CASE REPORT

Dystocia due to Acute Dorsal Deviation of Foetal Head and Neck along with Bilateral Shoulder Flexion in a Murrah Buffalo: A Case Report

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Ind J Vet Sci and Biotech (2024): 10.48165/ijvsbt.20.4.37

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How to cite this article: Biswas, N., Kumar, B., Srivastava, N., Warghat, C. R., Singh, K., Kumar, S., & Dwivedi, P. (2024). Dystocia due to Acute Dorsal Deviation of Foetal Head and Neck along with Bilateral Shoulder Flexion in a Murrah Buffalo: A Case Report. Ind J Vet Sci and Biotech. 20(4), 166-168.

Source of support: Nil

Conflict of interest: None

Submitted 13/12/2023 **Accepted** 30/04/2024 **Published** 10/07/2024

Dystocia is one of the major causes of reproductive complications in buffaloes (Juneja *et al.,* 2023). Dystocia is the term used to describe a delay or difficulty in parturition (Lombard *et al.,* 2007; Purohit *et al.,* 2012). The incidence of dystocia in buffaloes ranges from 2.12% to 4.81% (Prasad and Prasad, 1998; Khan *et al.,* 2009). It may originate either from the maternal or foetal side (Noakes *et al.,* 2009). Foetal causes of dystocia are usually evident at the time of parturition (Kaushish and Mathur 2005). Among the foetal causes, dystocia due to foetal mal-disposition is most commonly encountered, with an incidence rate ranging from 9.04-56.7% (Das *et al.,* 2009; Mudasir *et al.,* 2010; Shisodiya and Mali, 2014). Foetal mal-dispositions, such as the deviation of the head and neck of foetus in anterior presentation, are the most obvious reasons for dystocia (Roberts, 1986). Srinivas *et al.* (2007) reported that 40.84 % of dystocia in graded Murrah buffaloes were due to foetal causes, among which head deviations were 42.22 %. Shoulder flexion, either unilateral or bilateral, can also become a reason for complicated dystocia of foetal origin (Chandolia *et al.,* 2016). These conditions can occur as a single cause of dystocia or may be combined with each other to aggravate the degree of complications. Different obstetrical operations, such as manual traction, repulsion, rotation, and sometimes fetotomy are indicated in complicated conditions (Velladurai and Alagar, 2017). This particular case deals with the approach and management of dystocia due to dorsally deviated head and neck along with bilateral shoulder flexion in a Murrah buffalo.

Clinical History and Observations

A seven-year-old Murrah buffalo in fourth parity was presented to the Referral Veterinary Polyclinic, ICAR-IVRI, Izatnagar, Bareilly with an anamnesis of consistent non-productive straining for the past 20 h, complete gestation, dystocia, and failure to respond to manual foetal removal by local veterinary clinicians. All the vital parameters, *i.e.,* temperature (102.5 ^{o}F), respiration rate (27/min), and pulse rate (53/min), were recorded. The visible mucus membranes were congested giving an indication of toxaemia. The animal appeared to be dull and exhausted physically. A per-vaginal obstetrical examination revealed that the foetus was in anterior longitudinal presentation and dorso-sacral position in a fully dilated birth canal. The thoracic girdle and rib cage of the foetus were palpable, but the head was totally unapproachable. No limbs were palpable, and the foetal disposition was such that it was not possible to apply manual traction. The ribs could be felt from both the right and left sides, which ruled out the possibility of lateral deviation of the head and neck, but the foetal viability was questionable and could not be determined. So, on the basis of all these observations, it was diagnosed as a case of dystocia due to extremely upward deviated head and neck along with bilateral shoulder flexion (Fig. 1).

Treatment and Discussion

After evaluating the general condition, fluid therapy (3-litre Normal saline solution and 2-litre Ringer's lactate) and a dose of Dexamethasone (Dexona®-Vet Injection) 40 mg were administered intravenously to stabilize the dam. The animal was then restrained in the right lateral recumbency. The birth canal was lubricated with an ample quantity of carboxy methyl cellulose gel, and on per vaginal deeper examination, the ear of the foetus could be palpated, which was lying very deep into the uterus. A substantial effort had

to be made to find an anchor point into skin flap around the base of the head of the foetus. A long-handled eye hook was used, and gentle traction was applied to extend the head towards the birth canal. This made the eye sockets palpable. Again, manual traction was applied by using a long-handled eye hook to further extend the head and neck. The head was taken out through the birth canal. The other foetal parts were not palpable due to the narrow passage, hence decapitation was performed so that the other parts could be taken out (Fig. 2). The right limb was taken out, but the other flexed shoulder was making it difficult to expel the dead foetus. Therefore, disarticulation of the right shoulder joint at level of scapula was done to further facilitate the expulsion (Fig. 3).

Following the disarticulation of the right forelimb, a long-handled eye hook was anchored against the left shoulder joint (Fig. 4), and the whole foetus was extracted completely by manual traction while guarding the cut portion of the neck. The whole procedure lasted for about three hours. After the completion of the operation, the dam stood up by itself. The animal was stable and was given post-operative treatment using 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), uterine cleanser (Uterotone® - Cattle Remedies, India, @ 50 mL orally twice a day) along with supportive therapy (Belamyl 10 mL I/M and Fluids) for 5 days. A follow-up treatment was carried out for up to one week, and the animal recovered uneventfully.

There are several factors that affect the reproductive performance of buffaloes, which results in economic losses; among them, dystocia has been reported to be one of the major causes ((Jainudeen, 1986). Although upward deviation of the head is rare, the incidence of dystocia due to bilateral shoulder flexion is often reported in buffaloes (Purohit *et al.,* 2012). Fetotomy is commonly used to correct dystocia due to feto-maternal disproportionation in cattle and buffalo (Noakes *et al.,* 2009). However, in this particular case, decapitation and disarticulation of the shoulder joint were done to relieve the dystocia.

Acknowledgement

The authors are thankful to the Director, ICAR-Indian Veterinary Research Institute, Izatnagar; In-charge, RVP and Head, Division of Animal Reproduction for providing necessary facilities in the referral veterinary polyclinic for treatment of animals.

Fig. 1: Possible disposition: Dorsally deviated neck along with head and bilateral shoulder flexion.

Fig. 2: Decapitation of malpositioned foetus

Fig. 3: Disarticulation of right shoulder joint.

Fig. 4: Anchoring point to apply manual traction to deliver the foetus.

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