**Introduction**

Pyometra is intrauterine accumulation of pus accompanied by a persistent corpus luteum and failure of estrus. “Pyometra” is a Greek word which means "pus-filled uterus" (pyo means “pus” and metra means “womb” or “uterus”). It is a condition that affects adult intact female cats more frequently than other small animal species (Hagman, 2012). Pyometra is characterized by localized or systemic variety of clinical and pathologic signs. It is caused by suppurative bacterial infection of the uterus, deposition of inflammatory exudate in the uterine lumen.

Pyometra is one of the most frequent disease of animal. There are two types of pyometra one is open cervix pyometra, another is closed cervix pyometra. Closed cervix pyometra is more common in cat. It is a potentially fatal condition that may be accompanied by endotoxic shock, systemic sepsis, and a systemic inflammatory response syndrome (SIRS) that result in organ failure. While renal impairment appears to be a rare occurrence in cats (Pratschke, 2016).

Vaginal discharge, abdominal distention, dehydration, a palpable uterus, and pyrexia were the main clinical findings on physical examination. Clinically, the affected animals displayed lethargy, stomach distension, depression, polydipsia, and inappetence, together with or without fever and vaginal discharge. Fluid-filled uterus with varying wall thickness and proliferative alterations may be discovered during an ultrasonographic examination. Radiography of 169 cats showed distended uterus (Kenney et al., 1987). Gross examination reveales that the uterine horns were dilated due to a significant amount of pus. A severe suppurative inflammatory reaction involving endometrial mucosa may be seen under the microscope.

Pyometra is less frequent in cats, which is thought to be related to decreased progesterone dominance. The frequency is related to breed, age, age at first oestrus, length of and regularity of the interoestrus interval, hormone treatments, nulliparity, number of parities, age at first whelping, previous urinary tract infections and mammary tumours (Hagman et. al.,2010). Hayman (2018) showed that the risk of pyometra in queen cats of 13 years old was 2.2%. The incidence of pyometra in cat was increased with age. According to Hollinshead (2016) uterine lesions are typically found in most queens after 5-7 years of age (average 7.6 years, range 1–20 years). In queens that are either mated, ovulate spontaneously, or are made to ovulate, clinical indications most frequently appear within 4 weeks following the commencement of oestrus (mechanical stimulation or hormone induction).

It was showed that pyometra isn’t only influenced by progesterone but also estrogens. Estrogens increase progesterone receptors in the endometrium, dilate uterine cervix which allows bacteria to ascend and can influence endometrial changes. These endometrial changes are influenced by chronic estrogenic stimulation from recurrent estrous cycles, which do not end in pregnancy (Agudelo, 2005).

*Escherichia coli* is the pathogen most frequently isolated from pyometra uteri (Hagman et al., 2018). *E. coli* is the most often isolated bacterium in cat suffered from pyometra, while occasionally *Staphylococci, Streptococci*, and *Pseudomonas Aeruginosa* were isolated (Younis et al., 2012). *Klebsiella (K) oxytoca* was isolated  
from uterine lumen of a queen (Maksimović et. al.,2020). Other agents like *Streptococcus, Staphylococcus, Klebsiella, Pseudomona, Proteus, Moraxella* and *Pasteurella* were identified(Agudelo, 2005).

Pyometra may be fatal for cat if not treated primarily. The PGF2 alpha may be administered as medical treatment of pyometra in cat (Devidson et al., 1992, Nelson, 1986). But ovariohysterectomy is the most effective treatment of payometra (Marretta, 1989).

Cat rearing is very popular now. The owners should manage the pyometra as it has some demeits. The main demerit is sufferings of the cat for long time. Beside an economic loss results from treatment cost. Even the animal may be fatal from septic shock if not treated early.

This study was designed to know the proper diagnosis and recovery of pyometra in cats.

**Materials and Methods**

***History and Clinical Examination***

A five years old cat, local breed was admitted to Shahid Abdul Qaderi Teaching and Veterinay Hospital (Chittagong Veterinary and Animal Sciences University, Bangladesh) in September, 2022 with history of anorexia, lethargy and sometimes vaginal discharge. After receiving, general physical examination was done. On physical examination, body temperature found 102.4°C, heart rate was 182 beats per minute and respiratory rate was 44 per minute. The uterus felt harder and larger than normal during abdominal massage. From the caudal to the mid-abdomen, a lateral radiograph showed many tubular, radio-opaque fluid-filled structures. From the intestinal loops, the structures appeared distinct and separate. Using a B mode real-time 5MHz linear transducer, ultrasound was done. The results of an abdominal ultrasonography revealed numerous areas that were anechoic fluid-filled but lacked foculation.

