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Management of fetal mummification through C-section in a golden retriever bitch: A case report

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Abstract

This paper reports on a case of fetal mummification. A five year old Golden Retriever bitch was presented with a history full term gestation (65 days) and non-progressive signs of labor with uterine discharge. Per vaginal examination revealed primary uterine inertia with dilated birth canal without any fetus. X-ray confirmed the presence of smaller bony structures in the uterus. Medicinal treatment with IV fluid therapy, oxytocin and calcium was unsuccessful. Caesarean section was performed under general anesthesia and mummified fetus was removed. The bitch recovered successfully following normal post-operative management.

Keywords: Fetal mummification, uterine inertia, C-Section

Introduction

In fetal mummification, there is death of the fetus after ossification of fetal bones, fetal fluid are reabsorbed by the uterus causing dehydration of fetal tissue and associated membrane if there is no bacterial infection (Noakes, 1986) [6]. Fetal mummification is a common problem in polytocous and rare in monotocous animals (Perumal and Srivatsava, 2011) [7]. It is a sterile process due to morphological changes of the retained dead fetus and in the presence of a mature fetal skin it is resistant to autolysis (Grunert *et al.*, 2005) [2]. Fetal mummification does not occur during the first half of pregnancy because embryonic or fetal death prior to the development of fetal bones usually is followed by unobserved discharge or tissue resorption (Lorenz *et al.*, 2009) [4]. In dogs, embryonic and fetal death can occur due to abnormalities in development or chromosome, infectious agents, maternal endocrine disorders, contraceptive drugs, torsion of uterus and dystocia (Planellas *et al.*, 2012) [8]. A case report of canine fetal mummification and its successful management has been reported in this paper.

Case history and observations

A 5 year old Golden Retriever bitch was presented to the Veterinary Clinical Complex, WBUAFS, Kolkata with history of mating 65 days back and showing minimal labor sign with slight vaginal discharge. The rectal temperature was 103°F and the animal was weak and lethargic. Abdominal enlargement and engorged mammary glands were evident. Vaginal examination showed complete dilation of birth canal without any fetal part. Radiographic examination of lateral view of the abdomen indicated the presence of underdeveloped fetal skeleton, suggestive of autolytic changes following death (Fig. 1). Ultrasonography revealed presence of comparatively smaller size dead fetus.



Fig 1: X-ray of abdomen (Lateral View) showing underdeveloped fetal skeleton

Treatment and discussion

Initially, parturition was induced with 25% Dextrose IV, Oxytocin (15 IU IM) and Calcium, but no progression of labor was observed. After preparation of surgical site, caesarean section was performed under the general anesthesia using Atropine Sulphate (@ 0.04 mg/kg BW S/C), Xylazine (@1 mg/kg BW I/M), Diazepam (@0.5 mg/kg BW I/V). Ketamine and Propofol were mixed 1:1 ratio and administered intravenously up to the effect to maintain the anaesthesia. A single mummified fetus was removed gently by milking the uterus with gloved hand through the uterine incision (Fig. 2). Care was taken to avoid spilling of uterine contents in the abdominal cavity. The placental membrane was closely adhered to the fetus without odor. The gravid uterine horn was filled with serosanguinous content (Bindari and Shrestha, 2012) ^[1]. The fetuses were dehydrated, surrounded by dark capsules with wet surface. The placental remnants were also removed. Gravid uterus is flushed with Normal Saline. Metrogyl was sprinkled inside the uterus as well as in the abdominal cavity. Uterine incision was closed with Lambert's suture pattern using Chromic Catgut (No. 0-0), muscle layer and peritoneum were sutured together with simple interrupted suture pattern using Vicryl (No. 1-0) and finally interrupted mattress suture was performed in skin with Linex (No. 1-0). Alternate day dressing was done for 7 days with Sucral-MU[®] ointment and Neosporin[®] powder. Postoperatively, antibiotic (Cefotaxime @ 5-10 mg/kg BW I/V for 7 days) and supportive therapy with analgesics (Meloxicam @ 0.3 mg/kg BW I/M for 5 days), I/V fluid therapy (DNS @100 ml and RL @100 ml for 3 days) and Syp. Multistar Pet 5ml BID, PO for 15 days were given. Bitch recovered successfully through therapeutic management after surgery.



Fig 2: The single mummified fetus delivered after C-Section

The fetal mummification is common problem in polytocous and rare in monotocous species (Perumal and Srivastava, 2011) ^[7]. In this study, the single mummified fetus was surrounded by dark capsules with wet surface. It was soft in consistency without any odour and placental fluids were absorbed and the fetal membrane adhered to the dehydrated fetus, allowing the formation of a dark tissue with a wet surface (Nascimento and Santos, 2003; Kennedy and Miller, 2007) ^[5, 3]. In present case primary uterine inertia was main reason for retention of dead mummified fetus which is common in canine species (Romagnoly *et al.*, 2004; Soni *et al.*, 2018) ^[9, 10]. Walett and Linde (1994) ^[11] also reported uterine inertia as main cause of dystocia in bitches.

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