

Mummification of Triplets in a Doe

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ABSTRACT

Fetal mummification is a rare gestational accident in domestic animals which is associated with fetal death, non-involution of corpus luteum, absorption of fetal and placental fluid and other associated changes in uterine environment. The present case report describes per vaginal extraction of three mummified fetuses of different stage of gestation in a four year non descriptive doe.

Keywords: mummification, doe, triplets

Fetal death during middle or last third of gestation, followed by absorption of fetal fluids, autolysis of fetus without involution of corpus luteum is termed as fetal mummification (Roberts, 1971). It was originally reported in the Danish Red cattle which was thought to be due to single recessive autosomal gene with incomplete penetrance (Sane *et al.* 1994). Among the domestic animals, fetal mummification is a common finding in the sow (Segura-Correa and Solorio-Rivera, 2013), occasional in the cow (Katiyar, 2015) and buffalo (Madhu *et al.* 2016) but, rare in the doe (Tutt, 1991). However, fetal mummification involving triplets of different gestational age is very rare to occur which has been described in this report.

CASE HISTORY AND CLINICAL OBSERVATION

A non-descript doe of about 4 years age in third parity was presented to the Veterinary Gynaecology and Obstetrics section of the Referral Veterinary Polyclinic of the ICAR-Indian Veterinary Research Institute, Izatnagar with complaint of anorexia, futile straining and genital bleeding observed for 12 hours. The goat

was reported to be in fourth month of gestation and did not experience any traumatic episode in recent past.

General clinical examination, goat was alert and active. The rectal temperature was 103°F and conjunctival mucous membrane was moist and pink indicating absence of dehydration and anemia. Per-vaginal examination revealed head of a fetus was engaged in the cervical rings.

TREATMENT AND DISCUSSION

The cervix was dilated manually by feathering and fanning for 10-15 minutes and a mummified fetus was removed by gentle traction. Per vaginal exploration revealed the presence of two more mummified fetuses and the same were evacuated. The mummified fetuses (n=3) were placed on a clean floor and a close inspection revealed that they were at distinctly different stage of development (Fig. 1). The degree of mummification was inversely related to the size of the fetus as well as the order of delivery. The doe was treated with Enrofloxacin@ 2.5mg/kg (Enrocin® Vetnax Animal Health Ltd, New

Delhi, India), Chlorpheniramine maleate @ 0.5mg/kg (Anistamin® Intas Pharmaceuticals Ltd, Ahmadabad, India), Meloxicam @ 0.5 mg/kg (Melonex® Intas Pharmaceuticals Ltd, Ahmadabad, India) intramuscular daily for 3 consecutive days. Two Nitrofurazone and urea bolus (Furea® Pfizer Ltd., India) were placed intrauterine. Upon discharge, the owner was advised to give 40 ml uterine cleanser (UterotoneLiquid® Cattle Remedies India Ltd., Gurgaon, India) orally for 10 days and to follow the treatment.

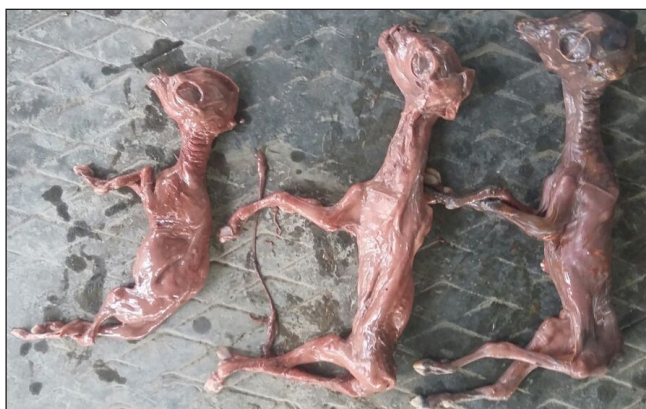


Fig. 1: Per vaginal extraction of three mummified fetuses from a non-descript doe (The fetuses are arranged from left to right in the order of delivery and also indicating different degree of the mummification).

