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DYSTOCIA DUE TO FETAL MUMMIFICATION IN A NON-DESCRIPT GOAT: A CASE STUDY

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KEYWORDS

Dystocia

Mummification

Doe

Gestational disorders

Toxoplasmosis

ABSTRACT

A nondescript doe weighing around 35kg with the history of complete gestation period and dark brownish-red color vaginal discharge was presented in VGO polyclinic, IVRI, Bareilly. Per vaginal examination revealed, compact fetal mass lodged in the anterior vagina. The lubricated gloved hand passed per-vaginally, the fetal mass extracted out and the case was diagnosed as dystocia due to fetal mummification. The doe was given oral uterine cleanser and systemic antimicrobial therapy for three days and recovered uneventfully.

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1 Introduction

Fetal mummification and maceration are important gestational disorders of farm animals in which the exact etiology and time of fetal death are unknown (Dutt et al., 2018). However, fetal mummification has been reported in many domestic species, including the cow, sheep (Alagar et al., 2016), goat (Anil et al., 2017), horse (Threlfall, 2005), swine, dog and cat. Among these highest prevalence occurring in the swine (Long, 2009). The condition is said to be more common in swine, dogs, and cats carrying large litters which results in uterine overcrowding and placental insufficiency (Long, 2009). In sheep and goats, fetal mummification is not common, and affects both single and twin fetuses. In doe, fetal mummification is uncommon and associated with four major conditions viz., Toxoplasmosis, *Chlamydophila*, border disease and *Coxiella burnetti* infection (Edmondson et al., 2012), Toxoplasmosis and Chlamydiosis being most common. Other potential causes for mummification may include mechanical factors, such as compression and/or torsion of the umbilical cord (Mahajan & Sharma, 2002), uterine torsion (Moore & Richardson, 1995), defective placentation (Irons, 1999), genetic anomalies (Roberts, 1962) abnormal hormonal profiles and chromosomal abnormalities (Roberts, 1986). Fetal death in domestic animals occurring in the middle or last third of the gestation without luteolysis and abortion of the fetus, rather followed by autolytic changes in the fetus, absorption of placental and fetal fluids, involution of the maternal placenta, and mummification of the fetus (Roberts, 1971). Fetal mummification associated with a persistent corpus luteum is observed mainly in cattle and rarely in goats (Roberts, 1971). In most cases, primiparous females are more susceptible than pluriparous animals. Here, in this report, a case of spontaneous expulsion of mummified fetus and its retention in anterior vagina in a non-descript primiparous goat and its successful management is presented.

2 Case history and Observation

A 2-year-old primiparous, non-descript goat presented at Polyclinic (VGO), ICAR-IVRI, Bareilly, with rectal temperature of 100.6°F and signs of imminent kidding like udder enlargement with teat engorgement, intermittent inappetance, straining and abnormal vaginal discharge (dark brownish red) from last 2-3 days. The animal was quite active with normal body condition score. The perineum of the animal was soiled with a foul-smelling vaginal discharge indicating open cervix. The abdominal ballottement did not reveal the presence of fetus but upon vaginal examination by well lubricated gloved hand, a compact fetal mass having rubbery consistency was found engaged in the birth canal.

3 Diagnosis and Treatment

Per vaginal examination revealed posterior longitudinal presentation of the fetus with both hindlimbs extended in the birth canal, wrapped in fetal membrane without any fetal fluids. A sticky, dark brownish red colored discharge was present in the birth canal. After proper lubrication of the birth canal with liquid paraffin gentle traction was applied to the fetal limbs by holding them between thumb, forefinger and middle finger. With slight movement and gentle traction, a brownish red colored fetal mass along with attached placenta was delivered. Per vaginal examination and radiography confirmed the absence of any other fetal structure in the uterus (Table 1; Figure 1-4). After the

Table 1 Characteristics of the delivered mummified fetus

S.I No.	Parameter/Characteristics	Observation
1	Weight of the mummified fetus along with placenta	100.0 grams
2	Weight of the mummified fetus alone	65.0 grams
3	Crown-rump length (CRL) of fetus within membranes	18.0 cm
4	Crown-rump length (CRL) of fetus without membranes	14.0 cm
5	Number of rows of fetal cotyledons on placenta	3
6	Approximate number of cotyledons	120
7	Maximum width of placenta	5.0 cm
8	Minimum width of placenta	1.0 cm
9	Total length of placenta	65.0 cm
10	Length of forelimbs	6.0 cm
11	Length of hind limbs	8.0 cm
12	Umbilical cord length	9.0 cm



Figure 1- A non-descript primiparous goat with complete gestation period presented at polyclinic



Figure 2- Teat engorgement



Figure 3 Mummified fetus along with attached placenta



Figure 4 Mummified fetus with separated placenta consisting of necrosed cotyledons

delivery of mummified fetus uterine douching was performed with metronidazole and povidone iodine. The animal was kept on antimicrobial and other supportive therapy using Quintas[®] (Enrofloxacin-Intas, India) @ 5mg/kg. B.wt. IM OD, Melonex[®] (Meloxicam-Intas, India) @ 0.05mg/kg. b.wt. IM OD for 3 days along with Involon[®] (Indigenous herbal uterine cleanser-Natural Remedies, India) @ 100 ml PO as a loading dose followed by 50 ml for 3 days. The animal recovered from the condition with normal clinical parameters, normal appetite and absence of vaginal discharge after 3 days of treatment.

4 Discussion

Fetal mummification, although uncommon in goat, can occur due to death of fetus in-utero. Fetal mummification is reported to be rare in goats but appears to be more associated with twin pregnancy (Tutt, 1991). However, this was not found to be true in the present case. The fetus was not having eyeballs and skin which might be due to resorption of skin and subcutaneous layers. The fetal consistency and configuration along with the presence of dark brownish red colored discharge confirmed the hematic type

of mummification. A mummified fetus can be delivered manually by gentle traction if the cervix is open but in cases of the closed cervix, the treatment should be initiated with a luteolytic agent like Cloprostenol, cervical dilator like Valethamate bromide along with estrogen therapy to achieve better result. However, in the present case fetus was expelled from the uterus, lodged in the anterior vagina and extracted manually with gentle traction as observation made by (Lefebvre et al., 2009). Awasthi & Tiwari (2002) reported the use of PGF_{2α} for treatment of fetal mummification in cow, whereas Srinivas et al. (2007) recommended Valethamate bromide for cervical dilatation and PGF_{2α} for the expulsion of mummified fetus. Mane et al. (2010) reported that the mummified fetus could be removed completely by inducing cervical dilatation with valethamate bromide and then if the uterine infection is controlled, the prognosis could be favourable.

Conflict of Interest

The author declares that there were no conflicts of interest.

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