Case Report

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Management of Dystocia due to Extreme Lateral Deviation of Head and Neck in Cattle: A Case Report

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ABSTRACT

The Referral Veterinary Polyclinic, ICAR-IVRI, received a primiparous five-year-old non-descript cow with a history of complete gestation, frequent straining, rupture of the water bag, no further progress in labor for the last 12 h, and a failed attempt at manual foetal extraction by the local veterinarian. Following a general clinical examination, the veterinarian recorded all vital parameters, including the rectal temperature (102.5 °F), respiration rate (27/min), and pulse rate (53/min). A per-rectal examination followed by a per-vaginal examination to determine the presentation, position, and posture of the fetus. The fetal forelimbs were lying in the birth canal, but the fetal head and neck were extremely deviated laterally and lodged very deeply in the uterus around the hind limbs. We performed various obstetrical manoeuvres to correct the foetal disposition, and subsequently successfully extracted a dead female fetus. The dam was stable, and postoperative therapy was successfully administered. We carried out a follow-up for up to one week, and the animal recovered uneventfully.

Introduction

Dystocia is the term used to describe a delay or difficulty in parturition (Lombard et al., 2007; Purohit et al., 2012). Foetal causes of dystocia are more common and account for 64.08%; head deviation is 20.4%; and limb flexion is 19.4% (Purohit and Mehta, 2006). In relation to the four quadrants of the dam, head and neck deviation may occur in any direction. Dystocia due to lateral deviation of the head and neck constitutes one of the most common types of postural abnormalities in anterior presentation, and it may arise during late gestation rather than during birth (Noakes et al., 2019). Unipara is the most common condition where lateral deviation of the head occurs, with a serious prognosis when the foetus is dead and the deviations are due to muscle contractures (Sane et al., 1994). The deviation is known to occur due to deflection of the nose against a partially open cervix, and with the progressive contractions of the uterus, the deviation may further increase (Mudasir et al., 2010). The deviation of the head and neck can be corrected by using mutation and traction, a caesarean section, or a fetotomy (Noakes et al., 2019). We successfully resolved this particular case of dystocia using different obstetrical manoeuvres, avoiding the potential uncertainties of a caesarean section for the animal.

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Case history and observations

The Referral Veterinary Polyclinic, ICAR-IVRI, Izatnagar, Bareilly received a primiparous five-year-old non-descript cow. The cow had a history of complete gestation, frequent straining, rupture of the water bag, no further progress in labor for the last 12 h, and a failed attempt at manual foetal extraction by the local vet. We recorded all the vital parameters, including the temperature (102.5 °F), respiration rate (27 per minute), and pulse rate (53 per minute). The animal was distressed and showed signs of discomfort. A per-rectal and then a per-vaginal exam showed that the cervix was fully open, the foetus was in the anterior presentation, dorso-sacral position, and the head and neck were very laterally deviated in terms of posture, while the forelimbs were resting in the birth canal. Initially, the head was unapproachable as it was lying extremely deep in the uterus, along with the hind limbs (Fig. 1). Eventually, we managed to approach the mandible's ramus by repelling the forelimbs into the uterus with the forearm and then carefully palpating it. We determined the foetal disposition based on all these observations and carried out the necessary interventions for further management.

Treatment and discussion

Based on the observations and per vaginal examination, the case was diagnosed as an extreme right lateral deviation of the head and neck as the root cause of dystocia. We restrained the animal in the right lateral recumbency position and performed epidural anaesthesia in the sacrococcygeal space using 2% lignocaine hydrochloride (5 ml) to prevent straining and pain. Given the dry nature of the birth canal, we administered 2-3 litres of 1% carboxymethyl cellulose (HiMedia Laboratories Pvt. Ltd., Thane) as a lubricant into the birth canal and uterus. We inserted well-lubricated gloved hands into the vagina and repelled the foetal forelimbs into the uterus by applying force to the brisket and shoulder region. However, because of the deep lodgement of the fetus into the uterus, the head was unapproachable. We decided to apply traction to the forelimbs to make the foetal head approachable. We brought the deviated head and neck into the birth canal by holding the muzzle and applying traction to the lower jaw in a dorsal and backward direction (Fig. 2). Following the correction, the veterinarian applied traction by pulling the forelimbs (Fig. 3), resulting in the delivery of a dead female foetus. We administered post-operative treatment to the stable animal, which included an intrauterine bolus (Cleanex® - Dosch, India), antibiotic (Ceftiofur sodium-Edfur, Vetedge Pvt. Ltd.) 700 mg I/M, antihistaminic (Chlorpheniramine maleate, 10 ml I/M), anti-inflammatory (Flunixin meglumine, 12 ml I/M), calcium (Inj. Mifex, Novartis India Ltd., 450 ml, Slow IV), and uterine cleanser (Uterotone® - Cattle Remedies, India) @ 50 ml orally twice in a day along with supportive therapy (Belamyl 10 ml I/M; Fluids) for 5 days. We carried out a follow-up for up to one week, during which the animal recovered without any complications.