In doe and ewe, fetal mummification is uncommon, and determination of the causative agent is often difficult due to the autolysis of fetus and its investments. Though the precise mechanism is not known, torsion of the uterine vessel, genetic factors or infections like border disease, Toxoplasmosis, *Chlamydomphila* and *Coxiella* infection are associated with mummification (Edmondson *et al.* 2012; Lefebvre, 2015). The fetus is often retained either due to the presence of functional corpus luteum or another live fetus as the mummified fetus has little adverse effect on the growth of other fetus (Roberts, 1971). Previous reports have reported fetal mummification in goat carrying triplets with two mummified fetus (Markandeya, 1991) or birth of normal live or dead fetus along with

mummified fetus (Chauhan *et al.* 2014). In the present case, all three fetuses were mummified. The different stages of the development of fetuses were found which are likely due to intrauterine growth retardation (IUGR) (Roberts, 1971). The shriveled appearances of fetuses indicate papyraceous type of mummification as reported earlier (Alagar *et al.* 2016). Of the three, one fetus lacked eye balls and ear due to the resorption of skin and subcutaneous layers and variable degree of mummification was observed which might be due to difference in the duration of death among fetuses.

The use of velathamide bromide for cervical dilation and prostaglandins for expulsion of fetus has been indicated in cow in the previous report (Awasthi and Tiwari, 2002; Srinivas *et al.* 2007). However, in the present case, manual removal of fetus was possible due to the dilated cervix resulting in immediate successful outcome of the condition.

REFERENCES

- Alagar, S., Prakash, S., Selvaraju, M., Ravikumar, K. and Manokaran, S. 2016. Papyraceous mummification leading to dystocia of a normal fetus in a Mecheri ewe. *Indian J. Anim. Reprod.*, **38**: 62-63.
- Awasthi, M.K. and Tiwari, R.P. 2002. Case report: successful treatment of bovine foetal mummification with Iliren The Blue Cross book, **19**: 28.
- Chauhan, P.M., Kapadiya, P.S., Sutaria, T.V., Nakhashi, H.C. and Sharma, V.K. 2014. Retention of Mummified Fetus due to Uterine Inertia after Kidding in Doe. *Vet. Clin. Sci.*, **2**: 64-66.
- Edmondson, M.A., Roberts, J.F., Baird, A.N., Bychawski, S. and Pugh, D.G. 2012. Sheep and Goat Medicine. 2nd edn., Elsevier Saunders, New York, USA.
- Katiyar, R., Sacchan, S.S.D., Manzoor, M., Rautela, R., Pandey, N., Prasad, S. and Gupta, H.P. 2015. Haematicfoetal mummification in a Sahiwal cow: case report. *J. Livestock. Sci.*, **6**: 44-46.
- Lefebvre, R.C., Saint-Hilaire, É., Morin, I., Couto, G.B., Francoz, D. and Babkine, M. 2009. Retrospective case study of fetal mummification

- in cows that did not respond to prostaglandin F_{2α} treatment. *Can. Vet. J.*, **50**: 71-76.
- Madhu, S., Suman, K., Thakur, M.S. and Shukla, S.P. 2016. Management of mummification of fetus in a Murrah buffalo-a case report. *Buffalo Bulletin.*, **35**: 507-509.
- Markandeya, N.M., Pargonkar, D.R., Baksi, S.A. and Doijode, S.V. 1991. Fetal mummification in goat- a case report. *Indian J. Anim. Reprod.*, **12**: 107-108.
- Roberts, S.J. 1971. *Veterinary Obstetrics and Genital Diseases*, 2nd edn., CBS Publishers and Distributors, New Delhi, India.
- Sane, C.R., Kaikani, A.S., Kodagali, S.B., Hukeri, V.B., Deshpande B.R., Velhankar, D.P., Luktuke, S.N. and Deopurkar, V.L. 1994. *Reproduction in Farm animals: (Theriogenology)*, 2nd edn., Verghese Publishing House, Bombay, India.
- Segura-Correa, J.C. and Solorio-Rivera, J.L.S. 2013. Risk factors for stillborn pigs and mummified fetuses in two swine farms in southeastern Mexico. *Livestock Res. Rural Dev.*, **25**: 173- 177.
- Srinivas, M., Sreenu, M. and Laxmi Rani, N. 2007. Per vaginal expulsion of mummified fetus in a crossbred cow. *Indian Vet J.*, **84**: 288.
- Tutt, C.L.C. 1991. Post-partum mummification of a co-twin foetus in a Cameroon Dwarf doe. *Vet. Rec.*, **40**: 229-231.

