

# Successful Management of Fetal Mummification in a Buffalo: A Case Report

**Dileep KumarYadav<sup>1</sup>, Gyanesh Kumar<sup>1</sup>, Akshay Kumar<sup>1</sup>, Saurabh Tiwari<sup>1\*</sup> and Atul Saxena<sup>2</sup>**

<sup>1</sup>M.V.Sc Scholar, Department of Veterinary Gynaecology and Obstetrics, College of Veterinary Science and Animal Husbandry, Uttar Pradesh Pt. Deen Dayal Upadhyaya Veterinary and Animal Sciences University (DUVASU), Uttar Pradesh, INDIA

<sup>2</sup>Professor and Head, Department of Veterinary Gynaecology and Obstetrics, College of Veterinary Science and Animal Husbandry, Uttar Pradesh Pt. Deen Dayal Upadhyaya Veterinary and Animal Sciences University (DUVASU), Uttar Pradesh, INDIA

\*Corresponding Author: [saurabhitiwari035@gmail.com](mailto:saurabhitiwari035@gmail.com)

**How to cite this paper:** Yadav, D., Kumar, G., Kumar, A., Tiwari, S., & Saxena, A. (2021). **Successful Management of Fetal Mummification in a Buffalo: A Case Report.** *International Journal of Livestock Research*, 11(1), 197-199.  
<http://dx.doi.org/10.5455/ijlr.20201009061037>

**Received** : Oct 09, 2020  
**Accepted** : Dec 24, 2020  
**Published** : Jan 31, 2021

Copyright © Yadav *et al.*, 2021

This work is licensed under the Creative Commons Attribution International License (CC BY 4.0).  
<http://creativecommons.org/licenses/by/4.0/>



## Abstract

*A 6-year-old buffalo with a history of prolonged gestation and no visual signs of parturition was presented at Teaching Veterinary Clinical Complex, Mathura. Per rectal examination revealed a hard firm mass with an absence of fetal movements, fetal fluid, and fremitus. On per vaginal examination, the cervix was found to be closed with no discharge. Based upon trans-rectal and per vaginal examination, the case was diagnosed as fetal mummification. The treatment with PGF2  $\alpha$  analog cloprostenol failed to dilate the cervix and thereby, expulsion of the fetus. The treatment was repeated on day 5th of the previous treatment. After 36 hours, the cervix was found to be fully dilated and with mild traction, the fetus was expelled along with fetal membranes. The recovery of the animal occurred without any complications.*

**Keywords:** Buffalo, Cloprostenol, Fetus, Mummification

## Introduction

Fetal mummification is the death of conceptus in the uterus where the fetus dies after the development of bones (from 3<sup>rd</sup> to 8<sup>th</sup> month of gestation), accompanied by rapid absorption of uterine and fetal fluids and an absence of putrefying organism in the uterus (Lefebvre, 2015). The expulsion of the fetus is prevented due to progesterone secreted from persistent corpus luteum. The fetal mummification in bovines has an incidence of less than 2% (Barth, 1986). The animal with the mummified fetus is apparently healthy and negligence by the owner often increases the inter-calving period as well as the fetal loss (Roberts, 1971). The present report describes the successful management of fetal mummification in a buffalo with the administration of two prostaglandin protocols followed by manual removal of the mummified fetus.

## Case History and Observations

A 6-year-old buffalo in second parity was presented to Teaching Veterinary Clinical Complex, Mathura with a history of the prolonged gestation period (about 12 months). The animal was examined by a local veterinarian at 90 days after artificial insemination and the animal was found pregnant. The animal was apparently healthy, the feed intake was normal and clinical parameters including temperature, heart rate, and respiration rate were within normal limits. There were no visual signs of pregnancy or approaching parturition and the mammary gland development was inadequate as per gestational status. Trans-rectal palpation revealed a compact and firm mass with an absence of fetal fluids and placentomes, no movement of the fetus, and absence of fremitus. On per vaginal examination, the cervix was found to be closed with no discharge.

## Treatment

The animal was administered an intramuscular dose of prostaglandin F<sub>2α</sub> (PGF<sub>2α</sub>) analog cloprostenol 500μg and the owner was advised to monitor discharge from genitalia. On the 5<sup>th</sup> day after treatment, re-examination was done which revealed the cervix to be closed with failure of fetal expulsion. The same treatment was repeated on the 5<sup>th</sup> day and after 36 hours, per-vaginal examination revealed the cervix to be fully dilated. A firm mass covered with brownish mucoid discharge and fetal membranes could be palpated. The vagina was lubricated with liquid paraffin and traction was applied resulting in successful manual expulsion of the mummified fetus (Figure 1). The animal was treated with an intramuscular injection of Strepto-penicillin 2.5gm twice a day for 5 days to avoid secondary bacterial infection. An injection of Vitamin A, D<sub>3</sub>, and E was administered intramuscularly and repeated after a week. The recovery of animal occurred without any complications. The animal was reported to be pregnant by a local veterinarian after five months of removal of the mummified fetus.



