginal Prolapse in a Zebu Local Breed Dairy Cow



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Abstract

An eight years old multiparous zebu dairy cow was presented to the Veterinary Hospital of College of Veterinary Science, Mekelle University with a history of repeated prolapse since last 15 days. Upon clinical examination, the case was confirmed as chronic post-partum cervico-vaginal prolapse due to feed deficiency and poor management practice. After proper restraining with caudal epidural anesthesia, the dead and necrotized debris were removed, and the prolapsed mass was prepared aseptic by washing with a 2% potassium permanganate solution and was repositioned into the pelvic cavity. The cow was kept on fluid therapy (stat), anti-inflammatory and antibiotic for five successive days. A modified Buhner's technique using local thread (Jimat) as suture was to keep the prolapsed tissue in position to prevent the recurrence and the cow had an uneventful recovery. A successful management of chronic cervico-vaginal prolapse using modified Buhner's suture after caesarean section in a zebu local breed cow is discussed.

Keywords: Modified buhner's suture; Cervico-vaginal prolapse; Chronic; Local zebu breed, Jimat

Introduction

Reproductive disorders negatively affect their productive and reproductive performances in dairy cows Whittier [1]. Vaginal prolapse alone or alongside with cervix is less frequently occurring one of the gestational complications in dairy animals. Cervico-vaginal prolapse in the cow typically occurs for the first time in the last trimester of gestation but may occasionally occur during the postpartum period. The etiological factors may be attributed to the condition like higher estrogen secretion from placenta, heredity, mineral deficiency, increased intra-abdominal pressure, excessive relaxation, weakening and atony of the vaginal musculature, pelvic ligaments and, vulvar sphincter muscles, bacterial or fungal infections, and ingestion of Phyto-estrogens, hormonal imbalance Meisner & Anderson [2].

Based on the severity and duration of the condition vaginal prolapse has been classified into four. Vaginal prolapse that involves only the vaginal floor and occurs only when the cow is recumbent classified as First-degree. In second-degree prolapse, the vagina and often the bladder continuously protrude through the vulva. Third-degree prolapse involves the prolapse of the

cervix as well as the vagina and bladder, and straining becomes constant. In fourth degree prolapse, there is extensive tissue necrosis caused by chronic exposure of the vaginal and cervical mucosa. As the prolapse becomes more severe or chronic, the likelihood of systemic problems such as peritonitis and adhesions increases, and the survival of the fetus is endangered Miesner & Anderson; Zoltan et al. [2,3].

The diagnosis of cervico-vaginal prolapse is understandable; though, a rectal examination should be performed to determine fetal viability and location of the urinary bladder. Ultrasonography can be used as an adjunct to palpation if the diagnosis of fetal viability or the bladder location is uncertain. The case should be treated as soon as possible; otherwise, the prognosis will be grave Bhattacharyya et al., & Miesner & Anderson [2,4]. In managing cervico-vaginal prolapse various surgical or nonsurgical techniques Kumar [5] and medicines Dhillon et al. [6] have been practiced with varying degrees of result. This case report describes the approach and surgical management of chronic cervico-vaginal prolapse in a local breed zebu dairy cow.

Case Presentation, History and Clinical Observations

A multiparous zebu local breed dairy cow of 8-years-old with a history of chronic Cervico-vaginal prolapse since the last 15 days was presented to Veterinary Hospital, College of Veterinary Science, Mekelle University, Ethiopia. After detail physical examination, the case was diagnosed as chronic a third-degree vaginal prolapse that involves cervix, vagina and bladder. The owner also communicates us he tries to manage the case by itself and were unsuccessful. Upon arrival and physical examination, the cow was slight depression with prolapsed mass hanging outside the vulva and contaminated with a lot of debris and necrotized areas (Figure 1A) The physiological parameters (rectal temperature, respiration rate and heart rate) were slightly elevated. Moreover, the prolapsed mass was found swollen, edematous with mild laceration in the exposed part. The cow was having difficulty in passing urine due to the prolapse and at frequent intervals exhibited intermittent straining.



Figure 1A: Presentation of cervico-vaginal prolapse in zebu local breed cow.



Figure 1B: Appearance of the prolapsed mass after aseptic preparation.



Figure 1C: Modified Buhner's technique using Jimat as suture

Surgical Management, Post-Operative Follow up and Result

The case was managed properly after proper restraining on standing position and administering caudal epidural anesthesia (2% lidocaine hydrochloride). The vaginal tissue made aseptic by washing with a 2% potassium permanganate solution (1:1000) (Figure 1B) and soften the prolapsed mass to easily handle the mass. Then the prolapsed mass was manually repositioned manually inside the pelvic cavity by gentle pushing with fist hand simultaneously elevating the mass with the palm of other hand. To prevention of recurrence, a modified Buhner's technique using sterile local thread (Jimat) as a suture material, was applied parallel to vulva apart from the vagina beneath the skin to keep it in position (Figure 1C). The cow was kept on fluid therapy (5% Dextrose solution, 1000ml stat, I.V.) antibiotic (Ceftriaxone, 5gm/kg, I.V.), and Meloxicam (0.5mg/kg, IM) for five successive days. Upon one month of follow up of the cow, the wound healed without no complications and the cow was under good health status. However, the owner was advised to cull the cow. The only complication that was observed was the prolapsed mass was so hard and contaminated with a lot of debris and was difficult to reposition with the routine procedure.

Discussion and Conclusion

Cervico-vaginal prolapse is a major reproductive disorder and an emergency condition in cattle that should be managed earlier before excessive edema, mucosal trauma, contamination, tear and fatal hemorrhage Ahmed et al., Miesner & Anderson [7,2]. In this study, the third-degree cervico-vaginal prolapse was observed and can be managed without temporary retaining sutures or a permanent fixation technique as described by Kumar; Sarma et al., [5,8]. This was in contrast with the report of where no temporary suture was applied.

In the present study, the modified Buhner's technique, using local thread (Jimat) as suture material, was found to be very satisfactory in preventing recurrence of the prolapse particularly in developing countries where farmers cannot afford repeated costly treatment of their livestock. This finding in agreement with and disagrees with the previous reports of [9,10] that used other suture material Vetafil, Umbilical tape, Finlayson thread, nylon.

Hence, from the above experience it can be concluded that modified Buhner's using Jimat as a suture material can effectively be applied to control chronic cervico-vaginal prolapse in cow without any complications and difficulties and recommended as an alternative technique. This surgical protocol may be used as a preliminary strategy for managing third-degree vaginal prolapse under field conditions.

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