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CASE REPORT

Surgical Management of Pyometra in a Labrador Retriever: A Case Report

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ABSTRACT

Pyometra is a life-threatening uterine disorder commonly encountered in intact female dogs, particularly during the diestrus phase due to prolonged progesterone influence. The present case report describes the successful surgical management of pyometra in a 6-year-old Labrador Retriever. The animal was presented with a history of anorexia, lethargy, abdominal distension, and purulent vaginal discharge. Clinical examination and ultrasonography confirmed the diagnosis. Hematological evaluation revealed leukocytosis with neutrophilia and mild anemia. The case was managed successfully by ovariohysterectomy following stabilization with fluid therapy and antibiotics. Post-operative recovery was uneventful, and the animal showed complete clinical improvement within 10 days. Early diagnosis and prompt surgical intervention remain the most effective approach for managing pyometra in dogs (Smith, 2006; Hagman, 2018).

KEYWORDS

• Pyometra • Ovariohysterectomy • Uterine Infection • Canine Surgery

INTRODUCTION

Pyometra is a hormonally mediated uterine infection characterized by the accumulation of purulent exudate within the uterine lumen. It is commonly associated with cystic endometrial hyperplasia resulting from prolonged exposure to progesterone during the diestrus phase. This hormonal environment promotes glandular secretion, reduces uterine contractility, and predisposes the uterus to ascending bacterial infections, most commonly by Escherichia coli (Smith, 2006; Verstegen et al., 2008). The condition is frequently observed in middle-aged to older intact bitches and can be classified as open or closed depending on the patency of the cervix. Closed-cervix pyometra is more severe due to accumulation of toxins, leading to systemic illness, septicemia, and potential uterine rupture if not treated promptly (Root Kustritz, 2005; Hagman, 2018).

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CASE HISTORY AND CLINICAL FINDINGS

A 6-year-old intact female Labrador Retriever was presented with a history of anorexia for three to four days, progressive lethargy, abdominal distension, and purulent vaginal discharge. On clinical examination, the animal appeared depressed and mildly dehydrated. Rectal temperature was recorded at 103.2°F, heart rate was elevated at 100 beats per minute, and mucous membranes were congested. Abdominal palpation revealed a distended and tense abdomen, suggestive of uterine enlargement. These findings were consistent with typical clinical manifestations of pyometra in canines (Pretzer, 2008; Nelson and Couto, 2019). Diagnosis was established based on clinical signs, hematological findings, and ultrasonographic examination. Hematological evaluation revealed marked leukocytosis with total leukocyte count of 32,500 cells/µL, neutrophilia (88%), lymphopenia (8%), and mild normocytic normochromic anemia with hemoglobin level of 9.2 g/dL and packed cell volume (PCV) of 28%. These findings indicated an ongoing severe bacterial infection and inflammatory response (Nelson and Couto, 2019). Ultrasonography showed markedly enlarged uterine horns filled with hypoechoic fluid, confirming the presence of pyometra. Such ultrasonographic features are considered reliable for diagnosis of uterine pathologies (Bigliardi *et al.,* 2004).

SURGICAL MANAGEMENT

The animal was stabilized prior to surgery using intravenous fluid therapy with Ringer's lactate and normal saline to correct dehydration and electrolyte imbalance. Broad-spectrum antibiotic therapy using ceftriaxone was initiated to control systemic infection. After achieving adequate stabilization, the animal was prepared for surgical intervention. General anesthesia was induced using atropine as premedication followed by xylazine and Ketamine-Diazepam combination for induction, and maintained under suitable anesthetic depth. The animal was placed in dorsal recumbency, and standard aseptic preparation was performed. A ventral midline incision was made to access the abdominal cavity. Upon laparotomy, the uterus was found to be markedly enlarged and distended with purulent material. Careful exteriorization of the uterus was performed to avoid rupture (Figure 1) and contamination of the abdominal cavity. Double ligation of ovarian pedicles was carried out, followed by ligation of the uterine body near the cervix. Complete ovariohysterectomy was performed successfully. The surgical site was closed routinely in three layers. The intraoperative findings correspond to the enlarged, pus-filled uterine horns shown in the attached image. Ovariohysterectomy remains the treatment of choice for pyometra and provides definitive resolution (Root Kustritz, 2005; Fossum, 2019).

Figure 1: Exteriorization of markedly distended uterine horns filled with purulent exudate

POST-OPERATIVE CARE

Post-operatively, the animal was maintained on intravenous fluids for two days along with antibiotic therapy for seven days. Analgesics in the form of meloxicam were administered to manage pain and inflammation. Daily wound dressing was performed, and the animal was closely monitored for any complications. The dog showed noticeable clinical improvement within 48 hours, with gradual return of appetite and activity. No postoperative complications were observed, and complete recovery was achieved within 10 days. Sutures were removed on the 12th postoperative day.

DISCUSSION

Pyometra is a common reproductive disorder in intact female dogs and is closely associated with cystic endometrial hyperplasia (Verstegen *et al*., 2008; De Bosschere *et al*., 2001). The disease progression is influenced by hormonal changes during diestrus, which facilitate bacterial colonization and accumulation of uterine secretions (Smith, 2006). Hematological alterations such as leukocytosis and neutrophilia are indicative of systemic infection and are commonly observed in affected animals (Nelson and Couto, 2019). Although medical management using prostaglandins has been described, it is associated with a high recurrence rate and potential complications, making it less favorable compared to surgical management (Fieni, 2006). Ovariohysterectomy remains the gold standard treatment, especially in non-breeding animals (Fossum, 2019). In the present case, early diagnosis, proper stabilization, and timely surgical intervention resulted in a successful outcome.

CONCLUSION

Pyometra is a serious and potentially fatal condition in dogs that requires prompt diagnosis and intervention. Ovariohysterectomy remains the most effective and definitive treatment. Early clinical recognition, appropriate stabilization, and meticulous surgical management are crucial for ensuring a favorable prognosis.

Ethical Approval

The surgical procedure was performed following institutional ethical guidelines for animal treatment and welfare. Informed consent was obtained from the animal owner before treatment.

Conflict of Interest

The authors declare no conflict of interest.

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