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Haemodynamically compromised bitch with haemometra and its successful management

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Abstract

The current report describes an unusual presentation of haemometra in a haemodynamically compromised bitch and its successful management in a 6 year old Labrador retriever bitch. The dog was brought to Madras Veterinary College teaching hospital with a history of bloody vaginal discharge along with an enlarged and tensed abdomen for the past seven days. Initial diagnostic evaluation included Radiography, Abdominal ultrasonography, Vaginal exfoliative cytology, Laboratory and Physical examination. Complete blood count revealed anaemia accompanied with thrombocytopenia, hence intraoperative whole blood transfusion was performed. On Laparotomy, uterus exteriorized and was surgically managed by OHE. Post operatively the animal was monitored and its blood parameters were evaluated. Post transfusion results were normal and the animal recovered successfully.

Keywords: Haemometra, blood transfusion, anaemia, OHE

Introduction

Haemometra is defined as the accumulation of blood and blood clots in the uterus. Mucometra, hydrometra, and pyometra are defined by the type of fluid present in the uterus and the degree of mucin hydration [1]. Haemometra, in which the uterine content is haemorrhagic, is rarely reported [2]. In haemometra, complete blood count and serum biochemistry results may vary. Mild normocytic, normochromic, and nonregenerative anaemia often develops secondary to chronic disease and generally resolves following treatment [2]. A diagnosis of hemometra is not made until a laparotomy is performed and gross findings are assessed. This case describes hemodynamically compromised bitch with hemometra and its successful management.

Case report

A 6 year old, intact female Labrador retriever dog was referred for evaluation of severe hemorrhagic vaginal discharge. The discharge began 7 days prior to presentation and initially was mild and serosanguineous. The dog's last estrus occurred 4 months prior to admission and was reported by the owner to be a normal heat cycle. On physical examination, the dog was quiet, alert, responsive with normal vital parameters. Profuse hemorrhagic discharge was noted from the vagina, and the dog occasionally passed long, thread-like blood clots along with it. Initial diagnostic evaluation included abdominal ultrasonography, radiography, VEC, physical and laboratory examination. At presentation a complete Blood count was performed, revealing anaemia, neutrophilia and relative thrombocytopenia. Serum biochemical analysis showed elevated ALP, total and direct bilirubin.



Fig 1: Radiographic image indicating uterine involvement (Abdomen lateral view)

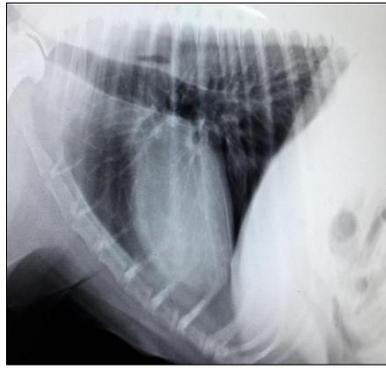


Fig 2: Thorax lateral view –Normal study

Table 1: Haematological Parameters

Parameters	Reference value	Day-0	Day-3 (pre transfusion)	Day-5 (post transfusion)	Day-9
Haemoglobin	13.1-20.5g/dl	11.9*	5.4*	6.7*	8.3*
PCV	37.3-61.7%	34.1*	14.9*	18.5*	24.2*
Monocyte	3-14%	5	4	4	4
Lymphocyte	12-30%	10*	11*	10*	10*
Platelet	211-621lakhs	132000*	70000*	142000*	312000*
RBC	4.95-7.87 millions	5.20	2.19*	2.63*	3.47*
WBC	5000-16760	20200**	40000**	40000**	19200**
Neutrophil	60-80%	85**	84**	84**	84**
Eosinophil	2-10%	-	1	2	2

*:lower than reference range, **:higher than reference range.

On Vaginal exfoliative cytology, intermediate and parabasal cells predominates with few neutrophils which indicates the animal is not in estrus. Abdominal radiography revealed uterine involvement. Abdominal ultrasound demonstrated an enlarged uterus filled with echogenic fluid. Animal was treated with metronidazole (15mg/kg, IV, bid), cefotaxime (20mg/kg, IV, BID) and pantaprazole (1mg/kg, IV, bid).Based on the results, an exploratory laparotomy was recommended.

On day 3, the bitch had a severe bloody discharge from the vagina, emergency laparotomy with OHE was performed along with intraoperative blood transfusion. The animal was premedicated with butorphanol (0.2mg/kg, IV) and diazepam (0.25mg/kg, IV).The bitch was induced with propofol (3mg/kg, IV) and maintained with isoflurane. At laparotomy, the uterus was enlarged and filled with fluid; evidence of haemorrhage was present. The uterine wall felt thickened and edematous. Post operatively, the uterine body was incised, revealing a diffuse, cystic appearance of the endometrium with an accumulation of blood clots which confirmed hemometra. The dog recovered uneventfully from surgery and was maintained on IV fluids and antibiotics. The patient showed normal condition at the follow up and its blood parameters were becoming normal.



Fig 3: Photograph of the extracted uterus from the abdominal cavity during laparotomy

Discussion

Haemometra is a rarely reported condition which is in agreement with the present findings [2]. It is regarded as an emergency because early diagnosis and rapid therapeutic interventions are necessary to prevent a fatal outcome [3]. Differential diagnosis of mucometra, hydrometra, haemometra and pyometra can be based on cytological examination, CBC, serum biochemistry, radiography and ultrasonography which helped our confirmatory diagnosis [4]. The various reported aetiologies of hemometra and metrorrhagia viz., postpartum subinvolution of placental sites [5], anticoagulant rodenticide toxicity [6], other acquired congenital deficiencies, uterine trauma, neoplasia [7], placental necrosis [4], idiopathic and pubertal metrorrhagia [8], and uterine serosal inclusion cysts [9]. When hemometra is suspected, ovariohysterectomy should be performed as soon as possible due to life threatening complications associated with bacteremia and endotoxemia [2].

A whole blood transfusion should be performed for bitches with severe anaemia. In the present case, the dog received a whole blood transfusion intraoperatively to correct severe anaemia and thrombocytopenia. A strict transfusion policy, with the use of blood typing and cross matching procedures with careful monitoring minimize the risk of an adverse reaction and maximize the benefit of transfusion. This case describes Haemodynamically compromised bitch with haemometra and its successful management.

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