RESORPTION OF MULTIPLE FETUSES AT MID-GESTATION IN A BITCH

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ABSTRACT

A rare case of fetal resorption of multiple fetuses in a pregnant bitch due to bacterial infection is described.

Key words: Bitch, Resorption, Pregnancy, Fetus

INTRODUCTION

Pregnancy loss may occur at any stage of gestation in the dog, and may be manifested by embryonic death and resorption, abortion of a live or dead fetus, stillborn pups, or fetal mummification and retention in the dam's uterus or peritoneal cavity beyond the normal time of parturition. If fetal death occurs during the first half of pregnancy, resorption or unobserved abortion occurs (Johnston *et al.*, 2001). The present case reveals resorption in a pregnant bitch due to infection.

CASE HISTORY AND OBSERVATIONS

A 1½ year old Labrador bitch was presented to the Veterinary clinics of the teaching hospital with the history of pus discharge from vagina since 7 days and inappetance since 10 days. The bitch was bred 34 days back when she was in the third estrum. On physical examination, the animal was weak and recumbent with sunken eyes, 6% dehydration status, swollen popliteal lymph node, pale conjunctival mucous membrane, with a rectal temperature of 100.6°F and pus from the vagina was observed.

On abdominal palpation, the uterus appeared enlarged. Ultrasonography revealed distinct distended uterine loops with hypoechoic masses, reduced/no fluid and absence of fetal heart beat. The hypoechoic masses appeared as grey-white material without any organized fetal structures within the uterine lumen. Hematological report revealed severe non-regenerative anemia with a hemoglobin count of 3.6 g%, neutrophilic leukocytosis with a total leucocyte count (TLC) of 15,500 cells/cu mm and differential leucocyte count (DLC) of 94% neutrophils and 6% lymphocytes, moderate to severe toxic changes in neutrophils and bacterial septicemia. Serum biochemistry report revealed high levels of blood urea nitrogen (38mg/dl), creatinine (1.9mg/dl) but alanine transaminase (19 U/l) levels were found to be within normal range. Vaginal discharge was collected using a sterile swab for bacterial investigation and sensitivity test before commencement of any treatment. The following case was suspected as a case of fetal resorption due to the history of breeding and presence of hypoechoic masses within slightly distended uterine lumen that were suggestive of resorbed fetal structures which are absent in case of pyometra. The cause could be attributed to bacterial infection evident as persistent pus discharge and neutrophilic leucocytosis.

TREATMENT AND DISCUSSION

Since the bitch was severely anemic, stabilizing the animal was carried out with intravenous solutions like, 300 ml of Lactated Ringer Solution (LRS), (Nirlife health care, Gujarat) 50 ml of Dextrose (20%) and 60 ml of Metronidazole (0.5% w/v, Meterogyl), intramuscular antibiotic coverage of 300mg Ceftriaxone (Cefstan, Vetnex Animal Health Limited, New Delhi) im bid and liver supportive like 2ml Polybion (Merck Limited, Goa). Blood transfusion was advised the next day and 200ml of blood transfusion was done over 5 hr after

major and minor cross-matching techniques. Hematological report just before transfusion revealed severe anemia with a hemoglobin count of 3.3 g%, TLC of 7000 cells/cu mm, total erythrocyte count (TEC) of 1.55 million cells/cu mm, packed cell volume (PCV) of 10.6%, and a DLC of 88% neutrophils and 12% lymphocytes. Intravenous fluids comprising of LRS and metronidazole and antibiotic coverage bid along with liver supportive were administered daily. A Complete blood count after 24hr of transfusion revealed marked improvement with hemoglobin count of 7g%, TLC of 12, 180 cells/cu mm, TEC of 3.03 million cells/ cu mm, PCV of 20%, DLC of 96% neutrophils and 4% lymphocytes with normocytic normochromic anemia. Blood biochemistry report revealed reduced levels of creatinine (0.5mg/dl) but increased levels of blood urea nitrogen (BUN) (47mg/dl). Bacterial isolation report of the vaginal swab revealed infection of spp. Culture sensitivity tests revealed resistance to Cephalothin, Cefuroxime, Cefoperazone, Amoxycillin, and Penicillin G and sensitivity to Neomycin, Streptomycin, Gentamicin and Tetracycline. As the test showed resistance to some of the Cephalosporin drugs, the antibiotic was changed to Doxycycline @ 10mg/kg b wt bid (DoxyJack, 100mg/ tablet, Jackson Pvt Ltd, H.P). Since the animal was stabilized, ovario-hysterectomy was performed after 48hr of blood transfusion. Pre-anesthetic medication using Atropine sulphate @ 0.04mg/kg b wt and Acepromazine @ 0.05mg/kg b wt was given intramuscular prior to induction of general anesthesia using Thiopentone @10mg/kg b wt intravenous. The patient was placed in dorsal recumbency, the site was aseptically prepared in standard procedure and ovariohysterectomy (OH) was performed. The approximate weight of the uterus and ovary was 400g. The uterus was incised along the entire length and reflected. Zonary attachment of placenta was observed in seven distinct places throughout the horns of the uterus. The placenta was discoloured and two of the seven placenta contained caseous material and were smaller when compared to the others (Figure 1). The fetuses were reduced to a dark reddish-black haemorrhagic mass with no fetal fluids (Figure 2). The left and right ovary contained four and three corpora lutei, respectively. No fetal parts or bones were appreciable and the uterus did not contain pus. Post-operatively, antibacterial therapy and supportives were advised to be given but the animal collapsed after a 24 hr period which is most likely due to increased BUN and severe septicemia and toxemia that was following.

Fetal resorption can occur in one or more conceptuses but there would be continuation of the remaining pregnancy to term (England *et al.*, 2006). According to Pacheco *et al.,* (2006), young bitches tend to have a higher probability of fetal resorption than adult bitches which was also the case in this patient. This was a rare case in which all the conceptuses were in stages of resorption which may have occurred due to the ascending infection by spp, that is a normal inhabitant of the caudal vagina. The pus discharge was probably due to vaginitis that ultimately ascended into the uterus, resulting in fetal death and resorption. Since the patient was not fit for surgery on the day it was presented, stabilizing it was essential for a relatively lesser risk. OH was performed to save the life of the patient as the primary cause of septic shock was of reproductive origin. Success following medical therapy was doubtful. Furthermore, medical therapy would take a long time to take effect and considering the critical state of the animal, OH was more appropriate. The prognosis of the patient was poor due to several factors such as anemia, increased BUN and creatinine which indicated that septicemia had affected the kidneys thereby reducing the efficiency of eliminating toxins which ultimately resulted in the collapse of the patient.

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Figure 1- Zonary attachment of placenta with two of them containing caseous material (arrow).

Figure 2- Fetus reduced to reddish-black hemorrhagic mass (arrow) indicating resorption.