Short Communication

DOI: 10.48165/ijar.2025.46.02.15

The Indian Journal of Animal Reproduction

The official journal of the Indian Society for Study of Animal Reproduction

ACS Publisher
www.acspublisher.com

Year 2024, Volume-46, Issue-2 (June)

ISSN 0970-2997 ***(Print)*** *ISSN 2583-7583* ***(Online)***

Fetal Mummification in a Holstein Friesian Cow

Asloob Ahmad Malik, Sanchi Rana*, Pawanpreet Singh, Mehrajuddin Naikoo

Division of Animal Reproduction, Gynaecology & Obstetrics, Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir Shuhama, Srinagar, India-190006

ABSTRACT

A referred case of Holstein Friesian cow in its second parity was presented to the OPD of clinics with the history of vaginal discharge. The case was diagnosed as fetal mummification based on per vaginal followed by per rectal examination and was treated successfully with combination of oestradiol benzoate and cloprostenol sodium injected intramuscularly. On fourth day, a dried brown coloured underdeveloped fetal mass along with dried fetal membranes was expelled out by the animal.

Keywords: Abortion, Embryonic death, Holstein Friesian, Mummification

How to cite: Malik, A. A., Rana, S., Singh, P., & Naikoo, M. (2025). Fetal mummification in a Holstein Friesian cow. *The Indian Journal of Animal Reproduction, 46*(2), 102–104. 10.48165/ijar.2025.46.02.15

INTRODUCTION

Fetal mummification is a sequela of intrauterine fetal death. When the fetus between third to eighth months of gestation in cattle dies intrauterine without abortion, autolytic changes occur in fetus resulting in absorption of placenta and fetal fluids (Manokaran et al., 2011). The dead fetus dehydrates, shrinks and adheres to the uterine wall. Haemorrhage between the uterine wall and the fetus imparts hematic sticky material to the fetal mass resulting in hematic mummification, distinctly seen in bovines (Baumgartner, 2021). Causes can be infectious (Bovine viral diarrhoea virus, Trichomoniasis) and non-infectious with breed predisposition and history of previous occurrence (Windsor, 2019). The cervix is closed and there is persistent corpus luteum (Baumgartner, 2021). It is characterized by prolonged gestation length without signs of parturition (Sathriyan *et al.*, 2023) and expression of estrus symptoms during mid-gestation period (Manokaran et al., 2011). Intrauterine environment is sterile (Baumgartner, 2021) and animal appears normal but sometimes may show reduced feed intake and milk yield (Kumar et al., 2018). Incidence in cattle and buffalo may vary from 0.01-2% (Modi et al., 2011). On per rectal examination, a compact fetal mass in the pelvic brim tightly adhered to the uterus, with no palpable placentomes, fetal fluids and fremitus.

*Corresponding author.
E-mail address: sanchirana720@gmail.com (Sanchi Rana)
Received 12-03-2024; Accepted 12-09-2024

Ultrasonographic examination gives similar findings in addition to non-detectable heart beat (Windsor, 2019).

CASE HISTORY AND OBSERVATIONS

A six year old Holstein-Friesian cow in second parity, was presented to OPD of Veterinary Clinical Complex, Faculty of Veterinary Sciences and Animal Husbandary, SKUAST Kashmir, India. The case was reported with a history of AI 5 months back. The animal had already been palpated per rectally at the field level and was diagnosed for carrying a dead fetus. The animal was already treated with one dose of Cloprostenol sodium (Inj. Pragma, Intas Pharmaceuticals). On examination the temperature, respiration rate and heart rate of the animal was within normal range. There was little discharge coming out of the vulva. Per vaginal examination revealed external os of the cervix was one finger dilated. On per rectal examination, hard fetal mass filling the uterine horn was palpated in the pelvic cavity without fetal fluids. The placentomes and fremitus were not palpable.

TREATMENT AND DISCUSSION

Based on per vaginal followed by per rectal examination, the case was diagnosed as fetal mummification. One shot of $PGF_{2\alpha}$ analogue given at field level had not shown its effect on cervical dilatation and initiation of termination up to 48 hours. The animal was given second shot of 500 µg of $PGF_{2\alpha}$ analogue Cloprostenol sodium (Inj. Vetmate, Vetcare Pharmaceuticals) along with 2 mg estradiol benzoate (Inj. Pregheat, Virbac, India) intramuscularly. An injection of calcium preparation (Inj. Intacal IM, Intas Pharmaceuticals) was given 10 ml intramuscularly for three consecutive days to enhance uterine contractions.

After 48 hours of the treatment, the cow started showing contractions of the abdomen and there was slight dilatation of the cervix. After 96 hours, the cow itself delivered the mummified fetus and the fetal membranes. The expelled fetus was mummified with developed limbs and eye sockets (Fig.1). The fetus was covered with a brownish sticky material indicating hematic mummification. After the delivery of the mummified fetus, the animal was given antibiotic Ceftiofur sodium @ 500 mg (Inj. Xyrofur 0.5 g, Intas Pharmaceuticals, India), 7ml of Flunixin Meglumine (Inj. Megludyne, Virbac Pharmaceuticals, India) and antihistaminic Pheniramine maleate (Inj. Avilin vet, MSD Animal Health) @ 10 ml intramuscularly for 3 days.

