

## Therapeutic Management of incomplete Cervical Dilatation in a Buffalo: A Case Report

Rajesh Kumar<sup>1</sup>, Bhoopendra Singh<sup>2</sup>, R P Diwakar<sup>3</sup>, Pramod Kumar<sup>4</sup>, H C Verma<sup>5</sup>, Safayat Husain<sup>6</sup>

<sup>1,2</sup>Assistant Professor, <sup>6</sup>MVSc scholar, Department of Veterinary Gynecology and Obstetrics, <sup>3</sup>Assistant Professor, Department of Veterinary Microbiology, <sup>4</sup>Assistant Professor, Department of Veterinary Physiology and Biochemistry, <sup>5</sup>Assistant Professor, Department of Veterinary Extension, College of Veterinary Science and Animal Husbandry, Acharya Narendra Deva University of Agriculture and Technology, Kumarganj, Ayodhya 224229, Uttar Pradesh, India.

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### Abstract

Incomplete cervical dilatation is the third most common cause of dystocia in buffaloes and typically a disorder of ruminant cervix, more common in pluriparous animals. A buffalo of five years old, with first parity and approximately 550 kg body weight was presented at Veterinary Clinical Complex Kumarganj, Ayodhya with the history of straining since last two days, anorexia and foul smelling vaginal discharge. The case was unsuccessfully treated by a quack. During anamnesis, owner stated that animal has completed full term. Clinical examination revealed depressed animal with continuous straining. On pervaginam examination, cervix was found incompletely dilated. On trans-rectal palpation, sluggish fetal reflex was observed. Thus, the case was diagnosed as incomplete dilatation of the cervix. The animal was treated with cloprostinol sodium, valthamate bromide, estradiol valerate, betamethasone and fluid therapy. To alleviate pain and prevent secondary bacterial infection a course of antibiotic, anti-inflammatory and antihistamine was also administered for five days. Owner was also advised to drench liquid uterotone 100 ml twice a day for one week. The case was recovered uneventfully. Thus, it can be concluded that a case of incomplete cervical dilation in bovines can be managed with aforesaid therapy.

**Keywords:** Buffalo; Cervix; Dystocia, and Uterus.

### Case Description

Incomplete cervical dilatation is the third most common cause of bovine dystocia (Jackson, 2004) and typically a disorder of ruminant cervix. The degree of incompleteness of cervical dilatation varies from virtually complete closure to the situation in which there is just a small rim of cervical tissue present, which is sufficient to reduce the size of birth canal and cause dystocia (Noakes et al., 2019). Incomplete cervical dilatation is more common in pluriparous bovines (Mee et al., 2008).

A buffalo of five years old, with one parity and

approximately 550 kg body weight was presented at Teaching Veterinary Clinical Complex Kumarganj, Ayodhya with the history of straining since last two days, inappetence and foul smelling vaginal discharge. The case was treated by the quack but there was no response. During anamnesis, owner stated that animal has completed full term. On clinical examination, animal was found depressed with continuous straining, by pervaginam examination it was found that cervix was incompletely dilated (approximately two finger dilation). On trans-rectal palpation, sluggish fetal reflex was noted. On the basis of history, clinical examination, pervaginam

**Corresponding Author: R P Diwakar**, Assistant Professor, Department of Veterinary Microbiology, College of Veterinary Science and Animal Husbandry, Acharya Narendra Deva University of Agriculture and Technology, Kumarganj, Ayodhya 224229, Uttar Pradesh, India.

Email: [raj.diwakar74@gmail.com](mailto:raj.diwakar74@gmail.com)

examination and per rectal examination, the case was diagnosed as incomplete dilation of the cervix.

### Result

The animal was treated with inj. Vetmate 2ml (Cloprostinol sodium 500 microgram), inj. Epidosin vet (Valethamate bromide 50 mg), inj. Progynon depot 3ml (estradiol valerate 30mg) and inj. Betnesol 5ml (Betamethasone 20mg) through intramuscular route. In order to correct electrolyte imbalance normal saline (2 lit) and RL (2 lit) was given by IV route. After 48 hrs of treatment the buffalo expelled live calf, placenta was also expelled 2-3 hrs later. To alleviate pain and prevent secondary bacterial infection a course of antibiotic (inj. Intacef 3 g) along with anti-inflammatory (inj. Melonex 20 ml) and antihistamine (inj. Anistamin 10 ml) was given through intramuscular route for five days. Owner was also advised to drench liquid uterotone 100 ml twice a day for one week. The case was recovered uneventfully within seven days.

### Discussion

The mechanism of cervical dilation in bovines is poorly understood. However, there are various factors that contribute to the condition viz altered hormonal milieu, which in turn, is the consequence of environmental disturbances like continuous presence of an observer, confinement or overcrowding calving accommodations. As a consequence, there is reduced uterine motility, cervical dilation and abdominal contractions with resultant prolonged calving and dystocia (Mee et al., 2008). In addition, hypocalcemia (clinical or subclinical) probably involved in the pathogenesis, by impairing myometrial contractions of uterus (subsequently causing uterine inertia). Moreover, improper cervical dilation may be the result of failure of fetus to engage in the cervix (breech presentation or simultaneous presentation of the twins), uterine torsion (Kumar et al., 2014) and scar formation in the cervix due to previous obstetric damage. It should be remembered that premature intervention in calving (i.e. incomplete first stage of labor) can lead to incorrect presumption of failure of cervical dilation and iatrogenic damage to cervix. On the other end, it should always be kept in the mind that duration over which cervix is dilated is relatively short, if the calf is not delivered during that time window, the cervix will start to close again, trapping the fetus within the uterus. The cervical ripening is multifactorial process that involves synchrony in hormonal events, inflammatory process and enzymatic breakdown of collagen (Balamurugan

et al., 2018). Inadequate pre-calving estrogen concentration, and raised cortisol to progesterone ratio can result in impaired relaxation of cervix and pelvic ligaments. To manage incomplete cervical dilation various approaches have been reported like dilation of cervix by mechanical means (Roberts, 1971), use of spasmolytics like vetrabutin hydrochloride (Jackson, 2004), combination of drugs like valethamate bromide and PGF<sub>2</sub>α (Das et al., 2008; Purohit et al., 2011), cervical massage, calcium and magnesium borogluconate along with combinations of estrogens, valethamate bromide, PGF<sub>2</sub>α, dexamethasone (Kumar et al., 2014), intracervical application of misoprostol, a PGF<sub>1</sub> analogue (Azawi et al., 2011; Azawi et al., 2012), cervicotomy (Sathiamoorthy et al., 2011) and cesarean section.

### Conclusion

Incomplete cervical dilatation caused by multiple etiology and it is one of the most common cause of dystocia in buffalo. The condition can be managed successfully with aforesaid therapeutic protocols.

### Conflict of Interest

The authors declare no conflict of interest with this manuscript.

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