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A case report of surgical treatment of closed pyometra in a Labrador dog

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Abstract

A seven-year-old intact female Labrador weighing 37.80 kg presented to the Department of Veterinary Surgery and Radiology, Bidar with history of anorexia, dullness, depression, vomiting, polydysia, poyurea since last 15 days and no history of mating. The case was diagnosed as closed pyometra based on the history, clinical signs and ultrasonography. Dog was kept under medical care before to surgery because it was in serious condition. Ovariohysterectomy was carried out under general anaesthesia with all necessary aseptic precautions and animal recovered uneventfully.

Keywords: Dog, closed pyometra, ovariohysterectomy

Introduction

Pyometra in dogs is a common reproductive disorder in intact, diestral female dogs, affecting nearly a quarter of all female dogs before they reach 10 years of age. By definition, it is the accumulation of pus in the uterus. This condition often occurs during or shortly after a period of progesterone dominance (Kumari *et al.*, 2010) [1]. The pathogenesis of pyometra is only partly understood, but it is generally recognized that primary hormonal imbalance or an abnormal response to normal concentrations of estrogen and progesterone affects the epithelial cells of the uterus and facilitate bacterial adhesion, colonisation and growth (Noakes *et al.*, 2001; Hagman and Kuhn 2002) [2, 3]. Pyometra is a medical emergency that requires prompt treatment to prevent debilitating sepsis. If left untreated, the infection can be fatal. Ovariohysterectomy is the treatment of choice in the early course of the disease has low surgical risk and has a high success rate. In toxæmic cases, the success rate may be lower. Before surgery, the bitch should be stabilized with fluid therapy and broad-spectrum antibiotics. The main advantage of ovariohysterectomy is to eliminate any risk of recurrence. However, surgical treatment also has limitations when it is dangerous due to anesthesia and surgical intervention, which is life-threatening (Kumari *et al.*, 2010) [1]. The present paper reports a case of successful management of closed pyometra with ovariohysterectomy in a Labrador dog.

Materials and Methods

A 7-year-old female Labrador retriever weighing 37.80 kg presented with history of anorexia, dullness, depression, vomiting, polydysia, poyurea since last 15 days. Physical examination revealed distended abdomen and no vaginal discharge (Figure 1). Clinical examination revealed temperature, heart rate and respiratory rate were 99.3°F, 68/min and 40/min respectively and dry and pale conjunctival membrane indicating sepsis and dehydration. Ultrasonographic findings revealed enlarged uterus with convoluted, tubular horns filled with anechoic to hypoechoic fluid (Fig. 2). Hematology evaluation revealed decreased platelet count (39,000 cells/mm³), leukocytosis (55,790 cells/mm³) and neutrophilia with significant shift to the left. Blood urea nitrogen (BUN) and serum creatinine were 131.7 mg/dL and 2.0 mg/dL respectively indicating severe kidney damage. Before surgery animal was stabilized with fluid therapy, Inj. Ranitidine - 1 ml, Inj. Amoxicillin @ 10 mg/kg, Inj. Flunixin meglumine @ 2 mg/kg and Metoclopramide -1 ml for 5 days.



Fig 1: Distended abdomen



Fig 2: Ultrasonography of uterus with convoluted, tubular horns filled with anechoic to hypoechoic fluid

Treatment and Results

The dog was premedicated with Inj. Atropine sulphate @ 0.04mg/kg body weight intramuscularly. General anaesthesia was induced by a combination of inj. Xylazine hydrochloride @ 0.5 mg/kg and Inj. Ketamine hydrochloride @ 5mg/kg intravenously and maintained with Isoflurane @ 1-2%. Ovariohysterectomy was performed through 15 cm caudal mid ventral abdominal incision. Pus filled uterine horns and body were carefully exteriorized (Fig. 3C) after thoroughly packing the abdominal. Weight of both horns was 6.54 kg, which is about 19% of the total body weight (Fig. 3D). The abdominal wall and skin were closed by standard procedures (Figures 3E, 3F). Amoxicillin showed the highest sensitivity in the antibiotic sensitivity test on the pus sample obtained. Post-operatively, the dog was treated with fluids, Inj. Amoxicillin @ 10 mg/kg for 7 days and inj. Flunixin meglumine @ 2 mg/kg intravenously for 5 days. Sutures were removed on 15th post-operative day. The dog recovered uneventfully.

