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Induction of parturition in a buffalo with first-degree vaginal prolapse: A clinical case report

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Abstract

A 6-year-old full term she-buffalo presented to teaching veterinary clinical complex, Korutla with an history of first-degree vaginal prolapse for 2 weeks. Animal managed with rope truss and induction therapy was initiated with combination of drugs using cloprostenol sodium, dexamethasone, estradiol benzoate and valethamate bromide and the treatment was repeated after 24 hrs that lead to delivery of live male foetus pervaginally. This case demonstrates successful handling of parturition in buffalo with existent vaginal prolapse.

Keywords: Buffalo, vaginal prolapse, induction of parturition

Introduction

Prepartum cervico-vaginal prolapse is a late-gestational disorder in buffaloes characterized by eversion and prolapse of the vaginal wall and cervix through the vulva (Sloss and Duffy, 1980). The exact etiology remains unclear (Noakes *et al.*, 2019); however, several predisposing factors have been identified, including peripartum increases in estrogen and relaxin that promote relaxation of pelvic ligaments and adjacent soft tissues, dietary mineral imbalances (hypocalcaemia, hypophosphatemia, and trace mineral deficiencies), (Wolfe *et al.*, 2009; Akhtar *et al.*, 2012) and ingestion of estrogenic forages such as clover have also been linked to this disorder (Miesner and Anderson, 2008).

First-degree vaginal prolapse, in which a small, intermittent protrusion of vaginal mucosa is visible at the vulvar lips, may appear mild initially but can progress during advancing gestation and parturition. Chronic or long-standing prolapse predisposes the exposed vagina and cervix to inflammatory changes, that may interfere with normal cervical dilation and delivery of foetus. This case report outlines the clinical management and outcome of parturition induction in a buffalo with persistent first-degree vaginal prolapse.

Case history, clinical findings & treatment

A 6-year-old full term pregnant buffalo with an history of first-degree vaginal prolapse for two weeks was presented to Teaching veterinary clinical complex, Korutla. The buffalo has been started straining in the past 48 hours. Prior to presentation, animal was treated with CBG (Calcium Borogluconate), Valethamate bromide (Epidosin) and triflupromazine hydrochloride (Siquil). The per-vaginal examination revealed inflamed vagina and incompletely dilated cervix. Considering signs of imminent parturition and taking into consideration of prolapse condition, rope truss was applied on the animal (Figure 1) and Induction therapy was initiated with Cloprostenol sodium (Vetmate, 500 mcg I/M), Dexamethasone (Dexona, 40mg I/M), Valethamate bromide (Epidosin, 12 mL), Estradiol benzoate (Pregheat - 2mL I/M). The buffalo was observed carefully post induction for the signs of labour. 24 hr post treatment internal os has shown two to three finger dilation. The induction therapy was repeated with similar set of drugs. 6 hrs post second induction protocol, cervix was fully dilated with fetus palpable in anterior longitudinal position, dorsosacral position. Traction was applied and

manovering of foetus was done in the birth canal as oedematous vaginal tissue obstructed room in the birth canal that resulted in delivery of live foetus (Figure 2). Post intervention animal was given fluid therapy with Ringers Lactate- 3Litres, DNS- 3L, Mifex (450mL, I/V) for 1 day, Antibiotic (Intacef-3g, I/m), Anti-inflammatory (Melonex-

10mL, I/M), Tonophosphon (12ml, I/m) and Oral herbal ecboic (Utrevice-200mL/day, Virbac, 1 Litre) was advised for 5 days to counter infection and inflammation of vagina and cervix. After stabilization of animal, rope truss was re-applied to prevent recurrence of utero-vaginal prolapse and advised the owner to remove it 2 weeks later.



Fig 1: Pre-induction application of rope truss in management of first degree vaginal prolapse

Discussion

The incidence of prepartum cervico-vaginal prolapse in buffalo is higher and varies based on the parity and managemental factors (Manasa *et al.*, 2025) [4]. Induction of parturition with close, assisted monitoring is appropriate in animals that show persistent straining at or beyond full term, to prevent complications such as severe prolapse due to unproductive straining and dystocia.

In the last month of pregnancy, either dexamethasone or prostaglandin alone induces parturition within 2 to 3 days of administration both in cattle and buffaloes. However, the combined use of PGF_{2α} and dexamethasone has been reported to be more effective in inducing parturition than either drug alone due to their synergistic action at different physiological sites (Shukla *et al.*, 2008) [9].

Dexamethasone is a short acting corticosteroid which is 80-90% effective in inducing parturition in bovine when administered within 2 weeks of full term. The interval from injection to parturition is about 24-72 hrs (Barth, 2006) [2].

Dexamethasone stimulates endocrine changes similar to the natural fetal cortisol surge preceding parturition while PGF_{2α} initiates luteolysis and cervical ripening, resulting in of labor, explaining the higher efficacy of this combination protocol in chronic antepartum cervico-vaginal prolapse (Raja *et al.*, 2020) [7]. In addition, oestradiol benzoate triggers PG release, cervical softening and initiate uterine contractions there by inducing parturition. Further, valethamate bromide enhance cervical dilatation by reducing cervical resistance and promoting cervical smooth muscle relaxation thereby decreasing the duration of labour (Chaudhari *et al.*, 2023) [3]. Rope truss was applied in this case and kept in place until the onset of parturition to prevent recurrence of vaginal and uterine prolapse associated with unproductive straining. It is considered a practical, non-invasive, cost-effective and reliable method of managing cervico-vaginal prolapse with no adverse complication in normal parturition and post-partum recovery (Sarma *et al.*, 2017) [8].



Fig 2: Live foetus delivered by gentle manual traction

Conclusion

Thus, the induction protocol with combination drug therapy

using cloprostenol sodium, dexamethasone, oestradiol benzoate and valethamate bromide along with close

monitoring induced parturition effectively in a full-term buffalo that had first degree cervico- vaginal prolapse with incompletely dilated cervix.

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