MANAGEMENT OF IMPERFECT CERVICAL DILATION IN BUFFALO: A CASE REPORT

Mamta Meel*, Mitesh Gaur, Dinesh Jhamb, Kalpesh Kumar Pargi, Omprakash Solanki, Krishna Nand Bansal

Department of Veterinary Gynaecology and Obstetrics, College of Veterinary and Animal Science, Navania, Rajasthan University of Veterinary and Animal Sciences, Bikaner, 313601, Rajasthan, India

*Corresponding authors' email: mamtameel100@gmail.com

DOI: https://doi.org/10.5281/zenodo.15699952

ABSTRACT

This case study presents a case of incomplete cervical dilation in a non-descript buffalo, which was successfully managed through cervicotomy under epidural anesthesia, leading to the delivery of a deceased male calf.

KEYWORDS: Incomplete Cervical Dilation (ICD), Cervicotomy, Dystocia, Parturition, Obstetrical Management, Cervical Incision Technique

INTRODUCTION

The cervix serves as a critical protective barrier for the uterus during gestation. Prior to parturition, various hormonal changes occur that influence the physio-chemical properties and echotexture of the cervix. In bovines, the incidence of dystocia is notably higher compared to other domestic animals (Dutt *et al*., 2021). Dystocia due to incomplete cervical dilatation (ICD) has been associated with the hormonal aberrations at term (Das *et al*., 2008). Incomplete cervical dilation (ICD) is a common issue in ruminants, particularly affecting multiparous animals, and ranks as the third most frequent cause of dystocia. The bovine cervix, with its muscular and fibrous structure, remains tightly closed during gestation. If not properly relaxed and dilated, this condition can lead to severe dystocia (Roberts 1971). The condition arises from several factors including cervical induration, primary uterine and cervical inertia, as well as secondary uterine inertia with cervical involution. The incidence of cervico-vaginal prolapse 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 cause relaxation of the pelvic ligaments and adjacent soft tissue structures. While caesarean operation is commonly resorted to in such cases, cervicotomy represents an alternative approach in certain bovine ICD instances (Pearson, 1971).

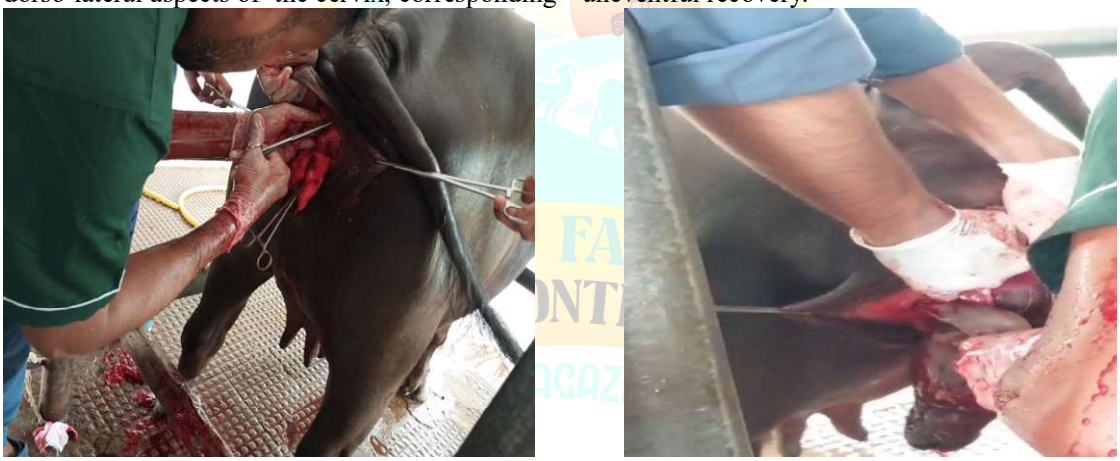
CASE HISTORY AND OBSERVATION

A 10 year old full term pregnant buffalo was presented to the Veterinary Clinical Complex of the College of Veterinary and Animal Sciences, Navania, Udaipur with the history of straining over a 20-hour period. The buffalo had a history of dystocia during a previous calving. On clinical examination, the buffalo had frequent straining. Some portion of the vagina and cervix was exposed outside the perineum. Vaginal examination revealed, the cervix was partially dilated. The fetus was approaching the birth canal. The fetus was in anterior longitudinal presentation(P1), dorso-sacral position(P2) with head located anterior to the cervix and resting over the extended forelimbs. On per-rectal examination fetal reflex was palpable. To facilitate cervical dilation the buffalo was administered Inj. Cloprostenol 500mcg, Inj. Oestradiol benzoate 10mg, Inj. Valethamate bromide 100mg and Inj. Dexamethasone 40mg intramuscularly with a repeated dose administered after 6 hours. After subsequent pervaginal examination revealed no appreciable progress in cervical dilation. Due to continuous straining some portion of the vagina and cervix was exposed outside the perineum. The

case was diagnosed as imperfect cervical dilation (ICD) and decided to relive by adopting cervicotomy approach.

