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Correction of Vaginal Prolapse in Holstein Friesian Crossbred Dairy Cow: A Case Report

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Abstract

Vaginal prolapse is the most common problem presents in mature females during their last trimester of pregnancy; however, the condition is also seen in non-pregnant ewes and heifers. In present case, six years old of seven months pregnant multiparous Holstein Friesian crossbred dairy cow with a history of vaginal prolapse since the last 18 hours was presented to VTH. Physical examination of the case also revealed that hanged prolapsed mass with not swollen and edematized exposed vaginal wall. The prolapsed mass was repositioned after it was aseptically prepared under caudal epidural anesthesia. Following successful repositioning of the prolapsed mass a horizontal suture technique was applied parallel to vulva apart from the vagina beneath the skin. Therefore, early diagnosis and careful correction and management of vaginal prolapse should be save the cow from life-threatening condition. Key words: Caudal epidural anesthesia; Cow; Holstein Friesian; Vaginal prolapse.

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Keywords

everted vaginal wall, non-pregnant ewes, vulva.

Introduction

Vaginal prolapse is defined as a protrusion of part or the whole of the everted vaginal wall with/or without the cervix outside the female body through the vulva (Hassaneen, 2018).Vaginal prolapse is the most common problem presents in mature females during their last trimester of pregnancy; however, the condition is also seen in non-pregnant ewes and heifers (Umesh *et al.*, 2016). Sometimes, it might be observed after parturition and seldom does it occur unconnected with pregnancy and parturition (Anil *et al.*, 2017). The first and foremost predisposing factor for vaginal prolapse is the combination of tissue relaxation as a result of hormonal changes, especially the increase of estrogen and the production of relaxin, which cause a relaxation of the pelvic ligaments and surrounding soft tissue structures and the increased intra-abdominal pressure caused by the pregnant uterus during the last trimester of pregnancy (Fesseha and Ayele, 2020; Selvaraju *et al.*, 2020 and Umesh *et al.*, 2016).

In addition, hereditary factor in some breeds of cattle, intra-abdominal fat accumulation, large and multiple fetuses, forced extraction, rumen distension and dietary factors such as hypocalcemia due to it causes atony and

foods containing estrogenic substance may also act as potential key factors for vaginal prolapse (Bhattacharyya *et al.,* 2012; Kumar *et al.,* 2018 and Patra *et al.,* 2015).

Three degrees of vaginal prolapse are described. Type I is mild to moderate eversion of the vaginal floor without a protrusion of vaginal tissue. Type II is prolapse of the cranial floor and lateral walls of the vagina via the vulvar lips, forming a tongue or pear-fashioned mass. Type III is prolapse of the complete vaginal circumference as a "doughnut"-formed mass with a lumen (Sarrafzadeh-Rezaei *et al.,* 2008). Vaginal prolapse is an emergency condition and it need special attention and immediate treatment before any trauma or laceration may occur in order to prompt recovery without any complication (Hasan *et al.,* 2017). So that various surgical (Fesseha and Ayele, 2020) and/or nonsurgical by using oestrogen (Gyimesi *et al.,* 2008 and Sarrafzadeh-Rezaei *et al.,* 2008) treatment techniques can be used to manage vaginal prolapse, but the success of treatment depends on the type of case, the duration of the case, the degree of damage and contamination (Umesh *et al.,* 2016 and Yotov *et al.,* 2013). Therefore, this case report describes the approach and surgical management of acute vaginal prolapse in a Holstein Friesian (HF) crossbred of dairy cow.

Case history and examination

A six years old, weighting 300 kg and 7 months pregnant multiparous (parity; n=2) Holstein Friesian (HF) crossbred dairy cow was presented to Veterinary Teaching Hospital, College of Veterinary Medicine and Agriculture, Addis Ababa University, Ethiopia with a history of vaginal prolapse since the last 18 hours (Fig. 15A). Up on physical examination, it was noticed that the cow was in standing position and prolapsed mass was found to be hanging with exposed vaginal wall but, the prolapsed mass was not swollen and edematized. Animal was showing signs of discomfort, restlessness, continuous straining, off feed and water intake, hanging of whitish mucoid vaginal discharge and attempting of intermittent urination was evident. The clinical parameters such as: heart rate, respiratory rate, body temperature; and capillary refill time were recorded, and their measurement was in normal physiological ranges.

Pre-operative preparation of cow

After proper cow immobilization by using physical method in crush the prolapsed tissue was prepared aseptically by gently washing with normal saline solution in order to remove any dirty (foreign) material from prolapsed vaginal tissues.

Anesthesia and animal control

The cow was controlled in standing position in the well-built crush and the head was positioned straight forward by holding with bull holder. Caudal epidural anesthesia was performed by administering 2% lidocaine hydrochloride.

