

Short Communication

SUCCESSFUL VAGINAL DELIVERY OF MUMMIFIED FOETUS IN A CROSS BRED COW: A CASE REPORT

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ABSTRACT: The present case report was aimed at the successful clinical management of mummification in a primiparous Jersey cross-bred cow that was successfully delivered per vaginam following use of $\text{PGF}_2\alpha$ synthetic analogue, Valethamate Bromide and Diethylstilbestrol followed by hot fomentation of anterior vagina.

Key words: Foetal mummification, Jersey cross-bred cow, $\text{PGF}_2\alpha$, Clostenol.

Mummification is the shrivelling of foetus during which corpus luteum (CL) remains intact, cervix remains closed, resorption of foetal fluid occur and the foetus becomes dry, paper-like (Jackson 2004). Mummification of bovine foetuses has an incidence of 0.13-1.8% (Arthur *et al.* 1996). Breed and previous occurrence are the main risk factors, with a higher incidence of foetal mummification in Jersey and Guernsey cattle. Foetal mummification associated with a persistent CL is observed mainly in cattle and goats, both species being dependent on progesterone produced by the CL for the maintenance of pregnancy (Lefebvre *et al.* 2009). Several causes for this condition have been reported with special references to bovine viral diarrhoea (BVD), leptospirosis and moulds (Roberts 1962); mechanical factor such as compression or torsion of the umbilical cord or both (Mahajan and Sharma 2002); defective placentation (Irons 1999); genetic anomalies (Roberts 1962) and abnormal hormonal profiles. Due to tissue degeneration and autolysis, a definitive aetiology of mummification is rarely determined.

The case

A 2.5 years old cross-bred Jersey heifer was presented in Teaching Veterinary Clinical Complex, Himachal Pradesh Krishi Vishvavidyalaya, India with the history of prolonged gestation by about a half month, without showing any signs of approaching parturition. Feeding, urination and defecation of the heifer was normal and there were no signs of systemic illness. The clinical

parameters including heart rate, pulse rate, temperature and respiration rate were normal. Vaginal examination revealed one finger dilatation of the cervix without any discharge. On per rectal examination, hard bony mass was palpated. But, no foetal movement, cotyledons, fremitus and foetal fluid was felt. Based on the findings of physical examination and per vaginal examination, the condition was diagnosed as foetal mummification and hence, medicinal approach was opted for its management.

The treatment was attempted by administering the combination of three drugs. Cloprostenol sodium 2 ml (Clostenol[®], Zydus AH Ltd., India), Valethamate Bromide 10 ml (Epidosin[®], TTK, Healthcare Ltd., India) and Diethylstilbestrol 10 ml (DSTL[®], Le-Mantus Pharma Ltd, India) intramuscularly. Per vaginal examination after 24 hours revealed cervical relaxation up to two fingers.

After another 12 hours, vaginal examination exhibited no further improvement in dilatation of cervix. Since, incomplete cervical dilation was there, so manual dilatation of cervix along with hot fomentation of anterior vagina for 30 minutes thrice at every 1 hour was done which led to complete dilatation of cervix and foetus was delivered manually with mild traction after correction of the posture (Fig. 1). The crown to rump length of foetus was 22 inches. Following the foetal delivery, the cow was administered Streptopenicillin 2ml/50kg body weight once in a day (DCR-S[®], Zydus AHL, India), Meloxicam @ 0.2mg/kg IM (Melonex[®], Intas Pharma, India) for 3 days and Inj. Oxytocin 100 IU, total dose (Evatocin[®], Neon Labs, India) intramuscularly.

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Fig. 1: Mummified foetus delivered through forced extraction.

In cattle, foetal mummification generally occurs after 70 days of gestation, without any concomitant luteolysis of the CL or opening of the cervix. The foetal death in bovine mummification occurs at any time between 3 to 8 months of gestation and, therefore, such a foetus where ossification of bones has already occurred, cannot be resorbed. Due to persistence of the corpus luteum abortion does not occur in such cases. With resorption of the foetal fluids and a tightly closed cervix, the foetal mummy is preserved in a sterile environment (Tadesse *et al.* 2015). Most mummified foetuses will remain in uterus until treatment is given for their expulsion or removed by cesarean section (Rajoriya *et al.* 2014). Medical treatment may consist of administration of a $\text{PGF}_2\alpha$ analogue to induce luteolysis, leading to expulsion of the foetus within two to four days (Wenkoff and Manns 1997). Estrogen may also be used to exacerbate the regression of the corpus luteum and induce contraction of uterine muscles, relaxation of the cervix and expulsion of the mummified foetus. After expulsion, cows usually conceive on first and second estrous cycle (Robert 1986).

In the present case, regression of CL, cervical dilatation and expulsion of mummified foetus was achieved with

$\text{PGF}_2\alpha$, Valethamate bromide and Diethylstilbestrol and hot fomentation of the anterior vagina. The prognosis for fertility after foetal expulsion was good in this case as the animal conceived in the subsequent estrus.

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