

# **A CLINICAL CASE REPORT ON PYOMETRA IN A GERMAN SHEPHERD DOG**



A Clinical Report submitted by

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Intern ID: 64

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**Faculty of Veterinary Medicine**  
**Chattogram Veterinary and Animal Sciences University,**  
**Khulshi, Chattogram-4225**

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**The Author**

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## **Abstract**

A 8-years old German Shepherd bitch was admitted to the Teaching and Training Pet Hospital and Research Center, CVASU, Dhaka during my internship placement rotation over there. The bitch was presented with a clinical history of purulent discharges from the vagina and was found to be restless with frequent licking around the perianal region of the body. By history and clinical symptoms pyometra was suspected, which was later confirmed by ultrasonography. To save the life of the bitch ovario-hysterectomy was recommended and done under general anesthesia. The basic steps of ovariohysterectomy were performed successfully, and a broad spectrum antibiotic, an anti-inflammatory drug and an antihistaminic drug were prescribed to be administered after the operation. The outcome of the operation was followed by talking with the owner of the bitch daily over telephone, and a full clinical recovery within a week after the operation was reported. In conclusion, confirmatory diagnosis of pyomerta in bitch can be done by ultrasonography and the disease can be treated successfully by ovariohysterectomy.

Keyword: Pyometra, Purulent vaginal discharge, Ovariohysterectomy, Ultrasonography

## **Introduction**

Generally, around 24% cases in bitches of 10 years old or less than 10 years old are more affected with pyometra (Hagman, 200). Because, at this time, progesterone levels are elevated that help to create the favourable condition for bacteria infection. This progesterone-primed condition stimulates uterine glandular secretion in the uterus, which suppresses uterine contraction and hampers the effect of infection-fighting blood cell in the uterus. This effect stimulates an estrous cycle, resulting in more glandular activity and creating higher level of inflammatory cells which form mucous or pus that may or may not be seen in the vaginal discharge. From already established vaginal infection, urinary tract infection or fecal contamination can be source of bacterial pathogens to enter into the uterus and multiply there to cause uterine infection. These bacteria produce much endotoxin in the uterus that is capable of initiating the cytokine cascade and release of inflammatory mediators. Local or systemic inflammatory reactions occur during pyometra by *E. coli*. In some cases, cystic endometrial hyperplasia (CEH) often precedes the diseases, but it can also be found in many older bitches with no sign of pyometra. Severe pyometra leads to fetal and systemic infection and reduces infertility. Scientific reports on canine pyometra affecting bitches are not frequently reported in Bangladesh, but it is one of the common reproductive problems encountered in pets worldwide (Juyena et al, 2005). Ultrasonography is generally done for confirmatory diagnosis of pyometra in bitches. Different treatment methods are applied during pyometra, but the popular and effective method is ovariohysterectomy (Feldman and Nelson, 2004; Jehnston et al; 2001). In my internship placement rotation, a bitch was diagnosed with pyometra, and in this clinical report that case is described.

### **History of the case**

A 8-years old German Shepherd dog, named “ Tomy”of body-weight of 16 kg was admitted to Teaching and Training Pet Hospital and Research Center, CVASU, Dhaka, Bangladesh, with a history of dullness, anorexia and purulent vaginal discharge (Figure 1), frequent licking of backside (vagina) and was found to be restless. On physical examination, the dog was found to be quite normal with deteriorated body condition. By ultrasonography several dark spaces in the uterus were seen. Presence of watery substance in uterus was also noticed. Based on these two findings of ultrasonography done, the bitch was diagnosed with pyometra. The ultrasonography picture taken from the uterus of the bitch is shown in( Figure 2 )



**Fig1. Rear side of the bitch diagnosed pyometra showing purulent discharge from the vagina**



**Fig 2. Ultrasonography picture of uterus of the bitch diagnosed pyometra**



## **Clinical intervention**

Surgical intervention of ovariohysterectomy was recommended to treat the dog suffering from pyometra. The steps undertaken were as follows:

### ***(i)Preparation of surgeon and co-surgeon:***

After putting out hand watch, bracelet etc. hands were washed with soap, and after scrubbing with an antiseptic solution sterile gown were worn and hands were covered with sterile gloves. A sound mental preparation was also taken to perform the surgical operation successfully.

### ***(ii)Preparation of the animal***

A routine thorough examination of the dog was done before the surgery. The bitch was off-fed one day before the operation performed. The surgical site of the bitch was shaved with a blade and then shaven area was disinfected with 70% ethyl alcohol. Before shaving of the surgical site begun, a premedication of the bitch was done with xylazine.

