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# Management of Hematic mummification coupled with incomplete cervical dilatation in a Jersey crossbred cow

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**Abstract**
A case of fetal mummification with incomplete dilatation of cervix was presented and parturition was induced using prostaglandin followed by cervical douching and a fetal mummy was removed.

**Keywords:** Hematic mummification, Crossbred cow, Cloprostenol, Fertility

## Introduction
Mummification a possible outcome of fetal death and is occasionally diagnosed in many domestic species, including the cow [1] which imposes huge economic loss to the farming community by extending the inter-calving period as well as increasing the fetal loss [2]. It involves series of morphological alterations in a foetus which dies and is retained in the uterus for a prolonged period without concomitant luteolysis and adequate cervical dilation [3]. Too dry and low oxygen concentration in uterus questions bacterial survival leads to failure of decomposition. When the water content of tissue drops below a critical threshold, it inhibits bacterial putrefaction thus tissues become desiccated, and the body shrivels to a dry leathery mass of skin, tendons, and bones [4]. The incidence in cattle reported to be as high as 5% [5] but generally less than 2% [1] and frequently occurs between three and eight month of gestation in cattle [3]. Breed and previous calving history are of some factors predispose to mummification and higher incidence noticed in Guernsey and Jersey breeds of cattle. The choice of treatment of fetal mummification is injection of prostaglandin $PGF_2\alpha$ and in non-responsive cases requires caesarean section. Several therapeutic regimes for expulsion of mummified fetuses have also been reported, however, information on the subsequent fertility of the affected animal is much limited [6]. The present paper discusses the successful treatment of fetal mummification with Inj. Cloprostenol in cross bred cattle and normal subsequent fertility.

## Case history and observation
A pluriparous Jersey crossbred cow in its fifth parity was presented with the history of having completed gestation without progress to parturition. On clinical examination, the body temperature of cow was 38.5°C, respiratory rate was 32/minute, heart rate was 70/minute and the conjunctival mucus membrane was pink and moist and on vaginal examination, intact cervical seal with no vaginal discharge noticed. Rectal examination revealed absence of foetal fluids, foetal reflexes and the uterus tightly contracted over the foetus. Based on rectal and vaginal examination, the case was diagnosed as fetal mummification.

## Treatment and Discussion
The cow was treated with Inj. Cloprostenol 500µg (Inj. Pragma®, Intas Pharmaceuticals) i.m, Inj. Normal saline 2 litres i.v, Inj. Ringer's lactate 2 litres i.v, administered by parenteral route and the cervical dilatation was monitored once in every 12 hours in addition with signs of straining and vaginal discharge. On the third day two finger cervical dilatation with mild serosanguinous discharge was noticed. On fourth day no progress in cervical dilatation hence it was decided to manually dilate the cervix by infusing luke warm water accompanied by fanning and feathering and which yields four finger cervical dilatation along with Inj. Calcium borogluconate 250 ml slow i.v and Inj. Oxytocin 40 IU along with 5 % DNS were administered slow i.v, resulted in successful pervaginal delivery of mummified foetus

Encapsulated in parchment membrane (Fig.1). The foetus had crown rump length (CRL) of 19.7cm with an estimated gestation age of 101.7 days. Postoperatively, the animal was treated with Inj. DNS 2 litres i.v, Inj. Ringer's lactate 2 litres i.v, Inj. Ceftriaxone 20mg/ kg b.wt i.v and Inj. Meloxicam 0.2mg/kg b.wt i.m and antiseptic vaginal douching for five consecutive days. The animal recovered after 10 days uneventfully. The animal is in estrum after 70 days, inseminated in the second heat and confirmed pregnant about 4 months.

The etiology of fetal mummification in cattle are often difficult to identify, however, some genetic factors due to autosomal recessive gene have been reported [7]. Torsion or compression of the umbilical cord, placental defects, infectious agents and abnormal hormonal concentrations are the usual suspect of fetal mummification.

In the present study, the mummification of foetus was happened about 4 month of pregnancy based on the fetal crown-rump length. According to Roberts [7] bovine fetal mummification may occur from the 3rd to the 8th months of gestation, and wall of the uterus firmly encloses foetus wrapped with fetal membranes, stained by variable amount of gummy, reddish-brown material. The present study also showed such changes in the fetal placenta.

