Short Communication

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Dystocia due to Incomplete Cervical Dilatation in Goat and its Non-Surgical Management

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ABSTRACT

A four-year-old non-descript doe in her third parity was presented to Referral Veterinary Polyclinic, ICAR-IVRI with a clinical history of failure to deliver kid even after completion of the gestation period. The doe was showing intermittent straining since 24 hours and visual examination could not detect any genital discharge from the vulva. Per-vaginal examination revealed one finger dilatation (external os) indicating that the dystocia was due to insufficient cervical dilation. The induction treatment was advised along with CMC massaging of cervix for 10 minutes at every 30 minutes interval. After 2 hours following therapy, the cervix was fully dilated and first water bag appeared at vulva. Per-vaginal delivery was performed with gentle traction yielding two live fetuses. The doe was recovered uneventfully and treatment with antibiotics and supportive therapy was advised for three days.

Key words: Dystocia, Goat, Incomplete Cervical Dilatation, Management.

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INTRODUCTION

Incomplete cervical dilatation (ICD) refers to the suboptimal dilation of the cervix during parturition, hindering the unassisted delivery of the fetus. This condition is often associated with a narrow pelvis, ineffective straining, and can eventually lead to uterine inertia and dystocia in the parturient dam (Franklin, 1986; Purohit, 2006; Noakes et al., 2009). Among small ruminants, the failure of cervical dilatation, commonly known as "ring womb," stands out as the leading maternal cause of dystocia (Ghosh et al., 1992; Purohit et al., 2006; Braun Jr., 2007; Ali, 2011; Bhattacharya et al., 2015). The present study reports a case of dystocia arising from incomplete cervical dilatation in a non-descript goat. Remarkably, we successfully managed this condition using non-surgical therapeutic interventions. This report highlights the significance of recognizing and effectively addressing ICD in small ruminants to ensure optimal maternal and fetal health during parturition.

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CASE HISTORY AND OBSERVATIONS

A pluriparous, four-year-old full term pregnant doe in her third parity was brought to Referral Veterinary Polyclinic, ICAR-IVRI, Bareilly, U. P. with the history of straining since last 24 hours. The animal was apparently healthy with active reflexes but feed and water intake were reduced. There was mild rise in temperature. Abdominal palpation revealed the bony foetal parts floating with foetal reflexes. Per vaginal examination revealed only one finger dilatation of cervix with moderate soft texture of cervix and was diagnosed as a case of dystocia due to incomplete cervical dilatation in goat.

TREATMENT AND DISCUSSION

To address the incomplete cervical dilatation in the presented case, an induction therapy coupled with carboxy methyl cellulose (CMC) massaging of the cervix at 10-15 minute intervals was meticulously executed. The induction regimen comprised the intravenous administration of Inj. Valethamate Bromide (20 mg), Calcium Sandoz (5 ml), Dexamethasone (12.5 mg), and the intramuscular injection of Cloprostenol (250 µg). After a 30-minute interval, a per-vaginal examination was done, revealing promising progress with a 2-3 finger dilatation of the cervix. Subsequently, CMC massaging of the cervix was carried out for 10-15 minutes, employing gentle to-and-fro movements of the fingers within the external os of the cervix. Another 30 minutes later, the first water bag emerged and ruptured naturally. Upon reevaluation through per-vaginal examination, a fully dilated cervix with a moist birth canal was observed. The fetus was positioned anteriorly, and the fetal head and forelimbs were palpable. Employing gentle manual traction, the first fetus was delivered by grasping both forelimbs along with the head. Following the successful delivery of the first fetus, another per-vaginal examination identified the second fetus, also in an anterior presentation. It was delivered using the same gentle traction method as applied for the first. Both fetuses were delivered alive, and both were female. After removal of fetus, the genital tract was examined to rule out for any injury. Post-operative treatment was employed with Inj. oxytocin- 15 IU I/M, Inj. Enrofloxacin (Enrocin) 300 mg I/M and Inj. Melonex 10 mg I/M were given. Uterotone liquid was prescribed @ 30 ml daily for one week. The goat was discharged after receiving regular antibiotics and supportive care.

The present case study reports a case of dystocia caused by incomplete cervical dilatation in a pluriparous non-descript doe. Incomplete dilatation of the cervix or ring womb is very common cause of caprine dystocia (Majeed and Taha, 1989; Ghosh *et al.,* 1992; Braun Jr., 2007). The ring womb was found to be more common in young animals at their first parturition (Majeed and Taha, 1989). Unlike the previous report, in the present study the ICD recorded in a pluriparous doe in third parity. The etiological factors causing incomplete cervical dilation are not clearly known (Gahlot *et al.,* 2017). However, hypocalcemia, hormonal (steroids, prostaglandin and relaxin) or mineral imbalance, abnormality in enzymatic alteration, number of foetuses, uterine inertia, season and breed of animals predispose the condition in goats (Wu *et al.,* 2004; Palliser *et al.,* 2006; Braun Jr., 2007). Various medical and hormonal therapies have been used to treat ring womb cases in goats with variable success rate (Ali, 2011). The PGF2α or its analogues can produce effective cervical dilatation and hence can be used for the management of ring womb in small ruminants (Ghosh *et al.,* 1992; Khan and Erdugan, 2019). The doe in the present case was pluriparous and active hence allotted an induction therapy with valethamate bromide, dexamethasone, calcium sandoz and cloprostenol as reported very effective in earlier studies (Das *et al.,* 2010; Bhattacharyya *et al.,* 2015; Singh *et al.,* 2017). In a case series study comprising 70 small ruminants, it has been shown that hormonal treatment using cloprostenol sodium (250 µg) along with valethamate bromide (15 mg) remained successful in 33% of cases of dystocia due to ring womb (Bhattacharya *et al.,* 2015). An early response in respect of dilation of cervix from one finger to two finger dilatation might be due to cloprostenol administration and potentiated further by Valethamate bromide and calcium borogluconate as reported elsewhere (Das *et al.,* 2010; Ali, 2011; Bhattacharya et al. 2015; Singh *et al.,* 2017). The CMC massaging further strengthen the effect by making the cervix fully dilated, smooth, and soft. Ring-womb has been seen in both purebred and crossbred females. In present study, the case was recorded in a non-descript goat as reported elsewhere (Das et al. 2010; Singh et al, 2017; Monica *et al.,* 2018).

Fig. 1: Live female fetus

CONCLUSIONS

In conclusion, the present study reports a successful non-surgical therapeutic management of caprine dystocia resulted from incomplete cervical dilatation, using induction therapy along with CMC massaging in a pluriparous non-descript doe. The therapy found effective to relieve dystocia and deliver live birth within 3-5 hours since the initiation of the treatment and CMC massaging.

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CONFLICT OF INTEREST

Authors do not have any conflict of interests to declare.

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