



ISSN: 2456-2912

VET 2023; 8(4): 394-395

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www.veterinarypaper.com

Received: 13-06-2023

Accepted: 15-07-2023

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Successful retrieval of mummified fetus and rejuvenation of fertility in a Holstein Friesian crossbred cow

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Abstract

A Pluriparous Holstein Friesian crossbred cow presented with a history of prolonged gestation and it was diagnosed as fetal mummification based on the rectal examination followed by ultrasonographical monitoring. Successful evacuation of the mummified fetus was done by partial cervicotomy with mild traction after the double cloprostenol therapy.

Keywords: Cow, mummification, cloprostenol, cervicotomy

Introduction

Delivery of immature, either live or dead fetus before the completion of the normal physiological gestation is called as abortion (Shaapan, 2016) [8]. Incomplete abortion with intrauterine infection leads to fetal maceration and fetal mummification occurs when the luteolytic process and cervical dilatation was absent after the intrauterine fetal death (Selvaraju *et al.*, 2020) [9]. Incidences of fetal mummification commonly reported in bovines when fetal death occur 3-8 month of gestation (Manokaran *et al.*, 2011) [5]. In small ruminants' fetal mummification occurs along with the normal fetus and most often causes dystocia during the second stage of the parturition (Alagar *et al.*, 2017 and Selvaraju *et al.*, 2020) [1, 9] but in bovines this condition is characterised by prolonged gestation (Palanisamy *et al.*, 2018) [6] and expression of estrus symptoms during mid-gestational (Manokaran *et al.*, 2011) [5]. Among the cattle breeds fetal mummification is frequently reported in Guernsey and Jersey (Palanisamy *et al.*, 2018) [6]. This present article reports the incidence and successful evacuation of mummified fetus in Holstein Friesian cow.

Case History

A HF crossbred cow on its third calving was presented to Veterinary Clinical Complex, Veterinary College and research institute Namakkal with a history of prolonged gestation. The vital parameters of the animal were normal and vaginal examination revealed closed cervix. On rectal examination classical signs of mummification such as presence of compact, firm, hard and immobile fetal mass, absence of fetal fluid, placentomes and fremitus were recorded. For further confirmation ultrasonographical examination was done and hyperechoic fetus, absence of fetal movement, fetal fluid and placentomes were visualized.

Treatment

After the clinical examination, the present condition was diagnosed as fetal mummification and it was induced by the administration of synthetic PGF_{2α} (cloprostenol) at the dose rate of 500 micrograms and no progress in cervical dilatation was recorded 48 hours after the hormonal treatment. Then 2nd cloprostenol therapy was done and cervical dilatation was reported 12 hours later. Under caudal epidural anaesthesia with 3 ml of 2% lignocaine, the animal restrained and vaginal passage was lubricated with antiseptic cetrimide cream. After that external cervical opening was brought out with the help of Williamson long eye hook and cervicotomy was performed between 2'O clock and 10'O clock positions.

Finally, the mummified foetus (Fig 1) was delivered by mild traction. Post operatively, the animal was treated with oxytetracycline, chlorpheniramine maleate and flunixin for three days. Expression of estrus was reported by the owner 68 days of the fetal evacuation and animal was inseminated. The pregnancy diagnosis was done 45 days after the artificial insemination by ultrasonography.



Fig 1: Retrieved Mummified fetus

Case Discussion

Incidence of mummification in cattle ranges from 0.13 to 1.8 percentage (Barth, 1986)^[2] and frequently reported in swine than the other farm animals (Lefebvre, 2015)^[4]. Intrauterine fetal death due to genetic defects, uterine torsion, umbilical cord compression, abnormal placentation and very rarely infections (BVD infection and trichomoniasis) after the completion of the first semester of gestation causes the fetal mummification. Both fetal mummification and fetal maceration associated with intrauterine death and complete fetal evacuation followed by restoration of reproductive activity are most of the time not possible in fetal maceration (Barth, 1986, Selvaraju *et al.* 2020)^[2,9]. But normal expulsion of a mummified fetus without any medical intervention was reported in ruminants (Wenkoff and Manns, 1997)^[10] and successful fetal removal for futile expulsion with various treatment protocols also reported by various authors they were Medical Termination Pregnancy (MTP) by Palanisamy *et al.* (2018)^[6], colpotomy by Hirsbrunner *et al.* (2004) and caesarean section by. Surgical procedure for fetal delivery is only advisable if cervical dilatation not occurs 5 days after the 2nd induction (Lefebvre, 2015)^[4]. In this present case cervical dilatation was recorded 56 hours after the induction and successful delivery of fetal mummy was done with cervicotomy followed by MTP. Manokaran *et al.* 2011^[5] and Palanisamy *et al.* (2018)^[6] reported the onset of fertile estrus in cattle 40 and 52 days after the fetal delivery. Similarly, 68 days after fetal removal fertile estrus was reported in this present case.

Conclusion

Fetal mummification causes great economic loss to farmers by affecting the entire locational milk production and proper monitoring of pregnant animals is needed for early diagnosis of fetal mummification to avoid the huge economic loss. In this present case, the evacuation of a fetus after the 2nd synthetic prostaglandin therapy and the onset of fertile estrus was reported.

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