Several treatment regimens for expulsion of mummified foetus like use of estradiol [7], PGF2α and its analogue [8] or their combination [9] with cervicotomy [10] and surgical removal [11] in cattle have been reported with various success rate.

The treatment choice of fetal mummification is lysis of corpus luteum (CL) by injection of PGF2α and its analogue, which usually results in satisfactory and safe expulsion of the foetus within 2 to 4 days of treatment [1]. However, all the cows do not always respond to PGF2α treatment [6].

Vandeplassche *et al*. [12] reported low parturition rate with a single dose of PGF2α, even though relaxation of the birth canal was satisfactory, suggesting a uterine contractility defect which is noticed in our case. And he observed an intact epithelium and preserved uterine glands with no sign of inflammation histologically in cows with a history of fetal mummification.

But in our case single $PGF_2\alpha$ treatment followed by cervical douching resulted in appreciable cervical dilatation and successful pervaginal delivery of mummified foetus. Both medical and surgical approaches results in a normal conception rate [6] as in the present case the cow conceived in its second heat.

**Fig 1:** Mummified fetus

## Conclusion

As no specific etiology associated with fetal mummification, it is important to maintain good management al practices along with rigorous reproductive monitoring program. The prognosis for fertility is good after fetal expulsion. So prompt and timely diagnosis of the condition by regular assessing of herd health avoids prolonged dry period thereby helps the farmer to avoid unnecessary economic loss. In cases with incomplete cervical dilatation followed by hormone treatment should be addressed promptly as keeping surgical approach as last resort.

## References


1. Barth AD. Induced abortion in cattle. In: Morrow DA, Current therapy in theriogenology, Edn 2, Phila-delphia, USA: WB Saunders, 1986, 205-208.
2. Azizunnesa M, Sutradhar BC, Das BC, Hossain MF, Faruk MO. A case study on mummified foetus in a heifer. University Journal of Zoology, Rajshahi University. 2009; 28:61-63.
3. Kumar S, Sharad Kumar, Sharma U, Soodan JS. Induced Vaginal Delivery of Mummified Fetus in a Pleuriparous Crossbred Cow. The Indian Veterinary Journal. 2013; 90(12):66-67.
4. Janaway RC, Wilson AS, Caprio Díaz G, Guillen S. Taphonomic changes to the buried body in arid environments: an experimental case study in Peru. In: Ritz K, Dawson L, Miller D, editors. Criminal and Environmental Soil Forensics. New York: Springer. 2008, 341-356.
5. Hornaday WA. Sterility in Cattle. Veterinary Medicine. 1947; 42(4):129-133.
6. Lefebvre RC, Saint-Hilaire E, Morin I, Couto GB, Francoz D, Babkine M *et al*. Retrospective case study of fetal mummification in cows that did not respond to prostaglandin F2α treatment. The Canadian Veterinary Journal. 2009; 50(1):71-76.
7. Roberts SJ. Veterinary Obstetrics and Genital Diseases. Edn 2, New Delhi, India: CBS Publication and Distributions, 1971, 170-174.
8. Jackson PS, Cooper MJ. The use of cloprostenol for the termination of pregnancy and the expulsion of mummified fetus in cattle. Veterinary. Record. 1977; 100(17):361-363.
9. Kumaresan A, Chand S, Suresh S, Mohanty TK, Prasad S, Layek SS *et al*. Effect of estradiol and cloprostenol combination therapy on expulsion of mummified fetus and subsequent fertility in four crossbred cows. Veterinary Research Forum. 2013; 4(2):85-89.
10. Reshma A, Sathiamoorthy T, Kumar RS, Rangasamy S, Sarath T, Joseph C *et al*. Management of Hematic Mummification by Cervicotomy in a Jersey Crossbred Cow. The Haryana Veterinarian. 2020; 59(SI):141-142.
11. Hopper R, Hostetler D, Smith J, Christiansen D. Surgical removal of a mummified fetus via colpotomy. Bovine Practitioner. 2006; 40(2):57-58.
12. Vandeplassche M, Bouters R, Spincemaille J, Bonte P. Induction of parturition in cases of pathological gestation in cattle. Theriogenology. 1974; 1(3):115-121.