TREATMENT

The vulvar lips, exposed cervix and perennial area was cleaned with KMnO4 solution (1:1000). Then, under low caudal epidural anesthesia, with 5ml of 2% lignocaine between C1-C2 coccygeal vertebrae@ 1ml/100kg body weight was given. The povidone iodine solution was applied over the cervix and surrounding area followed by topical application of lignocaine jelly. The fetal head was maneuvered to the external Os of the cervix using a long obstetrical hook positioned in the inner canthus of the fetal eye orbit, engaging the cervical folds tightly over the fetal head. The head and forelimb were taut, and an approximately 8 cm long incision was performed on the left and right dorso-lateral aspects of the cervix, corresponding to the 10 and 2 o clock positions. A bilateral cervicotomy was performed at the 10 and 2 o clock positions, enabling the delivery of a live male fetus through traction. The cervical incision was closed using a simple continuous suture pattern, employing absorbable polyglycolic acid (Number-2). During this procedure the dam received Inj. Normal saline solution 3 lit. IV, Inj. Dextrose normal saline 2 lit. IV, Inj. Calcium-borogluconate 350 ml IV, Inj. Ceftriaxone with Tazobactam 4.5gm IM, Inj. Tribivet 10ml IM, Inj. Avil 10ml IM, Inj. Texableed 20ml IM and Inj. Oxytocin 40IU. This treatment was prescribed for next 5 days except Inj. Calcium-borogluconate, Inj. Oxytocin and Inj. Texableed. The soframycin cream and lignocaine jelly was applied topically over the cervico-vaginal region. Buhners sutures were applied on vulvar mucosa to prevent reoccurrence of prolapse. The animal had an uneventful recovery.



(A) **(B)**

Fig. 1 (A) Incision made on 10 and 2 o' clock positions, (B) Removal of fetus by traction

DISCUSSION

Caesarean section appears to be the last resort when all attempts at cervical dilation had failed. Cervicotomy as a managemental technique in ICD was reported earlier in cattle (Sathiamoorthy *et al*., 2011). Cervicotomy is contraindicated if cervix is thick, indurated as it might lead to uterine tear (Noakes *et al*., 2009). Cervicotomy is quite, simple and effective method for managing a case of incomplete cervical dilation and risk of caesarean section (Dutt *et al*., 2023).

CONCLUSION

Incomplete cervical dilation (ICD), which can arise from multiple etiologies, is a predominant cause of dystocia in buffaloes. In cases of ICD, cervicotomy may be a preferable alternative to cesarean section for effective management.

REFERENCES

Balamurugan, B., Kharayat, N., Lavanya, M., Kumar, A., Ramamoorthy, M., Sushobhit, K. and Katiyar, R. 2018. Dystocia due to incomplete cervical dilation concurrent with cervico-vaginal prolapse in cattle: a case report. *J. Entomol. Zool. Stud.*, (6) 544-545.

Das GK, Ravinder, Dutt R, Deori S, Jaglan P, Kumar P. 2008. Incomplete cervical dilatation causing dystocia in a buffalo. Indian Journal of Veterinary Research, **17**(2):41-43.

Dutt R, Arjun V, Kumar G, Yadav V, Dalal J. 2021. Dystocia due to fetal monstrosity in a riverine buffalo - A case report. Buffalo Bulletin, **40**(1):185-187.

Dutt, R. 2023. Dystocia due to incomplete cervical dilatation and its successful management through cervicotomy in a non-descript cow.

Noakes DE, Parkinson TJ, England GCW. Veterinary Reproduction and Obstetrics, 9th Edn. Elsevier Publications, Canada; c2009. p. 239.

Pearson.H. 1971. Quoated in Noakes, D.E.T.J.Parkinson and G.C.W. England (2009). Veterinay Reproduction and Obstetrics, 9th edition, Elsevier publications, p.239.

Roberts, S.J.(1971). Veterinary Obstetrics and Genital Diseases,2nd edn. CBS Publishers and Distributers.

Sathiamoorthy, T., Balasubramanian, S., Rangasamy, S., Raja, A and Asokan, S. A. 2011. Cervicotomy approach for dystocia due to imperfect cervical dilatation (ICD) in a cow. *J. Ind. Vet. Assoc.*, (9) 46-46.

Cite this article:
Mamta Meel*, Mitesh Gaur, Dinesh Jhamb, Kalpesh Kumar Pargi, Omprakash Solanki, Krishna Nand Bansal. (2025). Management of imperfect cervical dilation in buffaloe: a case report. Vet Farm Frontier, 02(05), 19–21. https://doi.org/10.5281/zenodo.15699952