**Figure 1:** Per vaginal extraction of mummified fetus with dry leathery placenta

## Discussion

Several potential causes for fetal mummification have been proposed, such as Bovine Viral Diarrhea (BVD), leptospirosis and molds (Roberts, 1971), *Neospora caninum* (Ghanem *et al.*, 2009), mechanical factors such as compression and/or torsion of the umbilical cord (Mahajan and Sharma, 2002), uterine torsion (Moore and Richardson, 1995), defects in placentation (Irons, 1999). The condition of fetal mummification may also occur due

to genetic anomalies (Stevens and King, 1968), abnormal hormonal profiles and chromosomal abnormalities (Roberts, 1986). Although, the animal looks apparent healthy, but in some cases, reduced feed intake and drop in milk production have been reported (Frazer, 2004). The medical treatment involves the lysis of corpus luteum by PGF<sub>2α</sub> injection that results in the expulsion of the mummified fetus within 2 to 4 days (Barth, 1986). If the medical treatment fails, hysterectomy (Mahesh *et al.*, 2014) or colpotomy (Stevens and King, 1968) is performed. In some cases of mummification, the treatment of mummified fetus with PGF<sub>2α</sub> causes some complexity such as maceration of mummified fetus and packing of fetus in the birth canal instead of being expelled out (Arthur *et al.*, 1996).

## Conclusion

A detailed history regarding insemination date, gestation status, udder development etc. with per-rectal examination of reproductive tract could aid in diagnosis of a case of mummification. The present case study reported the treatment of fetal mummification in a buffalo with two successive prostaglandin injections at 5 days interval. The failure of first prostaglandin treatment to dilate the cervix and expel the mummified fetus could be overcome with a second prostaglandin treatment where an animal usually responds and recovers without any complications.

## Conflict of Interests

There is no conflict of interest.

## Publisher Disclaimer

IJLR remains neutral concerning jurisdictional claims in published institutional affiliation.

## References

1. Arthur, G. H., Noakes, D. E., Person, H. and Parkinson, T. J. (1996). Sequelae to embryonic and foetal death. In: *Veterinary Reproduction and Obstetrics*, 7th<sup>ed</sup>. Philadelphia, W.B. Saunders, pp. 127.
2. Barth, A. D. (1986). Induced abortion in cattle. In: *Current Therapy in Theriogenology*, 2nd<sup>ed</sup>. Morrow DA. Philadelphia: WB Saunders. pp. 205–208.
3. Frazer, G. S. (2004). Obstetrics part-I. Pregnancy complications in the cows. *Proceedings of the North American Veterinary Conference*, 9-12, 10.
4. Ghanem, M. E., Suzuki, T., Akita, M. and Nishibori, M. (2009). *Neospora caninum* and complex vertebral malformation as possible causes of bovine fetal mummification. *Canadian Veterinary Journal*, 50, 389–392.
5. Irons, P. C. (1999). Hysterectomy by a colpotomy approach for the treatment of fetal mummification in a cow. *Journal of the South African Veterinary Association*, 70, 127–129.
6. Lefebvre, R. C. (2015). Fetal mummification in the major domestic species: current perspectives on causes and management. *Veterinary Medicine: Research and Reports*. 6, 233–244.
7. Mahajan, M. and Sharma, A. (2002). Haematic mummification due to umbilical cord torsion in a cow: a case report. *Indian Veterinary Journal*, 79, 1186–1187.
8. Mahesh, R., Prasad, V. D., Sumiran, N. and Devarathnam, J. (2014). Surgical management of mummified fetus in a cow. *International Journal of Livestock Research*, 4(4), 51-54.
9. Moore, A. A. and Richardson, G. F. (1995). Uterine torsion and fetal mummification in a cow. *Canadian Veterinary Journal*, 36, 705–706.
10. Roberts, S. J. (1986). Disease and accidents of the gestation period. In: *Veterinary Obstetrics and Genital Diseases*, 3rd<sup>ed</sup>. Newton Abbot, UK: David and Charles. pp. 123–144.
11. Roberts, S. J. (1971). In: *Veterinary Obstetrics and Genital Diseases*, 2nd<sup>ed</sup>. CBS Publishers, New Delhi.
12. Stevens, R. W. and King, G. J. (1968). Genetic evidence for a lethal mutation in Holstein-Friesian cattle. *Journal of Heredity*, 59, 366–368.

\*\*\*\*\*