Haryana Vet. (April, 2021) **60(SI)**, 106-107

Clinical Article

AN UNUSUAL CASE OF FETAL MACERATION IN A SHE DOG

ATUL K. VERMA, ASHUTOSH TRIPATHI, AKHIL PATEL*, AJIT KUMAR SINGH[1],
MANISH K. SHUKLA and VIJAY SINGH
Department of Veterinary Gynaecology and Obstetrics, [1]Department of Veterinary Clinical Complex,
College of Animal and Veterinary Sciences,
Sardar Vallabhbhai Patel University Agriculture & Technology, Meerut - 250110, India

Received: 17.06.2020; Accepted: 07.07.2020

SUMMARY

In canine, uterine inertia causes failure of expulsion of one or more fetuses resulting in loss of fetal viability. The retained fetus/fetuses in the uterus at the time of whelping or abortion leads to invasion of bacteria into uterus through open cervical canal resulting in fluid softening and autolysis of fetal soft tissue. Ultimately fetal bones remain in the uterus which may be associated with putrefactive changes and pyometra/metritis. The present study deals with successful management of fetal maceration associated with metritis in canine by ovariohysterectomy.

Keywords: Abortion, Maceration, Ovariohysterectomy, She dog, Uterine inertia

Several sequelae of fetal mortality have been observed in canines including mummification, maceration and partial or complete abortion. Fetal maceration is a type of incomplete abortion which occurs as a consequence of the failure of aborting fetus to be expelled due to uterine inertia (Johnston *et al.*, 2001), complicated by entry of pathogen into uterus through the completely or partially dilated cervix. This results in putrefaction and autolysis of muscles and soft tissues leaving only mass of fetal bones in the uterus (Jones *et al.*, 1997; Long, 2009). Fetal maceration is commonly encountered in cattle but the incidence is rare in dogs probably because of the fact that all fetal death generally results in expulsion of fetus (Feldman and Nelson, 1996; Johnston *et al*., 2001) or may lead to death of the dam before maceration is initiated. The case in this report is an isolated and rare case of fetal maceration in canines and its successful surgical management.

A two years old mongrel female dog weighing 13 kg was presented to Veterinary Clinical Complex of College of Veterinary and Animal Sciences, SVPUA&T, Meerut, with a history of pus discharge since last one month. The owner reported that bitch delivered four dead fetuses approximately one month ago at 63 days of gestation. After few days of whelping, foul smelling red colored uterine discharge through the vulva along with anorexia, depression and hyperthermia was observed by the owner, and therapeutics was provided accordingly. Uterine discharge ceased during treatment but a recurrence of the discharge was observed after few days. When presented to the Veterinary Clinical Complex, the bitch had normal temperature and feed intake without any systemic sign of illness. Though the discharge was present but fetid odour was lacking. No fetal mass was detected by abdominal palpation and digital per vaginal examination. Ultrasonography revealed enlarged uterine horns with anechoic fluid in the lumen. Some hyperechoic area suggesting small size fetal bones were also observed.

The haematological and serum biochemical parameters were within the normal range. The owner desired removal of ovaries and uterus to avoid the recurrence of pus discharge and prevent breeding in future, therefore decision of exploratory laparotomy followed by excision of uterus and ovaries was taken.

Ovario-hysterectomy was performed though midline incision under general anaesthesia. Atropine sulphate was administered at the dose rate of 0.022 mg per kg body weight intramuscularly as preanaesthetic medication. Xylazine (1mg/Kg wt) was given intramuscular as anaesthetic. Anaesthesia was maintained by injecting Ketamine (5mg/kg wt) and Diazepam (0.5 mg/kg wt) by intravenous route. Before induction of anaesthesia, the condition of the animal was stabilized by dextrose normal saline (5%) 200 ml and ringers lactate 200 ml intravenous. After exteriorization of the uterus through the laparotomy incision, fetal bones were palpated in the uterus. It was observed that uterus was sacculated and filled with pus and macerated fetal bones. The uterus and the ovaries were excised after ligation as per the standard procedure. After removal of the uterus, the laparotomy incision was closed with Vicryle (no. 2) absorbable suture. A course of antibiotic ceftriaxone sodium at the dose rate of 25 mg/ kg body weight for 7 days along with meloxicam at the dose rate of 0.5 mg/kg body weight intramuscularly and fluid therapy for 3 days was administered post operative. Daily antiseptic dressing was advised. After the surgery, examination of excised uterus revealed macerated fetal bones (Fig. 1 & 2). The fetal bones were present in both the uterine horns indicating retention of two fetuses, one in each uterine horn.

