Case Report

Animal Reproduction Update
Year 2025, Volume-5, Issue-1 (January-june)

# Management of Dystocia in Buffalo by Partial Percutaneous Fetotomy: A Case Report

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## ARTICLE INFO

**Keywords**: Buffalo; dystocia; head deviation; percutaneous fetotomy; mutation

## ABSTRACT

A five-year-old, nondescript buffalo in her third parity, with a history of 9 months of gestation, in labour pain since 12h, was presented at the Referral Veterinary Polyclinic, ICAR-Indian Veterinary Research Institute, Izatnagar, Bareilly, with no further progression and a ruptured water bag. It was previously attended by a paravet in the morning with faulty manual traction, causing the forelimbs to track outside the vulva up to the fetlock joint with no further progression. Clinical examination revealed an increase in respiration and pulse rate with rectal temperature 102.6°F was recorded. On per rectal and per vaginal examination, there was complete dilation of the cervix, the foetal presentation was anterior longitudinal dorso-sacral position, and the head and neck were extremely downward deviated in terms of posture, while the forelimbs were outside the vulva up to the fetlock joint. Successful management of dystocia with partial percutaneous fetotomy and mutational operation was performed with uneventful recovery of the animal.

## Introduction

When the first or, especially, the second stage of parturition is markedly prolonged, becoming difficult or impossible for the dam to deliver the foetus without artificial aid, the condition is termed dystocia (Roberts, 1987). It may arise in several conditions (Jerome and Srivastava, 2012), including deviations of limbs or heads of the foetus or maternal causes. Of all domestic animals, dystocia is most frequently observed in cattle and buffalo (Purohit et al., 2011; Noakes et al., 2018). Khan et al. (2009) analysed the incidence of abnormal calving in buffalo in various reports and found it to be between 5.6 and 12.6% in Murrah, 8.94% in Jaffarabadi, and between 4.6 to 5.4% in Surti buffalo. There are two types of causes for dystocia: foetal and maternal (Kebede et al., 2017). Head deviation, forelimb flexion, breech presentation, dog-sitting posture, and foetal abnormalities are the most common causes of dystocia in foetuses (Bhattacharyya et al., 2012; 2015). Citek et al. (2011) estimated that faulty posture, position, and presentation accounted for 7.8%, 2.3%, and 8.2% of dystocia, respectively. Lateral deviation is the most prevalent type of head deviation (Purohit et al., 2011); other deviations, such as upward or downward deviation, are rarely found. Usually, doctors describe two types of downward deviations. In the first, the nose of the foetus is facing the trachea and poll at the pelvic inlet (vertex presentation),

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Received:22.04.2025 ;Accepted:18.06.2025

and in the second, the entire head is dropped between the forelimbs (nape presentation). If manipulating the foetus is not feasible, a fetotomy may be required (Wehrend et al., 2002). Fetotomy, previously known as embryotomy, involves a dissection of a foetus into two or more sections within the uterus and vagina. Veterinary literature describes 2 main types of fetotomy: subcutaneous fetotomy and percutaneous fetotomy (Norman and Youngquist, 2012). Percutaneous fetotomy involves the dissection of a foetus by cutting through skin, muscles, ligaments, and bone using braided wire. It is faster than subcutaneous fetotomy, but damage to the uterine wall and birth canal during cutting and manipulation of the foetus is a potential risk in all cases of percutaneous fetotomy. Typically, a partial fetotomy involves swiftly amputating the problematic appendage(s) and then delivering the foetus using traction.

## Case history and observations

The Referral Veterinary Polyclinic, ICAR-IVRI, Izatnagar, received a pluriparous, non-descript buffalo at full term of pregnancy that had been straining for 12 h. The water bag had already ruptured 6-8 h ago, and foetal forelimbs were protruding out of the vulva. During the clinical examination, the rectal temperature of the animal was recorded at 102.6°F, and while the conjunctival mucous membrane appeared normal, the animal exhibited signs of dullness and depression. The gynecological clinical examination of the animal revealed a completely dilated cervix, the dead foetus in the anterior longitudinal presentation, dorso-sacral position, and extreme downward deviation of the head indicating foetal malposition with both the forelimbs of the foetus present in the birth canal (Fig. 1). Consequently, a downward deviation of the head and neck led to the diagnosis of dystocia in the current case.

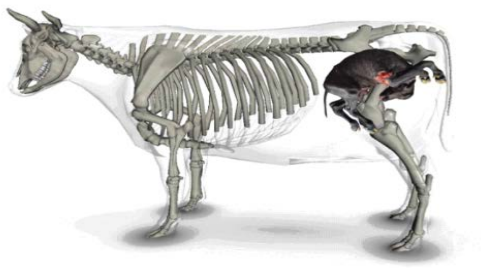

**Fig. 1:** Fetal forelimbs outside vulva

## Treatment and discussion

The buffalo was stabilized before the obstetrical operation by administering Ringer's Lactate 3 liters I/V, DNS 2 liters I/V, and an injection of Dexona®-Vet (Dexamethasone) at 0.1mg/kg b.wt. I/V. To abolish the straining, an epidural anesthesia in the sacrococcygeal space using lignocaine hydrochloride 2% (Lox 2%) 5 ml was administered. The buffalo was cast and restrained in right lateral recumbency. The birth canal was thoroughly lubricated with a wide-bore stomach tube by lukewarm carboxymethyl cellulose sodium (HiMedia Laboratories Pvt. Ltd., Thane). The gloved, lubricated hand was introduced to repel the foetus inside to create adequate space by pushing forward on the dorsal of its neck unsuccessfully, as the case was more protracted with the uterus being contracted over the foetus.