The needle was inserted through the skin at the joint between sacrum and coccygeal bone (sacro-coccygeal). The depression formed by joint was easily identified by moving the tail up and down. At this point, the needle was inserted and checked by dropping small drop of anesthesia into the needle, and then drop was drawn into the joint without forming pop. Finally, 5 ml of local anesthetic (2% lidocaine hydrochloride) were injected.

Surgical procedure

The prolapsed mass was lifted upward above the level of ischial arch to release the retained urine and then washed with normal saline solution.

The repositioning of the prolapsed mass was done by initially pushing the lateral walls and middle portion followed by roof of cervix and vagina. After repositioning, a horizontal suture technique, using sterile silk thread as a suture material, was applied parallel to vulva apart from the vagina beneath the skin to keep it in position (Fig. 15B and C).

Post-operative care

The cow was kept on antibiotic (Pen and Strep, 5 gm/ kg, I.V.), and Diclofenac sulfate (2 mg/kg, IM) for 3 successive days. The owner was advised to manage the cow on inclined surface in barn to prevent recurrence. During the follow-up of the cow, no complications on the vulvar area were noticed.

The follow up was continuous through phone communication and the owner was ordered to bring the cow after one month and then the status of cows and the fetous was checked. As information obtained from the owner the cow was strained attempt to push out the repositioned prolapsed vaginal mass. Therefore, suture was decided so as to retain until parturition to hold the prolapsed mass in position. The owner was advised to cull the cow after a given birth.

Results and Discussion

Vaginal prolapse in ruminants mainly appear at last trimester of gestation, which is considered as an emergency maternal disorder that needs immediate attention before any further complication should occur (Hasan *et al.,* 2017). Vaginal prolapse should be treated as early as possible, because delaying might lead to excessive edema, mucosal trauma, contamination, tear and fatal hemorrhage (Fesseha and Kidanemariam, 2020; Fesseha and Ayele, 2020 and Hasan *et al.,* 2017). This is in agreement with present case, where the case was presented 18 hours after the prolapse was evident and managed as early as possible. According to the study conducted by Bhattacharyya *et al.,* (2012) vaginal prolapse is mostly occurs in multiparous animal than heifers with the rate of 90.48% and 9.52% in multiparous and heifers, respectively. This is in agreement with present case, where the case was occurred in cow with second parity. In present case report, vaginal prolapse was occurred at first month of third trimester's period. This is agrees with previous similar cases report by Fesseha and Ayele (2020); Hasan *et al.,* (2017); Hassaneen (2018) and Umesh *et al.,* (2016) in terms time where the prolapse was occurred. However, the present case, was disagrees with the report of Anil *et al.,* (2017) where the prolapse was occurred after 6 hours of parturition.

At third trimester's period of pregnancy the cow was predisposed to vaginal prolapse due to many factors. Among that the combination effect arising from an increment of estrogens levels with the production of relaxin and low progesterone that led to relaxation of the pelvic ligaments and surrounding soft tissue structures is one factor (Kurpinska and Skrzypcza, 2019). The other factor which play key role in the occurrence of vaginal prolapse is increments of intra-abdominal pressure caused by the pregnant uterus (Umesh *et al.,* 2016) and sudden change in feeding habit (Hasan *et al.,* 2017). In addition, poor quality forage; hypocalcaemia; high estrogenic–content foodstuffs, such as legumes, maize, barley and soybean meal are a dietary factors which involved in vaginal prolapse (Miesner and Anderson, 2008). In this case report, high intra-abdominal pressure was recorded which may due to feeding of maize, which is high estrogen contain feedstuff and change in feeding habit.

Fig.1 Surgical correction of vaginal prolapse in seven months pregnant dairy cow
(A) Clinical presentation of the case and prolapsed mass (B) On progression of putting horizontal suture pattern (C) After completion of prolapsed mass and suture

In present case, the prolapsed mass was managed by washing with normal saline and prolapsed mass was lubricated with diluted savlon and gently repositioned into the pelvic cavity.

This is in agreement with Patra *et al.,* (2015), Patra *et al.,* (2014) and Yotov *et al.,* (2013) in terms of using normal saline solution to wash the prolapsed mass, whereas, disagrees with the report of Anil *et al.,* (2017), Hasan *et al.,* (2017) and Umesh *et al.,* (2016) in terms of using potassium permanganate solution to wash the prolapsed mass instead of normal saline solution. After repositioning of the prolapsed mass into normal anatomical position the modified Bhuner's suture technique by using infusion set tubing (Bhattacharyya *et al.,* 2012), sterile cotton thread (Fesseha and Ayele, 2020 and Patra *et al.,* 2014), Jimat (Fesseha and Kidanemariam, 2020), sterile gauzed tape (Yotov *et al.,* 2013), and rope truss (Hasan *et al.,* 2017 and Umesh *et al.,* 2016) as suture material is found to be the most successful technique for preventing further recurrence. This is disagrees with the present case, where the vertical suture technique by passing through the holes created on the vertically placed "quills" made from locally available material that is highland plastics was used, whereas, agrees with Patra *et al.,* (2015) in terms of using silk (No.2) as suture material.

