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Dystocia caused by shoulder and carpel flexion: A Case Report

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Abstract

The present case reports the management of dystocia due to shoulder flexion in a 5-year- old non – descript cow. Animal was presented to Teaching Veterinary Clinical Complex (TVCC), Durg with a history of complete gestation and forehead protruding through vulva but, no further progress in labour for the last 12 h, and a failed attempts at manual fetal extraction by the owner. Per vaginal examination revealed, fetus to be in anterior longitudinal presentation, bilateral shoulder flexion posture and dorso- sacral position. The diagnosis was dystocia due to fetal disposition. The case was long standing with swollen forehead, hence fetotomy was performed and head was severed by a stab incision. Further the malposition was corrected by manual manipulation followed by fetal extraction.

Keywords: Cow, Dystocia, Fetotomy, Shoulder flexion

NTRODUCTION

Dystocia represents prolonged and difficult labour that often require obstetric intervention (Abera, 2017). Dystocia term is used to describe a delay or difficulty in parturition (Purohit *et al*., 2012). In order to establish the cause, a detailed obstetric examination was performed, including history, general condition of the mother, the condition of the soft and bony birth canal, and the condition of the fetus. The causes of dystocia are considered in two groups - of maternal and fetal origin (Youngquist and Threlfall, 2006). Fetal 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). The deviation of the head, neck and shoulder flexion can be corrected by using mutation and traction, a caesarean

section, or a fetotomy (Noakes *et al*., 2019). Usually, malposition is corrected manually and with the help of obstetrical tools, such as ropes, rope guides, repository forks, etc. If the correction does not take place in about 15 to 30 minutes, it is appropriate to proceed to another method of providing obstetric assistance (Abera, 2017). We have successfully resolved this particular case of dystocia using different obstetrical manoeuvres, avoiding the potential uncertainties of a caesarean section for the animal.

CASE PRESENTATION

Examination

The patient was a 5-year-old non- descript cow. From the anamnesis, we found that this was the animal's second birth, the first being normal. The owners reported that the pregnancy had progressed normally until they initially observed the fetal head protruding through the vulvar opening, after which labour ceased and became non-progressive during the night. As the case was long-standing, the cow had lost a significant amount of fluid, and uterine contractions had ceased. Examination showed a visible fetal head, but the absence of the thoracic limbs. The lack of fetal reflexes indicated that it was non-viable. Its size allowed it to pass through the mother's pelvis. The calf was situated in anterior longitudinal presentation, dorso- sacral position, bilateral shoulder flexion posture.

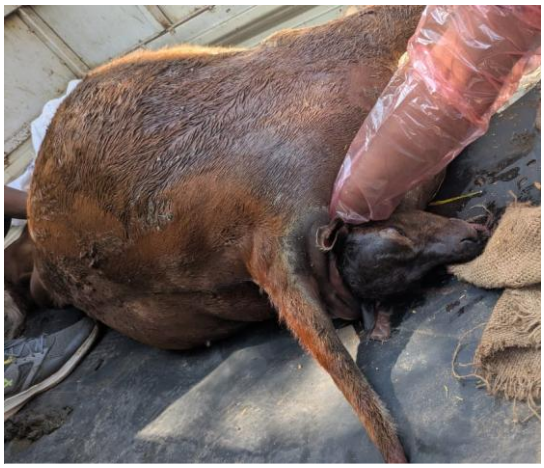

Figure 1. Absence of visible thoracic extremity

TREATMENT

As a result of the examination and diagnosis, we drew up a plan for providing obstetric assistance, which included fetotomy and manual manipulation of the limbs and extraction of the fetus. Head of the fetus was swollen hence, fetotomy was performed and head of the fetus was severed using a stab incision on the neck. Head was separated then the fetus wedged in the pelvis was pushed back into the uterus to provide space for the correction of the posture of the fetal limbs. We then proceeded to correct the shoulder flexed posture and animal was brought to carpal flexed posture using the classic method described by Jackson (2004) and Vasilev *et al*. (2015). For this the humerus was grasped with the hand and pulled towards the soft birth canal, then the limb was fixed with the hand in the metacarpal region and was initially

pushed backwards and dorsally, after which the hoof was grasped in the hand and brought towards pelvic inlet. After successful extension the limb was fixed with an obstetric rope.

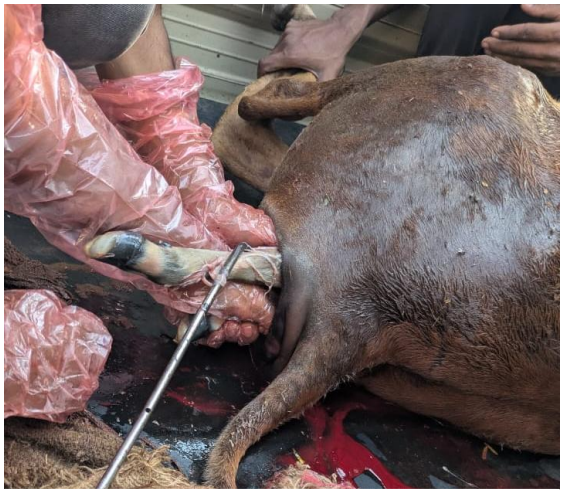

Figure 2. Left thoracic extremity after fetotomy

To correct the posture of the right limb, we proceeded in a similar way. The two limbs thus adjusted were fixed with obstetric ropes. After the successful correction of the fetal posture, we proceeded to its extraction. To do this, an assistant pulled the limbs fixed with ropes, while the obstetrician guided the fetal neck. The direction of extraction was initially parallel to the mother's spine due to the fact that the fetus had entered the pelvic cavity with its greater part. After passing the shoulders, the direction of extraction was ventral.