In the present case, discharge from vagina was free

*Corresponding authors: dr.akhil.patel87@gmail.com

Fig. 1. Part of macerated fetus in one horn

Fig. 2. Part of macerated fetus in other horn

from foul odour and there were no signs of systemic illness which may be due to earlier prolonged antibiotic therapy by local veterinarian. Earlier, Sagar *et al.* (2017) reported fetal maceration in dogs where foul smelling discharge and systemic signs were absent. Initially, the case was tentatively diagnosed and treated as pyometra by local veterinarian but pyometra is progesterone mediated uterine disease which occurs exclusively during diestrus (Johnston *et al.*, 2001) and its occurrence during post whelping period was questionable. Therefore, the case was suspected to be metritis associated with some uterine pathology characterized by red coloured uterine discharge leading to failure of closure of cervix. Hence, decision of ovario-hysterectomy was taken. After hysterectomy, fetal bones were detected in the uterus and the case was finally diagnosed as macerated fetus complicated with metritis. Similar findings have also been reported in the past (Serin and Parin, 2009; Tilghman *et al.*, 2019). In post partum dogs, green coloured vaginal discharge during whelping is considered normal which should clear off after 48 hours of whelping but in metritis, it is replaced by muco-purulent foul smelling discharge (Memon and Mickelsen, 1993; Bodh *et al.*, 2014). In this case, some fetuses might have failed to be expelled after abortion due to uterine inertia (Johnston *et al.*, 2001) or may be due to abnormal presentation, position and posture of dead fetuses/normal contraction of dilated cervix (Drost, 2007) resulting in the loss of fetal life due to failure to suitably intervene to relieve dystocia at the right time. This facilitated the entry of autolytic bacteria into the uterus through the dilated cervix. This might have resulted in maceration of fetus as reported in the past (Mahla *et al.*, 2016). The ovario-hysterectomy performed to relieve the condition proved successful in the present case. This has been suggested to be a good treatment strategy in such cases in the past also (Bodh *et al.*, 2014; Sagar *et al.*, 2017).

REFERENCES

Bodh, D., Gugjoo, M.B., Rafee, M.A. and Singh, K. (2014). Uterine rupture and fetal maceration in an Indian mongrel bitch. *J. Adv. Vet. Res*. **1(4)**: 49-52.

Drost, M. (2007). Complication during gestation in a cow. *Theriogenol*ogy. **68**: 487-491.

Feldman, E.C. and Nelson, R.W. (1996). Periparturient diseases. Canine and Feline Endocrinology and Reproduction. WB Saunders Company, Philadelphia, p. 578.

Johnston, S.D., Kustriz, M.V.R. and Olson, P.N.S. (2001). Disorders of canine uterus and uterine tubes (oviducts). In: Canine and feline theriogenology; W.B. Saunders, USA, pp. 206-224.

Jones, T.J., Hunt, R.D. and King, N.W. (1997). Genital system. In: Veterinary Pathology. Lippincott William and Wilkins, Baltimore, pp. 1149-1222.

Long, S. (2009). Abnormal development of the conceptus and its consequences. In: Veterinary Reproduction and Obstetrics, Noakes, D.E., Parkinson, T.J. and England, G.C.W. (Edts.). (9th Edn.), W.B. Saunders, Philadelphia, p. 123.

Mahla, A.S., Shinde, S., Sachan, V., Chaudhary, R.K., Kumawat, B.L., Verma, A.K. and Das, G.K. (2016). A rare case of foetal maceration in bitch and its successful management. *Theriogenol. Insight*. **6(1)**: 41-44.

Memon, M.A. and Mickelsen, W.D. (1993). Clinical management of bitches with vaginal discharge during pregnancy. *J. Reprod. Fertil.* (Supplement) **47**: 558.

Sagar, P.V., Kumar, P.R. and Raghunath, M. (2017). Ectopic fetal maceration in a Labrador bitch. *Livestock Sci*. **8**: 8-10.

Serin, G. and Parin, U. (2009). Recurrent vaginal discharge causing by a retained fetal bones in a bitch: A case report. *Veterinarni Medicinia*. **6**: 287-290.

Tilghman, M.L., Sudberg, K.E. and Memon, M.A. (2019). Post whelping abdominal distension resulted from ascitis caused by perforated uterus, enteropathy, macerated and mummified fetuses in a dog-a case report. *J. Dairy Vet. Sci*. **14(4)**: 555795.