Since vaginal prolapse mainly appears at last trimester of gestation daily follow up and diagnosis of pregnant cow is very important task. If it occurred emergency treatment is good because delayed in correction may cause some critical condition such as edema, fibrosis, necrosis, septicemia, myiasis. So the farmers and veterinarian should have to give careful attention to early diagnosis and correction of vaginal prolapse for good recovery and save the cow from life-threatening condition.

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References

Anil, M., Rajashri, M., & Reddy, K. A. K. (2017). Management of post-partum cevico-vaginal prolapse in a non-descript cow: A case report. *Theriogenology Insight*, 7(2): 75-77.

Bhattacharyya, H. K., Fazili, M. R., Buchoo, B. A., & Akand, A. H. (2012). Genital prolapse in crossbred cows: prevalence, clinical picture and management by a modified Bühner's technique using infusion (drip) set tubing as suture material. *Veterinarskiarhiv*, 82(1): 11-24.

Fesseha, H., & Ayele, A. Recurrent prepartumcervico-vaginal prolapse in a crossbred Holstein Friesian dairy cow. *Veterinary Medicine Open Journal*, 5(1): 21-23.

Fesseha, H., & Kidanemariam, F. (2020). Surgical management of chronic cervico-vaginal prolapse in a Zebu local breed dairy cow. *JOJ Wildlife & Biodiversity*, 2(1): 27-29.

Gyimesi, Z. S., Linhart, R. D., Burns, R. B., Anderson, D. E., & Munson, L. (2008). Management of chronic vaginal prolapse in an eastern bongo (*Tragelaphus eurycerusisaaci*).*Journal of Zoo and Wildlife Medicine*, 39(4): 614-621.

Hasan, T., Azizunnesa, P. M., Paul, P., Akter, S, F. M., & Hossain, D. (2017). Correction and management of vaginal prolapse in a cow by Buhner's technique. *Research Journal for Veterinary Practitioners*, 5(1): 1-4.

Hassaneen, A. S. (2018). Complete Cervico-vaginal Prolapse (CVP) in a Ewe. *SVU-International Journal of Veterinary Sciences*, 1(2): 50-59.

Kumar, A., Saxena, A., Anand, M., & Girjesh Upmanyu, G. (2018). Genital prolapse in bovine and its management. *International Journal of Science, Environment and Technology*, 7(4): 1435-1439.

Kurpińska, A., & Skrzypczak, W. (2020). Hormonal changes in dairy cows during periparturient period. *Acta Scientiarum Polonorum Zootechnica*, 18(4): 13-22.

Miesner, M. D., & Anderson, D. E. (2008).Management of uterine and vaginal prolapse in the bovine. *Veterinary Clinics of North America: Food Animal Practice*, 24(2): 409-419.

Patra, B. K., Das, S. P., Samal, P., Swain, P., Tigga, R., Das, S., Mishra, P. C., & Mohanty, D. N. (2015). Cervico-Vaginal Prolapse in a Sheep: A Case Report. *International Journal of Livestock Research*, 5(8): 77-80.

Patra, B. K., Nahak, A. K., Dash, S. K., Sahu, S. S., Das, S. P., Das, S., & Mohanty, D. N. (2014). Cervico vaginal prolapse in a pregnant cow and its management: A case report. *International Journal of Livestock Research*, 4(5):55-59.

Sarrafzadeh-Rezaei, F., Saifzadeh, S., Mazaheri, R., & Behfar, M. (2008). First report of vaginal prolapse in a bitch treated with oestrogen. *Animal reproduction science*, 106(1-2): 194-199.

Selvaraju, M., Prakash, S., Varudharajan, V., Ravikumar, K., Palanisamy, M., Gopikrishnan, D., Senthil kumar, K., & Manokaran, S. (2020). Obstetrical disorders in farm animals: A review. *The Pharma Innovation Journal*, 9(9): 65-74.

Umesh, K., Lakde, C. K., Patil, M. S., Sahatpure, S. K., & Gawande, A. P. (2016). Pre and post-partum prolapse in a crossbred Jersey cow: A case report. *Scholars Journal of Agriculture and Veterinary Sciences*, 3(1): 48-50.

Yotov, S. T., Atanasov, A., Antonov, A., & Karadaev, M. (2013). Post oestral vaginal prolapse in a non-pregnant heifer (a case report). *Trakia Journal of Sciences*, 11(1): 95-101.

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