POST PARTUM PERIOD

The animal was treated with 3.5 ml. Oxytocin 10UI/ml (Biovet) to stimulate uterine activity and placental separation. Fifty milliliters of calcium borogluconate 20% (Vetprom) was also administered. The owners reported that the placenta separated in the normal period. Ten days after delivery, regular examinations were carried out to follow the involution of the uterus and rule out the possibility of the development of postpartum complications caused by the dystocia.

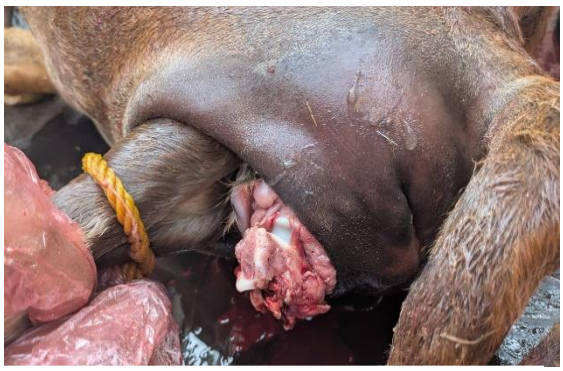

Figure 3. Two extremities are tied using ropes

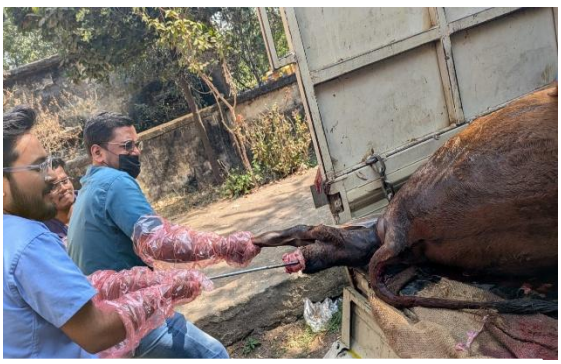

Figure 4. Delivery by traction

DISCUSSION

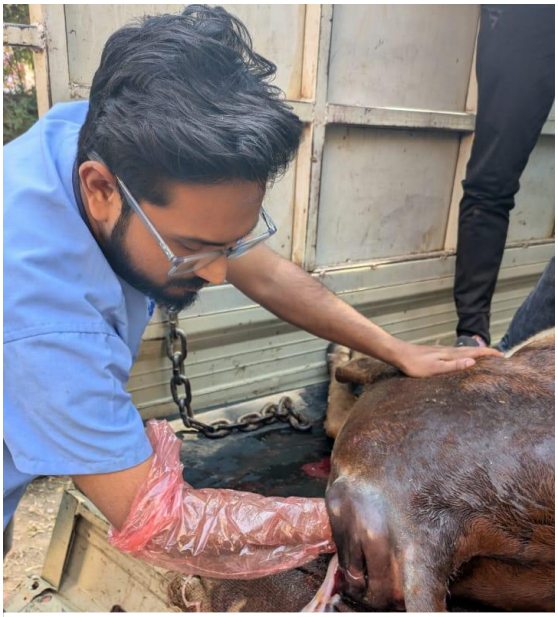

Figure 5. Examination of genitalia after delivery of fetus

Difficult parturitions are a major cause of increased mortality during the natal and early postnatal periods. The high mortality rate of dystocia was described by Bleul (2011), who found that this condition accounted for 12.2% of neonatal deaths. Ansari-Lari (2007) reported a mortality rate of 1.5% to 58.8% depending on the severity of dystocia. Based on the analysis of Khudhair *et al*. (2020), the mortality rate can reach up to 85.1%, and may be even higher in certain types of fetal malpositions. This clinical case confirms the significant risk that accompanies difficult labour in large ruminants, as well as the importance of prompt obstetric assistance.

The present case demonstrates that the malpositioned fetus (with carpal and shoulder flexion) could not pass through the maternal birth canal without obstetrical intervention, which supports the findings of Abera (2017). The thoracic limbs, flexed at the carpal and shoulder joints, became wedged in the bony birth canal, preventing the fetus from being expelled by the dam's own efforts. We support the statement of Dimitrov (2003), that the fetus positioned in this malposted manner should not be extracted, because this would lead to serious damage to the mother's organism. This is the reason why utero-contracting agents are contraindicated in such situations. We also found that the classical method of manual posture correction described by Jackson (2004) and Vasilev *et al*. (2021) is a fast and reliable method for providing obstetric assistance.

CONCLUSION

Based on the current case and literature review, it can be concluded that the malposture of the fetal extremities leads to the inability of the fetus to pass through the birth canal, as well as to fetal mortality if the case is prolonged.

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