Case Report

SUCCESSFUL MANAGEMENT OF FOETAL MUMMIFICATION IN A CROSSBRED JERSEY COW- A CASE REPORT

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ABSTRACT

Successful obstetrical management of foetal mummification in a full term pregnant pluriparous crossbred Jersey cow by per vaginal removal of foetal parts is reported and discussed.

Keywords: Vagino-cervical prolapse, Vulval tear, Vulvoplasty

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Foetal mummification is one of the possible sequelae of pregnancy loss in all domestic animals indicating the state of complete resorption of foetal fluids with the presence of chocolate/brown-coloured material around the foetus. Due to the loss of foetal fluids, the tissues remain highly desicated thus providing an unpropitious environment for bacterial growth and autolysis. This clearly explains the difference between a macerated and a mummified foetus where maceration is marked by putrefaction of foetus inside the uterus due to entry of bacteria from the open cervix in the presence of a favourable aerobic environment. Among the domestic animals, occurrence of foetal mummification is more commonly reported in swine when compared to cow, sheep, goat, horse, dog and cat where the occurrence is occasional. Mummification is of two types' viz., hematic and papyraceous. Hematinic type is more common in cattle where there is a presence of reddish-brown, gummy, viscous mass of autolysed cells/mucous covering the foetus. In papyraceous type, the foetus is dry and stiff with no exudative material covering the foetus. Thus the end result of mummification is a dry leathery foetal mass being wrapped around tightly by the uterine tissue.

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In cattle, mummification of foetus can occur between third to eighth month of gestation without luteolysis and breaking of cervical seal. The etiological factors for foetal mummification includes infectious causes like BVDV, leptospirosis, *Neosporac aninum,* fungal infections and non-infectious causes like compression and/or torsion of umbilical cord, uterine torsion, defective placentation, genetic abnormalities causing foetal loss, abnormal hormonal profiles and chromosomal abnormalities.In the present manuscript, a case of foetal mummification and its successful management in a crossbred jersey cow has been reported and discussed (Roberts, 1971; Drost, 2007; Lefebvre, 2015; Kumar *et al*., 2017; Hendrawan *et al*., 2019; Noakes *et al.,* 2019).

Case history and clinical observations

A full term pregnant jersey cross bred cow in its third calving was presented to-Large Animal Obstetrical Unit, Madras Veterinary College Teaching Hospital, Chennai-with the history of persistent straining with no progression in parturition for past 24hrs. The animal also showed scanty reddish brown discharge from the vagina.

Clinical examination revealed no remarkable changes in the vital parameters. Per rectal examination revealed a tightly contracted uterus around a hard foetal mass with absence of foetal fluids, fremitus and placentomes. On per vaginal examination observed hard cervix with one finger dilatation. Ultrasonography disclosed the absence of foetal heartbeat with misaligned-foetal skeletal structure. Henceforth the case was diagnosed as foetal mummification and the procedure for per vaginal removal of foetal mass was initiated.

Treatment and discussion

As a first step, cervical dilatation therapy was initiated using Inj.Closprostenol @ 500 µg I/M followed by Inj.Calcium borogluconate @ 450ml slow I/V. Animal was kept under observation and a per-vaginal examination after 20 hrs revealed a fully dilated cervix with the presence of reddish brown mucous discharge from the vagina. After proper restraining of the animal, epidural anaesthesia was administered with 5 ml of 2% lignocaine hydrochloride. The foetal mass was very fragile and pulled up into parts/pieces during removal. Hence each and every part of the foetal mass was removed gently one by one along with the dry placental membrane(Fig.1). After complete removal, the uterine space and the birth canal were checked thoroughly for any tear or laceration. Intrauterine lavage using metronidazole along with per rectal massaging was done after assuring the tract's intactness. The animal was treated with Inj.Ceftiofur@ 1g I/M, Inj. Chlorpheniramine maleate @ 10 ml I/M, Inj. Meloxicam @ 10 ml I/M, and an oral uterine cleanser (Utrevive®) for five continuous days. The cow had an uneventful recovery after 7 days.

Diagnosis of foetal mummification in cattle is not so challenging and can be confirmed through per rectal examination followed by ultrasonography as reported by Dutt *et al.* (2018) where the presence

of a hard foetal mass devoid of reflexes, placentomes, fremitus and fluid will be evident. Management/treatment protocol for foetal mummification can be a surgical or non-surgical approach depending on the animal's response to treatment, duration of illness and size of the mummified foetus. Non-surgical or medical approach mainly focuses on the lysis of corpus luteum using prostaglandins, which in turn enables the cervical dilatation-within 3-5days along with uterine contractions resulting in the expulsion of the foetal mummy (Noakes *et al.,* 2019). If the foetal mummy is larger in size and is not expelled via fully dilated cervix, then obstetrical procedures can be followed with gentle traction for the removal of mummified foetus from the birth canal/uterus. Surgical approaches for management of foetal mummification in cattle includes episiotomy, hysterotomy via colpotomy and laparotomy via paramedian approach. Commonly reported surgical approach is the left flank caesarean section or laparotomy, which is done usually as a last resort in long standing cases where medical therapy has failed to bring about the cervical dilatation (Lefebvre, 2015; Prakash *et al*., 2017; Kumar *et al.,* 2017; Dutt *et al. (*2018). In the present case, the animal responded well to the prostaglandin therapy substantiated with calcium administration, which was done to potentiate the uterine contractions. The mummified foetus near the pelvic brim was then removed successfully with gentle traction. Hence longer the existence of the condition, greater is the damage to the endometrium and poorer is the prognosis after removal.

Fig.1: Mummified foetal parts

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