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Dystocia due to incomplete cervical dilation concurrent with cervico-vaginal prolapse in cattle: A case report

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Abstract

A full term pregnant non-descript of three years old in first parity was presented to the Referral Veterinary Polyclinic, I.V.R.I. (U.P.) with the history of completed full term gestation. Animal had unproductive straining along with first degree cervico-vaginal prolapse since 48hrs. Some portion of vagina and cervix was exposed outside the perineum. On general clinical examination all the vital parameters were within the normal range. Per-vaginal examination revealed cervix was dilated 3 fingers. On per rectal examination foetus and foetal parts were palpable. The prolapsed mass was replaced after washing with KMnO_4 and it was set in proper place in the pelvic cavity. Animal was treated with dexamethasone 40mg, cloprostenol 500 μg and valetamate bromide 80mg for complete dilation of cervix. A male live calf was relieved as per the standard obstetrical operation. Animal had uneventful recovery.

Keywords: Incomplete cervical dilation, cervico-vaginal prolapse

Introduction

Incomplete dilation of cervix (ICD) is one of the major causes responsible for dystocia. The failure of the cervical rings to relax completely in the event of parturition leads to retention of fetus *in utero* and causes dystocia like conditions. In many instances it is associated with Cervico vaginal prolapse. This condition which common in primigravida, have an incidence of 11.1 to 16.7% in ^[1]. However, Purohit *et al.* ^[2] found the incidence of ICD in cattle and buffaloes to be 5.1%. It occurs because of altered endocrine milieu during parturition. The incidence of Cervico-vaginal prolapsed (CVP) is more commonly observed during the last trimester of pregnancy. During the last trimester of pregnancy there will be an increased estrogen and relaxin hormones that cases relaxation of the pelvic ligaments and adjacent soft tissue structures ^[3]. The combination of this adjacent tissue structures relaxation with the increased intra-abdominal pressure is considered as first and foremost predisposing factor for CVP.

Case History and Observations

A non-descript cow of three years old age was presented to the Referral Veterinary Polyclinic, VGO, IVRI, Izatnagar, U.P with the history of completed full term gestation. Animal had unproductive straining along with first degree cervico-vaginal prolapse since 48hrs. Some portion of vagina and cervix was exposed outside the perineum. On general clinical examination all the vital parameters were within the normal range. Per-vaginal examination revealed cervix was dilated 3 fingers. On per rectal examination foetus and foetal parts were palpable.

Treatment and Discussion

At first the perineal region of cow was washed with clean tape water. Epidural anaesthesia was achieved by injecting 7 ml of 2% Lignocaine hydrochloride @1mL/100 kg bwt. Into sacro-coccygeal space to prevent straining and desensitization of pelvic region. Prolapsed mass was cleaned with KMnO_4 (1:1000 dilution) solution followed by topical application of 2% lignocaine jelly. Ice pack was applied to reduce the oedema and volume of the prolapsed mass.

The repositioning of the prolapsed mass was done by initially pushing the lateral walls and middle portion followed by roof of cervix and vagina. For stabilization administered with six liters of intravenous fluid. Calcium borogluconate 450 ml I/V was also administered. Inj. Dexamethasone 40mg, Inj. cloprostenol 500µg and Inj. valethamate bromide 80mg was also given for dilatation of cervix. After 6 hrs of treatment animal was examined per-vaginally, cervix dilated 4 fingers. After 8 hrs post treatment water (chorioallantoic sac) bag was protruded through the vulva this was ruptured spontaneously due to movement of animal. Since cervical dilation was not adequate even after 12 hours, same above treatment repeated. After 6hrs of second treatment, Foetal head and limbs were protruded through the vulva. A male live calf was relieved by applying mild traction. Fetal membranes were expelled after 7-8 hours of calving. it was discharged with routine prescription of antimicrobials and supportive therapy for 3 days. Animal had uneventful recovery.

Cervical dilatation is a key event for successful vaginal delivery of young ones that occur just before parturition. Failure of cervical dilatation due to alterations in cervical ripening mechanism or insufficient uterine contraction poses problems in delivery of fetus. Cervical ripening is a multifactorial process which is an outcome of hormonal regulation, inflammatory process and enzymatic breakdown of collagen. Incomplete cervical dilatation is an important cause of maternal dystocia among farm animal species with maximum incidence in sheep and goat [4]. In the present study, combination therapy of valethamate bromide and PGF_{2α} resulted in successful dilatation of cervix this was in accordance with reported in cattle and buffalo [2] [5]. Recently, intracervical application of PGE₁ analogue (misoprostol) has also been used for successful treatment of ICD in cattle [6] and goat [7]. Cervicotomy approach was also one of the other way of managing ICD in cattle [8]. Increased concentration of estrogen causing relaxation and softening of the pelvic ligaments along with increased intra-abdominal pressure might have predisposed to CVP [9]. First degree CVP was managed with epidural 2% lignocaine along with intravenous or oral calcium therapy.

Conclusion

In present case study therapeutic management dystocia due to incomplete cervical dilation concurrent with cervico-vaginal prolapse in Cattle was done successfully

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