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Management of a Recto-vaginal Prolapse (Type III) in a Dairy Cow-A Rare Case Report

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Abstract

Rectal and vaginal prolapse commonly occur in cattle during late gestation and around parturition. The present study reports the Type-III cervico-vaginal and rectal prolapsed which is uncommon, and its management in a Gir cow. Epidural anesthesia (2% lignocaine hydrochloride) was applied as a first attempt to reduce viscera tenesmus. Both prolapsed masses were cleansed with chilled normal saline, followed by local application of 50–70% dextrose for 15–20 minutes to reduce edema and carefully suturing and repositioned. Post-repositioning therapy included antibiotics, anti-inflamatory drugs, and antihistaminics. The animal showed significant and uneventful recovery.

Keywords: Gir cow, recto-vaginal prolapse, abortion, mid pregnancy

Introduction

Rectal and vaginal prolapse are relatively common reproductive and gastrointestinal disorders in cattle, particularly during late pregnancy and the periparturient period. Rectal prolapse is a protrusion of one or more layers of the rectum through the anus (Ettinger and Feldman, 1995). In cattle, the condition may be a result of prolonged tenesmus or increased intra-abdominal pressure due to bloat, trauma and act of parturition, dystocia (Biswadeep *et al*, 2013). Rectum prolapsed may occur in animals of any age, breed, or sex. Rectal prolapse is classified into four types based on the extent of tissue involvement, with type-III prolapse characterized by the protrusion of all layers of the rectal wall through the anus, often accompanied by edema, congestion, and a high risk of trauma and necrosis (Radostits *et al*., 2007).

Cervico-vaginal (CV) prolapse is one of the most commonly observed conditions in cows, buffaloes and sheep (Patra *et al*., 2014). Vaginal prolapse is considered an emergency condition that demands immediate intervention, otherwise threats of trauma, laceration, hemorrhage and bacterial infection are inevitable (Hasan *et al*., 2017). Eversion and prolapse of the vagina, with or without prolapse of the cervix, occurs most commonly in cattle; the condition is usually seen in

mature females in the last trimester of pregnancy. The major causal factors of this pathology include increased intra-abdominal pressure associated with increased size of the pregnant uterus and prolonged tenesmus (Kuijlaars, 2010; Biswadeep *et al*, 2013). Henricks et al. (2011) reported higher incidence of prolapse cases with increased estrogens and decreased progesterone levels, especially in the last two weeks of pregnancy. Feed containing estrogenic substances, such as clover pasture, soybean meal, moldy maize and barley are reported to increase the incidence of genital prolapse in animals (Bhattacharyya et al., 2012).

Vaginal prolapse is similarly graded from type I to IV, where type-III vaginal prolapse involves complete eversion of the vaginal mucosa, frequently associated with straining, hormonal influences, and increased intra-abdominal pressure in advanced gestation (Roberts, 2004). The simultaneous occurrence of type-III rectal and vaginal prolapse in a cow is uncommon and represents a serious clinical condition requiring prompt therapeutic intervention to prevent life-threatening complications. This report describes the clinical presentation, management, and outcome of a rare case of concurrent type-III rectal and vaginal prolapse in a cow.

Case presentation

A six years old Gir cow, weighing approximately 400 kg was reported with a history of recurrent cervico-vaginal prolapse from 2 months post breeding. The prepartum prolapse was managed by rope thrush and progesterone injections and it was managed likewise upto 7 months of pregnancy. At 7 months of pregnancy the animals showed signs of severe straining and showed signs of abortion so rope thrush was removed enabling passage for delivery of fetus. The fetus was aborted and placenta was expelled without any assistance. After 2 months of abortion the owner reported that the cow was continuously straining and protrusion of tissue from the anus and vulva for the past 4 hours was seen. The cow was restless and was in pain with body temperature was 101.8°F.

On general clinical examination, the animal was alert but restless, with frequent tenesmus. Vital parameters like heart rate slight incresed, respiration rate were within normal physiological limits. Perineal examination revealed a type-III rectal prolapse, characterized by complete eversion of all layers of the rectal wall protruding through the anus. The prolapsed rectal mass was markedly edematous, congested, and contaminated with dirt and fecal material, there was bleeding due to tear of rectal wall ,but no necrotic changes were observed.