### ***(iii)Surgical Requirements***

- Sterilized gauze
- 4 clamps
- 2 scissors
- Suture (Catgut, silk)
- Scalpel blade handle
- Needle holder
- 4 artery forceps
- IV Cannula

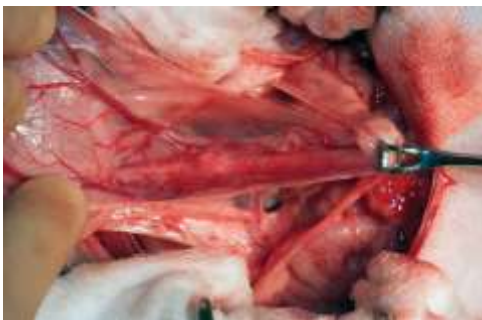
- Saline set
- Syringe with needle
- Kidney tray
- Scalpel blade
- 4 Towel clamp

***(iv)Surgical Technique***

- The bitch was kept in her back on the surgical table after injecting general anesthesia (Ketamine).
- IV Saline was also maintained immediately before the surgery started.
- The surgical site was cleaned with ethyl alcohol and was rubbed with viodin before the incision given.
- A continuous skin incision was performed through the linea alba, 2 inches distally from the umbilicus.
- Then the muscle and tissues were incised avoiding the under laying organs.
- The uterine horns were palpated and traced out by fingers. A horn was differentiated from the intestinal part by its consistency and colour (uterine horn is more consistency and pink than intestinal parts).
- After finding the uterine horns, both of them were exteriorized to the outside. Both the ovaries were also exteriorized.
- The broad ligament was bluntly broken down by fingers and then the ovarian ligament was clamped with two artery forceps and legated with a suture while holding strongly under the forceps. And then it was cut at the site over the suture with the scalpel blade.
- As the bleeding was stopped the forceps were removed.
- The same procedures were also followed for the 2nd ovary.
- After cutting the ovary, the uterine body was exteriorized, clamped the area between the cervix and the uterine body with two forceps.
- Ligated under one forceps with suture, the uterine body was cut between the legated area and the holding area with a scalpel.
- The uterine body and the ovaries were removed onto a kidney tray.

- Simple Continuous suture was applied for muscles with absorbable suture materials(Catgut), and then, simple interrupted suture was given with non- absorbable suture materials (silk) to close the skin

The step-wise procedures that were followed in the operation are pictorially shown in Figure 3.



**Fig3: Operation procedures used to treat pyomera in a bitch**

***(v) Postoperative care and management***

1. The bitch was kept in a clean and dry place after the operation.
2. An Elizabethan collar was put on for avoiding licking.
3. The owner was advised to administer the medicines as prescribed after the operation completed.
4. The following medicines were prescribed: Inj. SP vet for preventing secondary bacterial infection; Inj Astavet for preventing histamine release; Inj Melvet for preventing inflammation and fever; and topical use of ointment viodin-5% to prevent external infection.
5. The outcome of the operation and post-operative treatment was followed up by telephoning talk with the owner of the bitch daily.

***(vi) Follow-up result***

The bitch was fully cured after 7 days post operation.

### **Analysis of uterine horns and ovaries**

After successfully removing of the uterine horns and ovaries, a gross examination of them was done. By gross examination the uterine horns were found flabby, the endometrial wall was thicker than normal and also profuse sanguinopurulent discharge were seen accumulated in the uterine horn (Fig. 4). This may have been due to inflammation of myometrium and endometrium wall. The layer of endometrial wall was corrugated and also found small cyst like structure in the endometrium. A portion of the endometrial wall was found to be sloughed off. The ovary was somewhat abnormal. It became more soft than normal. Corpus luteum was seen more yellow and more large than normal.



**Fig4: Changes seen in the uterus, uterine horns and ovaries after removal through Ovariectomy**

### **Conclusion**

The bitch diagnosed with pyometra could have died, if it was not treated properly and timely. It was treated by ovariectomy, and the results showed that it recovered fully from the operation within a week by the use of an effective antibiotic along with a good anti-inflammatory and an antihistaminic drug. Therefore, pyometra in bitch can be successfully treated by ovariectomy.

## Reference

De Bosschere, H R Ducatolle, H. Vermeirsch, W. Van Den Broeck and M. Coryn, 2001 CVC endometrial hyperplasia-pyometra complex in the bitch: Should the two entities disconnected? *Theriogenology*, 55: 1509-1519

Hagman, R, 2000, New aspects of canine pyometra. Ph.D Thesis. The Swedish University of Agricultural Sciences, Uppsala, Sweden

Johnton, 50.MVR.Kustritz and PN.S.Olson, 2001. Disorders of the Canine Uterus and Uterine Tubes in Canine and Feline Theriogenology In: *Canine and Feline Theriogenology*, Kersey, R and D. LeMelledo (Eds.), W.B Saunders Company, USA. pp: 174-220.

Barton, C., 1992. Diseases of the Uterus-Cystic Endometrial Hyperplasia/Pyometra Complex. In:

*Handbook of Small Animal Practice*, Morgan, R.V. (Ed). 2nd Edn., Churchill Livingstone, New York, USA., pp: 655-658.

Coggan, J.A., P.A., Melville, C.M. de-Oliveira, M. Faustino, A.M. Moreno and N.R. Benites, 2008. Microbiological and histopathological aspects of canine pyometra. *Brazilian J. Microb.*, 39: 477-483.

## **Biography**

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