

# PYOMETRA WITH OVARIAN AND PAROVARIAN CYSTS IN GERMAN SHEPHERD BITCH- A CASE REPORT

H.T. Jain<sup>1</sup>, Upadhye S.V.<sup>2</sup>, Dhoot V.M.<sup>3</sup>, Gauri Khante<sup>4</sup> and Vaishali D. Chipde<sup>5</sup>

<sup>1, 5</sup> Private Practitioner; <sup>2, 4</sup> Veterinary Surgeon, TVCC and <sup>3</sup> Veterinary Physician, TVCC, Nagpur Veterinary College, Nagpur.

## Introduction

The term Pyometra describes a pus-filled uterus and the associated ovarian and systemic changes. It is associated with the diestrus phase of the ovarian cycle, at which time, the corpus luteum is actively secreting progesterone which increases secretion of the uterine glands, inhibits myometrial contraction and maintains closure of the cervix (Stone, 2003). The role of reproductive hormones in pyometra is now well documented. Pyometra is also associated many times with the cystic ovarian disease. The ovarian cysts, follicular and luteal, have been reported fairly common, however, parovarian cysts are rarely observed. The uterine horns accumulate increases resulting in engorgement of uterine horns to such an extent that the discharge may leak through the genital passage soiling the vulva, as in open pyometra or may be retained in the uterus causing distension of the abdomen. The results of conservative treatment are refractory and surgical removal of the diseased uterus and the ovaries is still continued to be the method of choice for surgeons. A case of pyometra with ovarian and parovarian cysts and its surgical management in a German shepherd bitch is reported.

## Case History & Clinical signs

A German shepherd female of about twelve years age was reported for the treatment of chronic vomiting over a period of about fifteen days. The history revealed that the bitch had conceived only once about three years back and did not show signs of heat since then, polyuria, polydipsia and inappetance. Clinical examination revealed temperature, pulse and respiration within the normal physiological limits, pale mucous membranes, moderate dehydration and distended abdomen. Palpation of abdomen revealed distended, coiled uterine

horns. The ultrasound examination revealed fluid filled uterine horns, with close cervical os. The anechoic shadows just posterior to the left kidney were suspected to be the ovarian cysts. Rest of the abdominal organs were normal sonographically. The case was diagnosed to be closed pyometra with cystic ovarian disease. Hematobiochemical studies revealed leucocytosis with neutrophilia and increased Blood Urea Nitrogen and Serum Creatinine values (BUN 97 mg/dl and S. Creatinine 2.8 mg/dl). In view of the severely distended horns, ovariohysterectomy was the treatment of choice hence the surgery was planned accordingly.

## Surgical procedure

The dog was given supportive treatment for three days with intravenous infusion, antibiotic and multivitamin drugs. The surgical intervention was scheduled on the fourth day. The bitch was premedicated with atropine sulphate, betamethasone and sedated with inj. xylazine @ 1 mg/kg body weight intravenously. Dissociative anaesthesia was induced with inj. Diazepam @ 1 mg/kg body weight and Ketamine hydrochloride @ 10 mg/kg body weight intravenously. The laparotomy was performed to exteriorize the distended uterine horns. Examination of the ovaries showed cysts on the left ovary. The parovarian cysts were also observed on the serosal surface of the horn and area between the ovary and the horn. The uterine blood vessels and body was ligated posterior to the cervix using 1.0 catgut. The right ovary was normal in shape and size, however, the left ovary was severely enlarged with multiple luteal cysts and parovarian cysts located between the ovary and left horn (Fig. 1). Both the ovarian ends were ligated at the ligaments to block the blood vessels. The laparotomy incision was closed in routine manner. Post-operatively, the bitch was given inj. ceftriaxone 500 mg and inj. Meloxicam

20 mg intramuscularly twice a day for 5 days and three days respectively. The patient was given intravenous fluid therapy for two days postoperatively. The skin sutures were removed

on eighth postoperative day. The hematological and biochemical parameters examined on eighth day revealed normal values. The bitch responded well to the treatment and was clinically healthy during one year follow-up period.



### Discussion

The canine pyometra is one of four stages of the cyclic hyperplasia-pyometra complex (Dow, 1957) and is clinically characterized by varying degrees of inappetence, vaginal discharge, in open pyometra cases, polydipsia, polyuria, and in severe cases, distension of abdomen. Similar clinical findings were reported in the present case, except the vaginal discharge. Pyometra shows polysystemic involvement and nulliparous or primiparous bitches have a moderately higher risk of pyometra as compared to multiparous bitches ((Niskanen and Thrusfield, 1998) as also reported in present case. Leukocytosis, anemia hypoalbuminemia, hyperglobulinemia increased alkaline phosphatase levels, azotemia, and acidosis can all occur to various degrees (De Schepper, 1985). Leukocytosis and azotemia were also observed in present case, which returned to normalcy postoperatively.

The condition can be diagnosed due to its peculiar symptoms, clinical history, physical examination, and laboratory values. Vaginal discharge is usually present unless the cervix is closed. Pyometra occurs at any age after first estrus, reported age range from 6 months to 18 years (Niskanen and Thrusfield, 1998). In the present case, the bitch was twelve years old and cervix was closed leading to distension of horns.

The confirmatory diagnosis was made with ultrasound examination, which indicates fluid filled uterine horns with typical compartmentalization of horns as seen in the present investigation. The ovariohysterectomy was the choice since the medicinal and hormonal therapy has varying degree of success. Lapar-ovariohysterectomy was performed in the present case. The left ovary showed cysts. Similarly, parvarian cysts between the ovary and uterus were seen. One cyst was also observed on the serosal surface of the horn. Stone (2003) reported that the lutein cysts may be associated with cystic endometrial hyperplasia or pyometra, as observed in present investigation. However, he also opined that the luteal cysts they may be asymptomatic and found incidentally during routine ovariohysterectomy or laparotomy. Rivers and Johnston (1991) reported that the parovarian originate from the remnants of either mesonephric (wolfian) or paramesonephric tubules and ducts. They are more frequently encountered in dogs as compared to cats and are located between the ovary and uterine horns. They are not associated with any clinical signs are usually diagnosed accidentally during ovariohysterectomy. However, in the present case, the ovarian and parovarian cysts could be seen on ultrasound examination.

## References

- De Schepper J. (1985) The morphological chemical blood profile in 96 dogs with endometritis postoestrum (pyometra) *Biol Reprod* **13**:112.
- Dow, C. (1957) The cystic hyperplasia-pyometra complex in the bitch. *Vet Rec* **69**: 237.
- Niskanen M and M.V.Thrusfield (1998) Associations between age, parity, hormonal therapy and breed and pyometra in Finnish dogs. *Vet Rec* **43**:493.
- Rivers, B. and Johnston, G.R. (1991) Diagnostic imaging of the reproductive organs of the bitch. Method and limitations. *Vet Clin North Am Small Anim Pract* **21**: 437.
- Stone, E.A. (2003) Reproductive system- Ovary and uterus. In Text Book of *Small Animal Surgery*. III Edn., Edited by Douglas Slatter, Saunders, The Curtis Center, Independence Square West, Philadelphia, PA 19106 pp 1490.