Concurrent examination of the vulvar region showed a type-III vaginal prolapse, with complete eversion of the vaginal mucosa outside the vulva. The exposed vaginal tissue was swollen, hyperemic, and moist, with superficial abrasions caused by continuous straining and contact with the ground. Rectal palpation was avoided to prevent further trauma. Based on the clinical findings, the

Fig.1: Abortion at 7th months


Fig.2: Prolapsed rectal tissues with intestine and vaginal wall with a


Fig.3: Post reduction of the rectal and vaginal tissue

case was diagnosed as concurrent type-III rectal and vaginal prolapse.

Management procedure

The cow was restrained in standing position, and the perineal region was thoroughly cleaned using warm water and mild antiseptic solution. Epidural anesthesia was achieved by administering 4 ml of 2% lignocaine hydrochloride in the sacro-coccygeal space to control straining and facilitate manipulation of the prolapsed tissues.

Both prolapsed masses were gently washed with chilled normal saline to reduce edema and remove debris. Hypertonic sugar solution (50-70% dextrose) was applied locally to the prolapsed tissues for 15–20 minutes to further minimize edema. The rectal prolapse was attended first. The intestine protruded through the rupture rectal wall was placed inside gently with the help of fingers avoioding intussusception. Following insertion of the intestine the ruptured rectal tissue was sutured using vicryl-1. After adequate lubrication with sterile liquid paraffin, the rectal mass was carefully repositioned manually using gentle, steady pressure, starting from the most distal portion and progressing proximally until complete reduction was achieved. Following successful replacement, a purse-string suture was applied around the anus using non-absorbable suture material (nylon No. 2), ensuring sufficient space for the passage of feces. Subsequently, the vaginal prolapse was reduced manually after lubrication, and a Buhner's (or stitch) suture was placed using sterile umbilical tape to retain the vagina in position.

Post-repositioning, the animal was administered with hemostatic injection 10 ml i/m followed by fluid therapy with dextrose 20% @ 1000 ml i/vly, broad-spectrum antibiotics (ceftriaxone tazobactum @ 10 mg/kg, intramuscularly once daily for 5 days) to prevent secondary bacterial infection. Non-steroidal anti-inflammatory drugs (meloxicam @ 0.5 mg/kg, intramuscularly once daily for 3 days) were given to alleviate pain and inflamation. Antihistaminics (chlorpheniramine maleate @ 0.5 mg/kg, intramuscularly) were administered for two days. Stool softeners and a laxative-rich diet were advised to reduce straining.

The owner was instructed to maintain proper hygiene of the perineal region and restrict excessive movement of the animal was also advised to increase the frequency of feeding by reducing the quantity of feed. The purse-string suture was loosened daily to check for normal defecation and removed after 7 days, while the Buhner's suture was retained until complete reducing the straining. The cow showed marked improvement within 48 hours, with no recurrence of prolapse observed during the follow-up period.

Discussion

Recto-vaginal prolapse is an uncommon but serious condition in large animals, characterized by the simultaneous protrusion of the rectal and vaginal walls through their respective orifices. This condition is considered a complication of prolonged straining and is most frequently observed in late pregnancy or the immediate postpartum period. The present case highlights the clinical complexity, therapeutic challenges, and favorable outcome following timely and appropriate management.

The etiology of recto-vaginal prolapse is multifactorial. Predisposing factors reported in cattle include advanced pregnancy, hypocalcemia, excessive tenesmus due to dystocia, uterine torsion, constipation, and increased intra-abdominal pressure (Roberts, 2004). In the present case, advanced pregnancy, continuous straining and weakness of pelvic musculature were considered the primary contributing factors. Hormonal

influences during late gestation, particularly elevated estrogen levels, may also lead to relaxation of pelvic ligaments and perineal tissues, thereby facilitating prolapse (Jackson, 2004).

