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Therapeutic and surgical management of open cervix pyometra in a bitch

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Abstract

An intact seven year old unsprayed female Labrador dog with history of vomition, vaginal discharge, distended abdomen, anorexia, polyurea, and pyrexia was presented to Teaching Veterinary Clinical Complex, Veterinary Reproduction Division, Mathura. Based on the history, clinical signs & symptoms, clinical pathology and ultrasonography reports the condition was diagnosed as open cervix pyometra and the pyometra was successfully managed by Ovario-hysterectomy.

Keywords: Labrador, pyometra, Ovario-hysterectomy, ultrasonography

Introduction

The incidence of pyometra in dogs is approximately 24% before 10 years of age, Hagman *et al.* [1] and most commonly occurs in middle aged female dogs that have not been spayed and a hormonal mediated diestral disorder that results in abnormal uterine endometrium by Amstutz *et al.* [2]. Pyometra is the accumulation of pus within the uterus due to progesterone dominance, is classified as open and closed cervix pyometra. In open cervix pyometra, bitches are less systemically affected than in closed cervix pyometra. Common clinical signs include mucopurulent discharges, inappetence, depression, polydipsia, polyuria, lethargy, vomiting, diarrhoea and abdominal distension.

The increased progesterone levels stimulate uterine glandular secretions and create the ideal conditions for infection within the uterus, which suppresses uterine contractions, Cox. [3] Once the uterus is infected, it can become filled with purulent material and progress to become a life threatening condition. Anoop *et al.* [4], Pyometra is mainly caused by *E. coli*, *Klebsiella*, *Pasterurella* and *Staphylococcus*; most of organism is gram negative bacteria by Okano *et al.* [5] and in approximately 90% of cases, *Escherichia coli* are the main causative agent by Susi *et al.* [6]. Endotoxins produced by these bacteria initiated the cytokine cascade and release of many inflammatory mediators responsible for renal failure due to deleterious effect of toxin on kidney. The aims of the present study were to describe complications of the disease with therapeutic and surgical management of bitch affected with open cervix pyometra.

Case History and Clinical signs

A seven year old unsprayed female Labrador dog with history of vomition, vaginal discharge distended abdomen, anorexia, polyurea, and pyrexia was presented to TVCC, DUVASU, Mathura. On clinical examination bitch suffered with vaginal discharge (figure: 1), Rectal temperature was 104.6°F, heart rate 160 b/m, respectively. Ultrasonography was done with the Real time B mode ultrasound apparatus with 6.5 MHz convex transducer using the trans-abdominal approach. During the examination of the uterus showed an extremely enlarged anechoic fluid-filled lumen (sacculations in both the horns) and a thickened wall of the uterus (figure: 2)

Haematology revealed PCV-17.20. TLC (Total Leucocyte Count) -52, 00/cu mm, Haemoglobin (Hb)-5.80 GM % and RBC (Red Blood Cell Count) - 2.43 millions/cm m. The visible conjunctival mucous membrane was pale, dry and congested indicative of toxemia and dehydration.

Serum biochemistry parameters like blood urea nitrogen, creatinine, sodium, calcium, total protein and serum albumin were 16.8 mg/dl, 0.97 mg/dl, 126.8 m mol/l, 8.14 mg/dl, 5.88gm % and 2.62gm %. These serum biochemistry parameters indicate renal involvement and uremic gastritis. On the basis of clinical findings, it was confirmed as open cervix pyometra hence, surgery was planned and fasting was advised.

Treatment and Discussion

The animal was restrained in dorsal recumbency and the caudal mid Ventral abdomen prepared aseptically for ovariohysterectomy. Dog was premedicated with injection Atropine sulphate (0.04mg/kg B. wt) applied subcutaneously and with injection Dexamethasone @0.15mg intramuscularly. General anesthesia was induced and maintained by a combination of ketamine hydrochloride @ 5mg/kg and xylazine @ 0.4mg/kg body weight intravenously. The median laparotomy was performed by ventral abdominal incision. After opening the peritoneum, an enlarged uterus and the heavy pus filled uterine horns and body were carefully exteriorized after thoroughly packing the abdominal wound (Figure: 3). the ovaries, ligaments and blood vessels were carefully identified and then complete ovariohysterectomy was performed. The abdominal cavity was flushed twice with sterile saline and closed by following routine standard procedures. During the entire operative procedure, Ringer Lactate @ 500 ml was given intravenously.

Postoperative treatment included regular dressing with topical antibacterial Staphban and antibiotic inj Intacef Tazo[®] @25 mg/kg intramuscularly injection Melonex @ 0.3mg/kg body

weight, intramuscularly for 7 days injection Conciplex 1ml intramuscularly daily for one week An Elizabethan collar was placed to avoid licking and breaking the suture material at the operative site. Skin sutures were removed after 12 days. The post-operative examination showed that the bitch appeared active with good appetite.

Pyometra disturbed multiple organ functions which are noted in the hematological and blood biochemical examinations. Classically there is leucocytosis, with neutrophilia and left shift in the differential white blood cell count by Børresen. [7], Leukocytosis was characterized by neutrophilia indicated of severe infection and stress. Prevention of pyometra is difficult because of the normal aging changes in the uterus due to progesterone dominance during estrous, Anoop *et al.* [4], Pyometra is one of the canine bacterial infections potentially at risk of progressing into the systemic inflammatory response syndrome (SIRS) by Hardie. [8]. the choice of ovariohysterectomy was to stop the endotoxaemia and avert probable risk to kidney by Foster *et al.* [9]. Surgical treatment of pyometra was recommended that the best prevention for pyometra would be to spay all female dogs that are not meant for breeding before six months of age, Foster *et al.* [9].

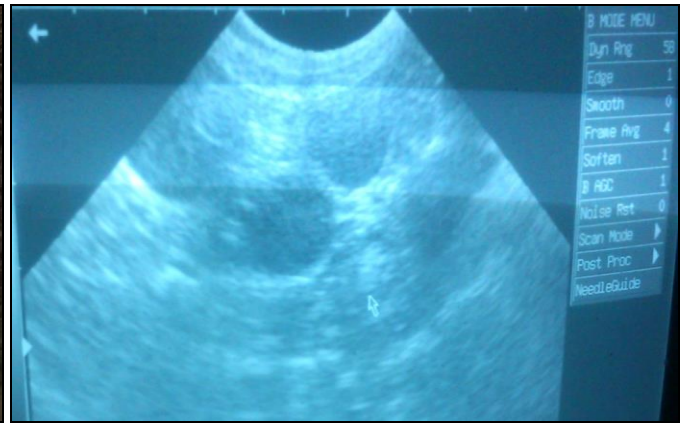


Fig 1 & 2: Purulent vulvar discharge and anechoic to hypoechoic sacculations (s) in uterine Horn



Fig 3: Photograph showing large sized uterus filled with pus

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