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Obstetrical management of dystocia due to prepartum cervico vaginal prolapse in a jersey cross-bred cow by cervicotomy – A case report

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Abstract

A primiparous, Jersey crossbred cow was presented to large animal obstetrics unit of Madras Veterinary College Teaching Hospital, Chennai with the history of straining and having cervico vaginal prolapse. Vaginal examination revealed incomplete dilatation of the cervix with presence of fetal parts and was able to pass hand with difficulty. Based on the history and vaginal examination the case was confirmed as dystocia due to prepartum cervico-vaginal prolapse with incomplete dilatation of the cervix. Cervicotomy was performed and live female fetus was delivered successfully.

Keywords: Cervico-vaginal prolapse, cervicotomy, jersey crossbred, prepartum

Introduction

Cervico-vaginal prolapse is seen in all domestic species but more common in cows which is a major emergency reproductive condition and affects reproductive performance. Injuries or stretching of birth canal during first parturition may predispose to prolapse in following gestation (Roberts, 1982) ^[1]. Incomplete dilation of cervix is common in pluriparous animals. The most important cause of incomplete cervical dilatation is failure of hormonal mechanisms which is responsible for the changes in the cervical collagen (Mee, 2008) ^[2]. Ischemia and inflammatory changes that occurs consequent to abortion may cause ICD (Prakash *et al.*, 2018) ^[3]. Cervicotomy may be preferred rather than caesarean surgery in certain case of incomplete cervical dilatation (Pearson, 1971) ^[4]. The present case reports obstetrical management of dystocia due to prepartum cervico vaginal prolapse with incomplete cervical dilatation by cervicotomy.

Case History and Observation

A primiparous, Jersey crossbred cow was presented to large animal obstetrics unit of Madras Veterinary College Teaching Hospital, Chennai with the history of straining and having cervico vaginal prolapse. It was reported by the owner that the cow had recurrent first degree vaginal prolapse one month earlier. On general clinical examination, the rectal temperature 102°F, respiratory rate 24/min, pink conjunctival mucus membrane, prolapsed cervico-vaginal mass was noticed (Fig.1). Vaginal examination revealed incomplete dilatation of the cervix with presence of fetal parts and was able to pass hand with difficulty. Based on the history, observations and vaginal examination the case was confirmed as dystocia due to prepartum cervico-vaginal prolapse with incomplete dilatation of the cervix.

Treatment and Discussion

The animal was administered with epidural anesthesia (2% Lignocaine HCl) to control abdominal straining. The fetal limb was brought to the cervix and about 8 cm incision was made on dorso lateral aspect of the cervix using BP blade (Fig.2). Snare was applied to both the fore limbs and with mild traction, a live female fetus was delivered successfully. Trachelorrhaphy was performed as recommended by Asokan *et al.*, (1993) ^[5] by interlocking suture pattern using Polyglycolic acid (PGA 2) suture material (Fig.3). Urine was relieved

using urinary catheter. The prolapsed mass was washed with luke warm saline solution. Liquid paraffin was applied over the mass. Since the edema was not reduced after applying saline solution for brief period of time, multiple pricks were made on prolapsed mass and massaged to reduce the edema, followed by reduction of mass as per standard obstetrical procedure. Vulval retention suture was applied. Inj. Ceftriaxone @ 10 mg per kg b.wt., Inj. calcium borogluconate, Inj. oxytocin and fluids were given intravenously. Inj. Chlorpheniramine maleate @ 0.5 mg per kg b.wt., Inj. Meloxicam @ 0.5 mg per kg b.wt., was given intramuscularly. The animal recovered uneventfully.

Prolapse of vagina involves prolapse of the floor, the lateral walls and the portion of the roof of the vagina through the vulva with the cervix and uterus moving caudally. Cervico-vaginal prolapse is mostly observed in last 2 to 3 months of gestation (Roberts, 1982) [1]. The exact cause of the condition has not been found out (Noakes *et al.*, 2019) [6]. During last month of gestation, there is large amount of estrogen secretion from the placenta which causes relaxation of pelvic ligaments, adjacent structures and cause edema of the vulva and vulvar sphincter muscles. Increase in the intra-abdominal pressure also can cause relaxation of the vaginal floor and walls (Roberts, 1982) [1]. The symptoms are obvious and varies from mild protrusion of mucus membrane to severe necrotic cervico-vaginal prolapse. In mild case, the prolapsed mass reduces when the animal rises. The protruding mass may leads to injury and the severity increases (Roberts, 1982; Noakes *et al.*, 2019) [1, 6]. Thrombosis, ulceration, necrosis of the prolapsed organ, accompanied toxemia and severe straining, lead to anorexia, rapid deterioration and death (Noakes *et al.*, 2019) [6]. The prognosis depends on the severity and length of time it existed (Roberts, 1982) [1]. Treatment include conservative method, truss method and suturing techniques (Parikh *et al.*, 2018 and Sarath *et al.*, 2021) [7, 8]. Straining can be controlled by epidural anaesthesia. Incomplete cervical dilatation may be due to hypocalcemia (Noakes *et al.*, 2019) [6]. In the present case, the treatment approach was cervicotomy, since the cervical rim was fresh and stretchable.



Fig 1: Cervico-Vaginal Prolapse



Fig 2: Cervicotomy Incision

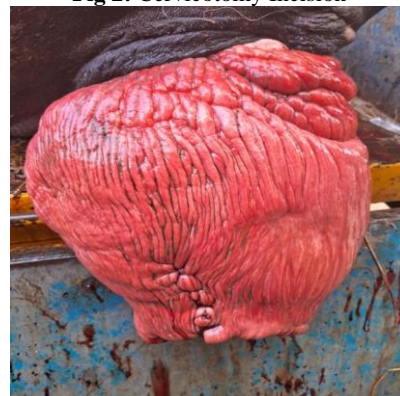


Fig 3: Trachelorrhaphy after relieving fetus

Conclusion

Cervicotomy is best and effective approach for incomplete cervical dilatation. But, if the cervix is hard and indurated, cervicotomy is contraindicated since it can cause extensive uterine tare (Noakes *et al.*, 2019) [6].

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