Clinically, recto-vaginal prolapse poses a higher risk of tissue trauma, edema, contamination, and secondary infection compared to isolated rectal or vaginal prolapse. Prolonged exposure of prolapsed tissues can lead to congestion, necrosis, and compromised blood supply, ultimately worsening the prognosis (Noakes et al., 2019). In the current case, early presentation and absence of severe tissue necrosis contributed positively to the outcome.

Management of recto-vaginal prolapse requires a systematic approach, including stabilization of the animal, epidural anesthesia to control straining, thorough cleansing of the prolapsed tissues, reduction of edema, and careful repositioning. Caudal epidural anesthesia using lignocaine is widely recommended to prevent further tenesmus during replacement (Roberts, 2004). The use of retention sutures, such as Buhner's suture for vaginal prolapse and purse-string suture for rectal prolapse, has been reported to be effective in preventing recurrence (Jackson, 2004; Noakes et al., 2019). In the present case, combined surgical retention techniques ensured successful recovery without recurrence.

Adjunct therapy, including systemic antibiotics, anti-inflammatory drugs, and correction of underlying metabolic disturbances such as hypocalcemia, plays a crucial role in postoperative recovery. Dietary management to prevent constipation and close monitoring during the periparturient period are essential to avoid recurrence (Radostits et al., 2007).The prognosis of recto-vaginal prolapse largely depends on the duration of prolapse, degree of tissue damage, and promptness of treatment. Early intervention, as observed in the present case, generally results in a favorable prognosis. However, delayed cases with severe tissue necrosis may require partial resection and carry a guarded prognosis (Noakes et al., 2019).

Conclusion: Recto-vaginal prolapse, though rare, should be considered a veterinary emergency. Prompt diagnosis, proper anesthetic management, meticulous replacement of prolapsed tissues, and appropriate retention techniques are essential for successful clinical outcomes. The present case reinforces the importance of early intervention and comprehensive management in ensuring favorable prognosis in recto-vaginal prolapse cases.

Reference

Bhattacharyya, H.K., Fazili, M.R., Buchoo, B.A and 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. Veterinarski arhiv, 82(1): 11 24

Jena, B., Pagrut, N. and Painuli, A., 2013. Surgical resection of type II rectal prolapse in a cow. *Veterinary Clinical Science*, *1*(1), pp.19-23.

Ettinger, S.J and Feldman, E.C.,1995. Textbook of Veterinary Internal Medicine (Vol-II), 4th ed., W. B. Saunders, Philadelphia. pp. 1403 1404.

Hasan, T., Azizunnesa, P.M., Paul, P., AkterS, F.M. and Hossain, D., 2017. Correction and management of vaginal prolapse in a cow by Buhner's technique. *Res. J. Vet. Pract*, *5*(1), pp.1-4.

Henricks, D.M., Dickey, J.F., Hill, J.R. and Johnston, W.E., 1972. Plasma estrogen and progesterone levels after mating, and during late pregnancy and postpartum in cows. *Endocrinology*, *90*(5), pp.1336-1342.

Jackson PGG. 2004. Handbook of Veterinary Obstetrics. 2nd ed. W.B. Sounder, Westline Drive, St. Louis Missouri, pp 22-23.

Kuijlaars, M., 2010. The occurrence of vaginal prolapse in sheep and cattle : Case Study. Ghent University Faculty of Veterinary Medicine.

Noakes, D. E., Parkinson, T. J., and England, G. C. W.,2019. *Arthur's Veterinary Reproduction and Obstetrics.* 10th ed., Elsevier.

Patra, B.K., Nahak, A.K, Dash, S.K, Sahu, S.S and Das, S.P., 2014. Cervico vaginal prolapse in a pregnant cow and its Management- A case report. Int J Livestock Res, 4(5): 55-59

Radostits, O.M., Gay, C.C., Hinchcliff, K.W. and Constable, P.D., 2007. Veterinary Medicine: A Textbook of the Diseases of Cattle, Horses, Sheep, Pigs and Goats. 10th Edition, Elsevier Saunders, London, 966-994.

Roberts, S.J., 2004. Injuries and diseases of the puerperal period. In: Veterinary Obstetrics and Genital Diseases (Theriogenology). 2nd ed. (Indian reprint). CBS Publishers and Distributors, New Delhi, India, pp 300- 335