Discussion

Pyometra is often a post-estrous syndrome in adult female dogs that is associated with various clinical and pathological manifestations of genital and multisystemic diseases. It is thought that uterine bacteria, ascending from the vagina during estrus and oestrus, cause disease during metestrus by acting on the progesterone-primed endometrium, directly through the production of toxins or indirectly by releasing inflammatory mediators (Noakes *et al.*, 2001) [2]. Repeated exposure to endogenous progesterone leads to cystic endometrial hyperplasia with increased glands secretions, which favored bacterial growth and resulted in pyometra (Cox, 1970) [4]. Common clinical signs associated with closed pyometra include lethargy, polyuria, polydipsia, emesis and hyperthermia followed by hypothermia (Verstegen, 2006) [5]. The animal presented to hospital also exhibited similar symptoms. Toxins released due to pyometra cause

pathological damage to organs, leading to left-shifted neutrophils and leukocytosis (Borresen, 1979) [6] and increased urea nitrogen and creatinine levels in the blood. Pyometra could be treated medically and surgically depends on the status of the affected bitch. The present case was not responding to medicinal treatment therefore surgery was performed to save life of the dog. Singh *et al.*, (2008) [7] opined that medical management of canine pyometra is successful in early stages and ovariohysterectomy is choice of treatment in late phases of pyometra (Roberts, 1971) [8]. The dog recovered uneventfully.

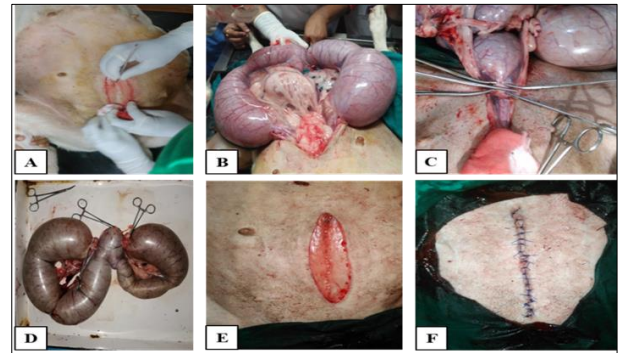


Fig 3: A. Mid ventral approach. B. Enlarged uterus. C. Clamping uterine with arteries at cervical end and ligation with silk no 1. D. Dissected uterus with ovaries after surgery. E. Linea Alba sutured with polyglactin 910. F. Skin sutured with Trulene.

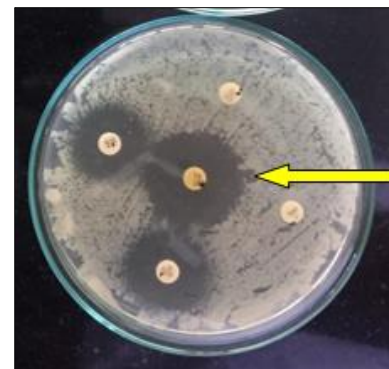


Fig 4: Antibiotic sensitivity test



Fig 5: Animal recovered uneventfully

Conclusion

Pyometra is a serious and potentially life-threatening disease of the canine uterus. Patients presenting with pyometra should be stabilized, and the decision whether to pursue medical management or surgical management of the uterine disease. Surgical management is the choice of treatment if animal not responding to medical management of pyometra. If a dog is intended for breeding, owner should be bred at the appropriate

age to minimize their risk of developing a pyometra.

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References

1. Kumari Baithalu R, Maharana BR, Mishra C, Sarangi L, Samal L. Canine pyometra. *Veterinary world*. 2010;3(7):340.
2. Noakes DE, Dhaliwal GK, England GC. Cystic endometrial hyperplasia/pyometra in dogs: a review of the causes and pathogenesis. *Journal of reproduction and fertility*. 2001;57:395-406.
3. Hagman R, Kuhn I. Escherichia coli strains isolated from the uterus and urinary bladder of bitches suffering from pyometra: comparison by restriction enzyme digestion and pulsed-field gel electrophoresis. *Veterinary Microbiology*. 2002;84(1-2):143-153.
4. Cox JE. Progestagens in bitches: A review. *Journal of Small Animal Practice*. 1970;11(12):759-778.
5. Verstegen J, Verstegen-Onclin K and NAVC. Conference. Pyometra in the bitch and queen. In *Proceedings of the North American Veterinary Conference*. 2006;20:1277.
6. Borresen B. Pyometra in the dog-a pathophysiological investigation. I. Anamnestic, clinical and reproductive aspects. *Nordisk Veterina Medicin*. 1979;31(6):251-257.
7. Singh KP, Singh BK, Singh B, Singh JP, Singh P and Singh HN. Pyometra in bitches-Two case reports. *Intas Polivet*. 2008;9(2):99.
8. Robert SJ. Infertility in bitches and queens. *Veterinary Obstetrics and Genital Diseases*. Edn 2, CAB Publisher and Distributors, India; c1971. p. 227-236.