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## Diagnosis and management of closed pyometra in a dog

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### Abstract

A seven years old intact female Boxer dog was presented in Teaching Veterinary Clinical Complex, Khalsa College of Veterinary and Animal Sciences, Amritsar with history of depression, vomition, polyuria and polydipsia. Based on the findings of clinical signs, radiography and ultrasonography, diagnosis of closed cervix pyometra was confirmed. Ovariohysterectomy was performed under general anesthesia after stabilising the patient of animal using antibiotics and fluid therapy. An uneventful recovery was seen.

**Keywords:** management, closed pyometra, dog

### Introduction

Canine pyometra is a common disorder of intact, diestrual bitch affecting nearly one fourth of all female dogs before they reach ten year of age (Baithalu *et al.* 2010) [1]. Pyometra usually occurs several weeks after an estrual cycle. The infection begins as an abnormal increase in the number of glands in the uterine endometrium. The secretions of these glands provide an excellent environment for bacteria that enter the uterus from the vagina. Once the uterus is infected, it can become filled with purulent material and progress to become a life threatening condition. Pyometra is the accumulation of pus within the uterine lumen, typically occurring during or immediately following a period of progesterone dominance. The elevated progesterone levels help to create the ideal conditions for infection and stimulate uterine glandular secretions within the uterus, which suppresses uterine contractions and inhibits the effect of phagocytes in the uterus (Cox, 1970) [2]. The etiology of pyometra is mainly *E. coli*, *Klebsiella*, *Pasterurella* and *Staphylococcus*; most of organism is gram negative bacteria (Okano *et al.* 1998) [4]. In approximately 90% of cases, *Escherichia coli* are the main causative agent. It can be classified as open cervix or close cervix pyometra and the clinical manifestations of canine pyometra depend on the patency of the cervix. 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 safest and most effective treatment is ovariohysterectomy (OHE) but purely medical treatment can be used in selected cases (Mahesh *et al.* 2014) [3].

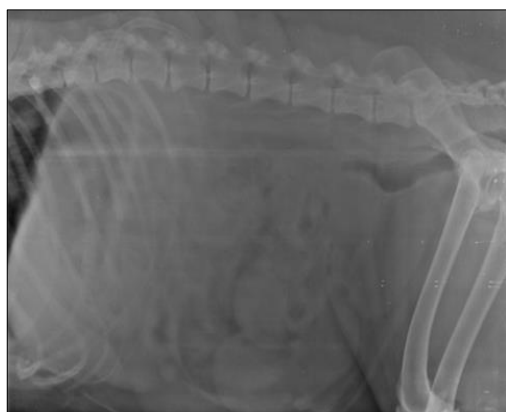
### History and clinical signs

A seven years old intact female Labrador dog was presented in Teaching Veterinary Clinical Complex, Khalsa College of Veterinary and Animal Sciences, Amritsar with history of depression, vomition, polyuria and polydipsia. Rectal temperature, respiration rate and heart rate were found to be 103.5°F, 25/minute and 100/minute respectively. Radiographic examination revealed the presence of large distended tubular soft tissue structure within the caudo-ventral aspect of abdomen suggestive of pyometra (Fig. 1). On ultrasonographic examination the uterine horns were found to be distended with echogenic fluid (Fig. 2) which further supported the diagnosis. Based on clinical signs, radiography and ultrasonography the condition was diagnosed as closed cervix pyometra.

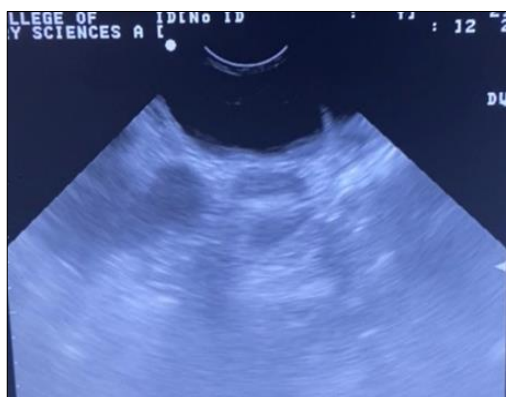
### Treatment

After stabilising the patient with antibiotics and fluid therapy ovariohysterectomy was planned next day. Patient was pre-medicated with Atropine @ 0.04mg/kg B.wt), Butorphanol @ 0.2 mg/kg and Diazepam @ 0.5 mg/kg. Anaesthesia was induced by Ketamine @ 5mg/kg and maintenance was done using Isoflurane.

Skin incision was given from umbilicus to 8 cm caudally. The uterine horns were exteriorized carefully (Fig. 3) and both the ovarian pedicles were ligated with three clamp technique, using No. 1 chromic catgut. The uterine body was also ligated anterior to cervix and whole of the uterus along with both the ovaries were removed out of the abdomen (Fig. 4). Laparotomy wound was closed routinely. During the entire operative procedure, Ringer Lactate @ 10ml/kg bwt was given intravenously. Post-operatively, the animal was given Amoxicillin @ 10mg/kg i/m for 5 days and meloxicam @ 0.2 mg/kg for 3 days. An uneventful recovery was seen and skin sutures were removed after 12 days.



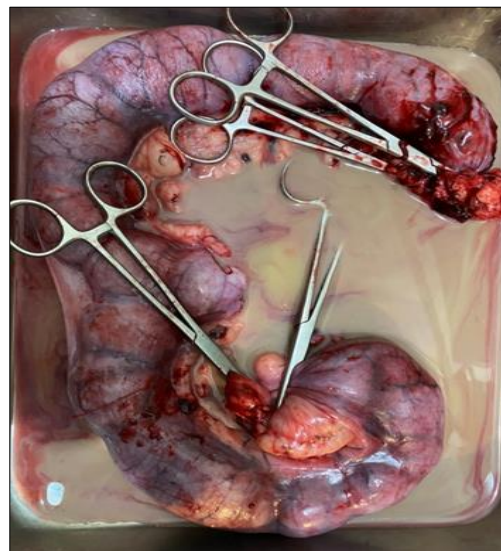
**Fig 1:** Distended tubular soft tissue structure within the caudo-ventral aspect of abdomen



**Fig 2:** Distended uterine horns dorsal to urinary bladder



**Fig 3:** Uterus isolated from the abdominal cavity



**Fig 4:** Uterus after removal. Note the pus after incising the uterus post removal

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