CASE REPORT

Hysterotomy for Management of Dystocia due to Prepartum Vagino-Cervical Prolapse Coupled with Vaginal Tear in a Jersey Crossbred Cow

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Vagino-cervical prolapse is a common reproductive disorder of ruminants, usually seen in pluriparous cows in late gestation and occasionally after parturition (Noakes *et al.*, 2019). It is mainly seen in ruminants, rare in other species, and usually involves protrusion of the floor, the lateral walls, and a portion of the roof of the vagina through the vulva with the cervix and uterus moving caudally (Roberts, 2004). Predisposing factors include hereditary factors in some cattle breeds, increased intra-abdominal pressure, intra-abdominal fat or rum n distention, softening of the pelvic ligaments, bacterial or fungal infections, hormonal imbalance, hypocalcemia, mineral deficiency, and feed containing phyto-estrogens like clover, soybean meal, etc. (Roberts, 2004; Miesner and Anderson, 2008). Highconcentration of estrogen secreted by the placenta in the last trimester of pregnancy causes relaxation of the vulva, vulvar sphincter muscles, pelvic ligaments, and adjacent structures, leading to vagino-cervical prolapse in cows (Roberts, 2004; Wolfe, 2009). A combination of increased estrogen with decreased progesterone and production of relaxin, especially in the last two weeks of gestation, may cause relaxation of the pelvic ligaments and surrounding soft tissues (Henricks *et al.*, 2011). The present paper reports a rare case of dystocia due to prepartum vagino-cervical prolapse coupled with a vaginal tear in a Jersey crossbred cow and its successful delivery through hysterotomy.

Case History and Clinical Observations

Six years old, full-term pregnant Jersey crossbred cow in her fourth parity was presented to Large Animal Obstetrics Outpatient ward, Madras Veterinary College Teaching Hospital, Chennai-600 007, India, with the history of straining, difficulty in calving for the last six hours along with vagino-cervical prolapse (Fig. 1). The animal was on lateral recumbency, and the clinical examination revealed that all vital parameters were normal. The detailed examination revealed vagino-cervical prolapse with a tear in the prolapsed vagina, thereby exposing the uterus with minor lacerations and bleeding (Fig. 1). Based on the examinations, the case was diagnosed as dystocia due to prepartum vagino-cervical prolapse coupled with vaginal tear.

Treatment and Discussion

The soiled prolapsed mass and blood clots were cleaned. Under low caudal epidural anesthesia with 2% Lignocaine hydrochloride, a 15 cm incision was made over the uterus prolapsed through the vaginal tear (hysterotomy) as per standard procedure (Fig. 2). The fetus was in anterior longitudinal presentation, dorso-sacral position with extended forelimbs and head. A dead male fetus was

Fig. 1: Prepartum Vagino-cervical prolapse with vaginal tear exposing the uterus

delivered successfully by forced traction by applying snares on forelimbs and long obstetrical eye hooks (Fig. 3). Then, the fetal membranes were removed, and the uterus was sutured using Cushing followed by Lembert suture pattern with PGA size 2 suture material (Fig. 4).

Further, the vaginal tear was sutured using a continuous interlocking suture pattern with PGA size 2 (Fig. 5). Urine was relieved by catheterization of the urinary bladder, and the prolapsed mass was cleaned with lukewarm normal saline and repositioned as per the standard procedure. Then, a simple vulval retention suture was applied (Fig. 6), and the dam was administered with 250 mL of Calcium borogluconate, intravenously, 50 I.U. of Oxytocin followed by 4.5 g of Ceftriaxone+Tazobactam (Intacef Tazo), Meloxicam @0.2 mg/kg b.wt., Chlorpheniramine maleate @ 0.5 mg/kg b.wt., intramuscularly for one week and the dam had an uneventful recovery.

As per the history of this case, the prolapse progressed from first-degree vaginal prolapse to third-degree. As the prolapse becomes more severe or chronic, the problems such as peritonitis and adhesions increase, and the fetus's survival and dam becomes questionable. The diagnosis of vagino-cervical prolapse is obvious; however, a rectal examination should be performed to determine fetal viability and the location of the urinary bladder. Ultrasonography can be used if the bladder location is uncertain (Fesseha and Ayele, 2020). A combination of Caesarean section could manage recurrent prepartum cervico-vaginal prolapse due to parturition to deliver the fetus, and modified Buhner's suture recommended as an alternative technique. In the present report, the vagino-cervical prolapse was observed in the last trimester of pregnancy during parturition resulting from the excessive labor force for the expulsion of the fetus. Hence, hysterotomy was performed on the uterus, which was exposed due to tear in the prolapsed vaginal parts, and a dead male fetus was relieved. Therefore, timely prompt treatment of vagino-cervical prolapse can save the dam and fetus.

Fig. 2: Hysterotomy to relive the fetus following aseptic measures

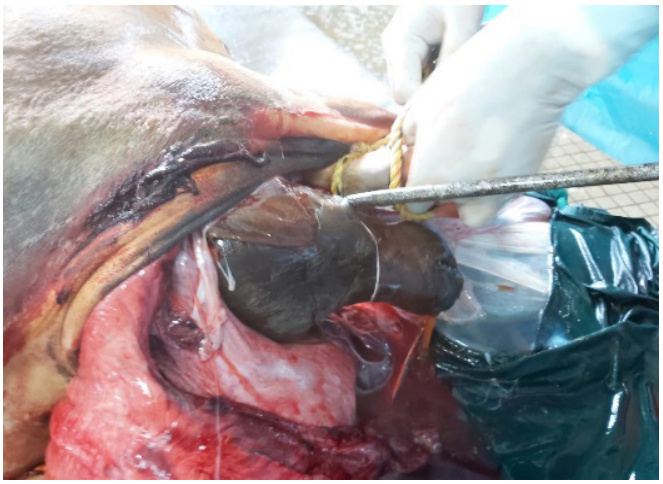

Fig. 3: Delivery of dead male fetus by forced traction

Fig. 4: Suturing of uterus by double inversion suture of Cushing followed by Lembert pattern

Fig. 5: Suturing of vaginal tear by interlocking pattern

Fig. 6: Repositioning of prolapsed mass and applying retention suture

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