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## Successful surgical management of a critical case of pyometra in bitch: A case report

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### Abstract

A 12-year-old Pomeranian female dog presented in the department of Surgery and Radiology, COVAS, Anjora, Durg, Chhattisgarh with a complaint of vomiting since for three days, inappetence for 4-5 days, dull depressed and regular increase in the size of the abdomen since 1 month without any vaginal discharge. Based on history, clinical sign and ultrasonography the case was diagnosed as closed pyometra. Before surgery animal was maintained on medical treatment as condition of the animal was critical. With taking all aseptic precautions under general anaesthesia ovariohysterectomy was performed and removed uterus with 2 1/2 liters blood tinged pus with uneventful recovery. It was concluded that in closed pyometra cases ovariohysterectomy was the best choice of treatment rather than medicinal treatment in old age bitches.

**Keywords:** pomeranian bitch, pyometra, general anaesthesia, ovariohysterectomy, laparotomy

### Introduction

Canine pyometra is an infectious and inflammatory disorder of the uterus typically occurring in adult, intact bitches during or immediately after the luteal phase of the estrous cycle. Canine pyometra is a common reproductive disorder of intact, diestrus bitch which affects nearly one fourth of all female dogs before they reach middle age Baithalu *et al.*, (2010) [2]. It is a hormonally mediated, diestrus disorder that results in abnormal uterine endometrium (Amstutz *et al.*, 1998) [1]. Pyometra is classified as open and closed cervix pyometra. Closed cervix pyometra is comparatively serious in nature because of absorption of toxins from the accumulated pus and consequent development of toxemia. The choice of ovariohysterectomy was to stop the endotoxaemia and avert probable kidney failure (Foster and Smith 2006) [4]. Haematology of pyometra cases showed leucocytosis, neutrophilia, lymphocytopenia and normocytic and normochromic anemia (Shah *et al.*, 2017) [8]. Hence it requires immediate diagnosis and treatment in any age of the animal. Animals that are seriously ill should be medically stabilized with appropriate intravenous fluid therapy and broad-spectrum antibiotics prior to surgery (Smith 2006) [9]. In batches medical management in closed cervix pyometra may result in uterine rupture, with seepage of uterine contents into the abdomen. This paper communicates successful management of closed cervix pyometra with ovariohysterectomy in an old bitch with uneventful recovery.

### Case History and Clinical Signs

A 12 years old Pomeranian female dog presented in the department of Surgery and Radiology, COVAS, Anjora, Durg with complaint of vomiting since for three days, inappetence since 4-5 days, the dull depressed and regular increase in the size of the abdomen since 1 month without any vaginal discharge without any vaginal discharge and not responding to medicinal treatment. On clinical examination, no vaginal discharge was observed and temperature, pulse and respiratory rate were 101.2° F, 102/min and 68/min respectively. Haematological estimation revealed haemoglobin slightly decrease 9.6 g/dl, PCV-65 %, leucocytosis with neutrophilia and predominant shift to left. The visible conjunctival mucous membrane was dry, pale and deeply congested indicative of toxemia and dehydration. Serum biochemical parameters like blood urea nitrogen and creatinine were 42 mg/dl and 3.1 mg/dl respectively indicate severe renal involvement and uremic gastritis.

According to values and visible observation the condition of animal was serious. Based on the history and clinical finding for confirmation ultrasonography was done and showed the disclosed distended, anechoic to hypoechoic sacculation in both the horns. The condition of the animal was serious but to save the life of animal first decided to medical treatment initiated for fluid therapy Inj. DNS-250 ml, Inj. RL-250 ml intravenously, Inj. Ranitidine - 1ml, antibiotic Inj. Cefotaxime sodium-250mg, Inj. Dexamethasone- 4 mg, and Inj. Metoclopramide -1ml for 5 days to stabilize the patient. After five days the dog was thoroughly re-examined and radical surgery was planned under an aseptic standard surgical procedure to save the life of the animal.

### Treatment and Discussion

With taking all aseptic precautions the animal was controlled in dorsal recumbency and the caudal mid ventral abdomen was prepared for aseptic surgery. The animal was premedicated with Inj. atropine sulphate @ 0.04mg/kg body weight intramuscularly and under general anaesthesia was induced and maintained by a combination of Inj. ketamine hydrochloride @ 5mg/kg and Inj. diazepam @ 0.2mg/kg body weight intravenously the following Laparotomy was performed through 6-7 cm caudal mid ventral abdominal incision and the heavy blood tinged pus filled uterine horns and body were carefully exteriorized (Fig. 1) after thoroughly packing the abdominal. The ovaries, ligaments and blood vessels were carefully identified and resected after application of modified trans fixation ligatures with catgut. The laparotomy incision was closed by following routine standard procedures (Fig.2).

The postoperative care inj. DNS 300 ml, Inj. Metroniazole-100ml intravenously for 5 days, along with Inj. Cefotaxime sodium-250 mg, Inj. Meloxicam 1 ml and Inj. B-complex 1 ml intramuscularly daily for 5 days. Daily dressing of wound was done with povidone ointment. The skin sutures are removed after the 12<sup>th</sup> day of postoperative treatment with a normal diet and health condition.

In older bitch pyometra is one of the common causes of death and kidney damage with nephritis is often associated with it (Smith, 2006; Roberts, 1999) [9, 7]. Pyometra is best managed either by medical or hormonal therapy (prostaglandins) in patients not fit for surgery. However, adverse side effects ranging from simple allergy to anaphylactic reaction were reported after prostaglandin therapy by several researchers. Hence, Prostaglandins were not administered to the patient, considering the severity of the case at the time of presentation to the clinic. The side effects of prostaglandins outweighed the benefits of prostaglandins in systematically compromised dogs. Increased values of BUN in pyometric bitches indicate that the efficiency of kidneys to remove nitrogenous waste from the circulation is affected (Gayakwad *et al.*, 1999) [5]. Non regenerative normocytic normochromic anemia has also been reported in canine pyometra by Balasubramanian *et al.*, (1993) [3]. Quick diagnosis and treatment of canine pyometra are important because diseased animal may be markedly dehydrated, septicemic and may go under shock and death due to toxemia alone or may be associated with peritonitis due to rupture of the uterus (Mahesh *et al.*, 2014) [6]. In old and aged animals, in pyometra cases, ovariohysterectomy is always more complicated and carries a higher risk than routine spaying because of infection and haematological changes. This justifies the use of fluid therapy, antibiotics and corticosteroid to stabilize the patient. The choice of

ovariohysterectomy was to stop the endotoxaemia and avert probable kidney failure (Mahesh *et al.*, 2014) [6]. The conclusion of the successful management 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.



**Fig 1:** Photograph showing large sized uterus with pus after exteriorization through caudal midventral abdominal incision in a pomararian dog



**Fig 2:** Photograph showing suturing of skin with nylon in a pomararian dog

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