Hence, partial fetotomy was preferred to deliver the dead foetus. Initially the pastern was fastened with an obstetrical snare, and traction was applied over the one forelimb, and simultaneously an incision on the shoulder joint with a fetotomy finger knife was performed. After complete cut through skin, muscles, and ligaments, the extended limb was rotated with simultaneous traction and disarticulated from the shoulder joint (Fig. 2). The surgeon performed a similar operation on another limb. The foetal head was located with a hand, and a long, blunt obstetrical eye hook was placed in the inner canthus of the eye orbit of the foetus, and traction was applied. The surgeon slowly brought the foetal head outside the vulva, applied traction, and delivered a dead male calf.

**Fig. 2:** Fetotomy of forelimbs

**Fig. 3:** Dam recovery after fetotomy

The animal received injections as treatment: injection Melonex™ (Meloxicam) at 0.2 mg/kg b.wt. IM for 3 days, injection Cadistin®-Vet (Chlorpheneramine Maleate) at 0.25mg/kg b.wt. IM for 3 days, injection IntacefTazo® (Ceftriaxone and Tazobactum) @ 10 mg/kg I/V for 5 days, hemostatic injection M-Bloc™ (Etamsylate) @ 4 mg/kg b.wt. I/M for 3 days, injection Syntocinon® (Oxytocin) 50 IU I/M, and liquid Utroton® (Uterine tonic) 100 ml PO BD for 5 days. After postoperative care, the animal appeared alert and active (Fig. 3) and hence was discharged. The follow-up of the case revealed complete recovery of the dam within 8–10 days.

Early second-stage labour can fix posture problems with obstetrical operations, but if not handled properly or if done by untrained people, it can lead to incorrect pulling, making it impossible to assist with delivery, and in those situations, caesarean section or fetotomy techniques are suggested. The reason for extreme downward deviation of the head seemed to be traction on both the forelimbs without guiding the foetal head and lack of proper lubrication in the birth canal. The birth canal was dry, and the foetus was tightly impacted in the birth canal. It becomes more complicated when we apply traction to the forelimb without knowing the position of the foetal head (Rajashri et al., 2014). This case study suggests timely scientific management of obstetrical cases to avoid caesarean section, as milk production and fertility are less affected after fetotomy than caesarean section.

## Conclusion

In this case, a partial percutaneous fetotomy and a mutational operation were used to successfully help a buffalo with a dead foetus stuck inside and its head and neck bent down, leading to the dam's successful recovery.

## Acknowledgement

The director, ICAR-IVRI, Izatnagar; the officer in charge, RVP; and the head of the Division of Animal Reproduction for providing necessary facilities in the referral veterinary polyclinic for treatment of animals.

## Conflict of interest

The authors declare no competing interests.

## References

Bhattacharyya HK, Bhat FA, Buchoo BA. Prevalence of dystocia in sheep and goats: a study of 70 cases (2004-2011). J Advanced Vet Res. 2015;5(1):14-20.

Citek J, Hradecka E, Rehout V, Hanusova L. Obstetrical problems and stillbirth in beef cattle. Anim Sci Papers Rep. 2011;29(2).

Jerome A, Srivastava N. Prostaglandins vis-à-vis bovine embryonic mortality: a review. Asian Pacific J Reprod. 2012;1(3):238-46.

Kebede A, Mohammed A, Tadessse W, Abera D, Nekemte E. Review on economic impacts of dystocia in dairy farm and its management and prevention methods. Nat. Sci. 2017;15(3):32-42. doi:10.7537/marsnsj150317.04.

Khan HM, Bhakat M, Mohanty TK, Gupta AK, Raina VS, Mir MS. Peripartum reproductive disorders in buffaloes-An overview. Vet Scan. 2009;4(2):38.

Noakes DE, Parkinson TJ, England GC, editors. Arthur's Veterinary Reproduction and Obstetrics-E-Book: Arthur's Veterinary Reproduction and Obstetrics-E-Book. Elsevier Health Sciences; 2018 Oct 30.

Norman S, Youngquist R. Percutaneous Fetotomy Techniques: Tips and Tricks. In Australian Veterinary Assocation (AVA) Annual Conference 2012 (p. 10). AVA.

Purohit GN, Barolia Y, Shekhar C, Kumar P. Maternal dystocia in cows and buffaloes: a review. Open j Anim scie. 2011;1(2):41-53.

Rajashri M, Reddy K, Srinivas G. Management of malpositioned fetus by partial fetotomy in a primiparous cow. Intas Polivet. 2014;15(2):324-5.

Roberts SJ. Veterinary obstetrics and genital diseases. CBS Publishers & Distributors Pvt. Limited; 2004.

Wehrend A, Reinle T, Herfen K, Bostedt H. Fetotomy in cattle with special reference to postoperative complications--an evaluation of 131 cases. DTW. Deutsche Tierarztliche Wochenschrift. 2002;109(2):56-61.