Fig. 1. Retrieved Mummified fetus

The present case was diagnosed as fetal mummification during routine pregnancy diagnosis at 5 months of gestation. The aetiology of mummification in this case could not be determined. In majority of fetal mummification cases exact cause of fetal death is not known (Baumgartner, 2021). In normal case, at 4.5-5 months of gestation, fetus is pulled deep into the abdominal cavity and may not be palpable (Christiansen, 2014). However, in the present case, the fetus was palpable in the pelvic cavity. This suggests that the death of the fetus might have occurred before 4.5 months of age. Fetal mummification cases are usually brought with a complaint of prolonged gestation (Sathriyan *et al.*, 2023), parturition without a fetus or spontaneous cervical opening and appearance of fetal membranes at the vulva (Lone *et al.*, 2022). Sometimes such cases are identified during routine pregnancy diagnosis, as reported in the present case. Diagnosis is done based on per-vaginal followed by per rectal examination. Ultrasonography can also be done for further confirmation. Induction of parturition is the treatment of choice and have been reported successful in many cases (Singh *et al.,* 2020; Yadav *et al.*, 2021). It should be first opted as it prevents the animal from stressful surgery. Similarly, medical termination of pregnancy with a combination of estradiol and $PGF_{2\alpha}$ analogue (cloprostenol sodium) in the present case proved successful. Cervicotomy along with $PGF_{2\alpha}$ injection can be used to aid dilatation of cervix, hence successful delivery of mummified fetus (Sathriyan *et al.,* 2023; Arunpandian *et al.,* 2024). In some cases, even after proper cervical dilatation, mummified fetus remains lodged in the reproductive tract due to adhesion and dehydration and requires ample lubrication and traction for delivery of the fetus (Lone *et al.,* 2022). In case, the medical treatment shows no response up to 5 days then laparohysterotomy via left

flank approach (Singh *et al*., 2021) or colpotomy, in case of small mummy (Phipps *et al*., 2014) should be the choice. Prevention should be done by maintaining good sanitary conditions and proper vaccination.

CONCLUSION

Proper reproductive monitoring of pregnant animals should be emphasised for early detection of fetal mummification and to avoid economic loss. Medical treatment focusing on luteolysis by estradiol or $PGF_{2\alpha}$ analogue or combination of both gives good results. The fetal expulsion may take up to 96 hours after the administration of the treatment. If cervical dilatation does not occur by medical treatment, surgical intervention should be considered. Prognosis for fetal mummification cases is good if there is no injury to the reproductive tract.

CONFLICT OF INTEREST

None

REFERENCES

Arunpandian, J., Kumar, B., Nawab, K., Kohli, K. and Srivastava, N. (2024). Management of Mummification by Cervicotomy in Holstein Friesian Crossbred Cow. *Ind. J. Anim. Reprod.*, **45**(1): 76-78.

Baumgartner, W. (2021). Fetal disease and abortion: Diagnosis and Causes. In: Richard M. Hopper, editor. Bov. Reprod. 2nd edn. John Wiley & Sons, UK. pp: 665-716.

Christiansen, D. (2014). Pregnancy diagnosis: Rectal palpation. In: Richard M. Hopper, editor. *Bov. Reprod.* 1st edn. John Wiley & Sons, UK. pp: 314-319.

Kumar, A., Saxena, A. and Anand, M. (2018). Fetal mummification in cattle: current approach on its management. A review. *Int. J. Sc. Environ. Tech.*, **7**(3):1079-1083.

Lone, F. A. and Bhat, G. R. (2022). Successful per vaginal delivery of a late gestational mummified fetus in a crossbred cow. *Appl. Vet. Res.*, **1(**1):2022004-2022004.

Manokaran, S., Selvaraju, M., Palanisamy, M. and Napolean, R. E. (2011). Fetal mummification in a Jersey crossbred cow. *Ind. J. Vet. Sci. Biotech.*, **7**(2):71-71.

Modi, L. C., Patel, P. A., Patel, S. P., Patel, G. G., Joshi, A. H. and Suthar, D. N. (2011). Prevalence of reproductive problems in buffalo in Mehsana milk-shed area of Gujarat. *Int. J. Adv. Vet. Res.*, **5**(4): 424-428.

Phipps, A. J. (2014). Case report: colpotomy approach for a hystrotomy for the removal of foetal remains in a Holstein-Friesian cow. *Aust. Cattle Vet.*, **2014**(72):20-22.

Sathriyan, G., Murugan, M., Periyannan, M., EL Selvaraju, M., Aruneshwaran, K. S. and Palanisamy, M. (2023). Successful retrieval of mummified fetus and rejuvenation of fertility in a Holstein Friesian crossbred cow. *Int. J. Vet. Sci. Anim. Husb.,* **8**(4):394-395

Singh, A. K., Basera, A., Agrawal, J., Kumar, A. and Saxena, A. (2020). Fetal Mummification in a Hariana Cow: A Case Report. *Vet. Clin. Sci.*, **8**(3):67-68.

Singh, G., Kumar, S., Yadav, R. and Saini, G. (2021). Management of Foetal Mummification through Left Flank Caesarean Section In Cattle. *Ind. J. Anim. Reprod.*, **42**(1):73-74.

Windsor, P. (2019). Abnormalities of Development and Pregnancy. In: DE Noakes, TJ Parkinson & GCW England, editors. *Vet. Reprod. Obstet.*, 10th edn. WB Saunders Co., Philadelphia. pp: 192-193

Yadav, D., Kumar, G., Kumar, A., Tiwari, S. and Saxena, A. (2021). Successful Management of Fetal Mummification in a Buffalo: A Case Report. *Int. J. Livest. Res.*, **11**(1):197-199.