After repulsion, one can correct lateral deviation by bringing the head into a normal position and using hooks and snares. In difficult cases, a partial fetotomy may be performed (Phogat et al., 1992). Various options can be considered according to the individual case, and the obstetrician's decision may depend on the space available in the pelvic canal, the presence of emphysema, and the rigidity of the neck. Usually, the obstetrician encounters two types of downward deviations: the vertex presentation and the nape presentation. The first type is easy to correct, especially if the fetus is alive, and can be achieved by grasping the muzzle or nose. Repulsion of the fetus is a more difficult correction method for the second type. When manipulation of the foetus is not possible, fetotomy is the usual alternative (Wehrend et al., 2002). However, in difficult cases with a live foetus, a caesarean section is advisable. In cattle and buffalo, dystocia due to an upward deviation of the head is rare (Purohit et al., 2012).

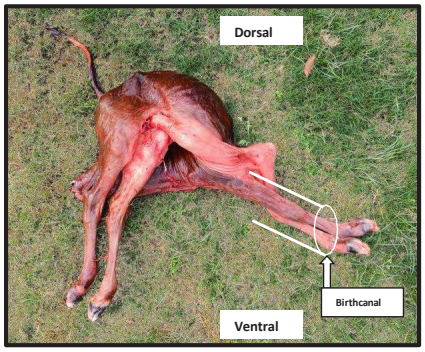

Fig. 1: Head was unapproachable as it was lying extremely deep in the uterus, along with the hind limbs.

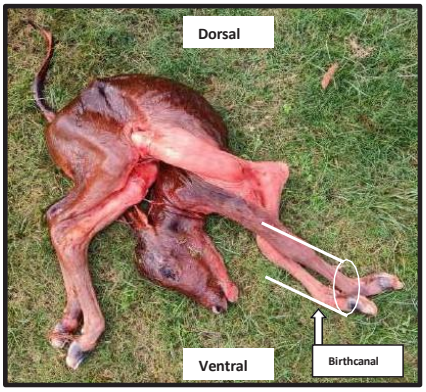

Fig. 2: Deviated head and neck were brought into the birth canal by holding the muzzle area and applying traction to the lower jaw.

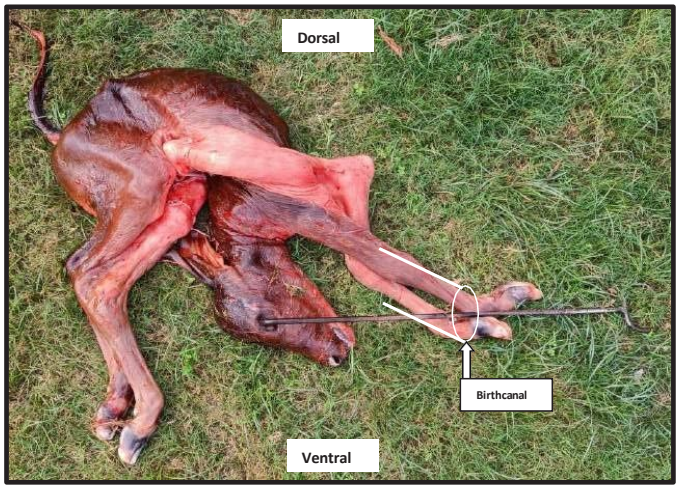

Fig. 3: After correction, traction was applied by pulling the forelimbs

Conclusion

In conclusion, the presented case of dystocia in a primiparous cow highlighted the complexities and challenges often encountered during difficult deliveries. The successful resolution of the extreme right lateral deviation of the fetal head and neck underscores the importance of prompt and appropriate obstetrical interventions. Manual manipulation, traction, and careful management can prevent major surgical interventions like caesarean sections. This case emphasises the significance of veterinary expertise and the array of techniques available for addressing dystocia in bovine obstetrics. The postoperative care provided, which included antibiotics, anti-inflammatory drugs, and supportive therapy correction techniques, helped manage the obstructed birth without resorting to more invasive procedures and contributed to the cow's successful recovery without complications. Overall, this case serves as a reminder of the critical role played by veterinarians in ensuring the health and welfare of both livestock and their offspring during parturition.

Conflict of interest

None

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