***Animal preparation***

Temperature, blood pressure, heart rate was recorded. For restraining of the cat, the handler placed a forearm around the cat's neck while holding it on its side with its back against the handler and hands on its front and back legs. Shaving and hair removal were done before the surgery. Liquid povidon iodine and 70% alcohol was scraped over the skin for 3-4 times to make the surgical surface sterile. The surrounding area was covered with drapes until the procedure. The cat was lying on her back with a sterile draper covering her.

***Anesthesia***

The cat was sedated with intramuscular administration of xylazine hydrochloride (Inj. Xylazine, 1 mg/kg BW). Intravenously 5% dextrose saline was suppied and it was throughout the entire operation. Ketamine hydrochloride (G-ketamine®, 15 mg/kg BW intravenously) was administered as a general anesthetic. After ensuring the anesthesia the cat was lied and restrained with surgical position.

***Surgical procedure***

Along the length of the abdomen an 4cm long incision was made 2-3cm below the umbilicus. After getting exposer of the abdominal cavity uterine horns were brought out and ligated on the broad ligaments. After separating the horms pus was removed from the uterus carefully. After securing the ligation whole uterus (the ovaries, uterine horns, and uterus) was totally removed. With catgut (size: 1-0) the abdominal wall was sealed. The skin was then stitched shut using nylon with simple continuous suture pattern. Pvidon iodin (Oint. Viodin®) was applied over the sutured incision. Respiration, blood pressure, anesthetic depth (by checking the corneal reflex) all were closely monitored. Oxygen supply was ad-libitum throughout the surgery.

***Post operative care***

After surgery, the antibiotic ceftriaxone was given intramuscularly every day for seven days at a dose of 20 mg/kg body weight (Injection Triject vet 1gm®, SK+F  
Pharmaceuticals, Banglades), antihistaminic chlorpheneramine maleate was given intramuscularly every day for seven days at a dose of 1 mg/kg body weight (Injection Astavet®, Acme Laboratories Ltd., Banglades). For the purpose of treating pain, an analgesic Meloxicam @40 mg/Kg body weight (Injection Melvet®, Acme Laboratories Ltd., Bangladesh) was given subcutaneously each day for five days. The patient was for follow up 7 days. There were no complications found. When the suture was taken out after 10 days, it was found that the surgical site had fully recovered.

**Result and Discussion**

Pyometra is a common genital affection of intact, sexually mature queens. The disease is common in queens older than three years (Agudelo, 2005) which is not similar to this case. The prevalence of pyometra in cats increases with age in sexually intact female cats and primarily after parturition (Potter et. al., 1991). In Bengal cats a substantially greater prevalence of pyometra (Hagman et. al., 2006). Because it has intense and harder heat cycle and heat lasts longer if not bred.

Radiographs of the pelvic to abdominal cavity showed a tubular structure (Figure3). Radiography revealed a large uterus in 169 cats (Kenney et. al., 1987) which matches with this case. Ultrasonography showed a distended, fluid-filled uterus (Figure1,2). Peritoneal effusion was found with ultrasographic examination (McCain et.al.,2009). Ultrasonographic findings of the cats with pyometra, distended and fluid filled Uterus was observed by Nak et. al. (2009) is similar to this study.

By using PGF2 alpha (5 mg/kg of body weight, sc, q 12 to 24 h) for 3 or 5 days 20 out of 21 queen got well (Davidson et. al.,1982-1990). There was used Aglepristone (Alizin® Virbac, France) in combination with Mastometrin and antibiotic therapy (Amoscillin 15%, INVESA, Spain) put a positive result (Zhelavskyi et. al., 2006). Aglepristone (10 mg/kg BW s/c on days 1, 2, 7 shoed good result with trimethoprim/sulphadoxine (15mg/kg BW for 7 days) (Nak et. al.,2009). Laparoscopic technique might be used in mild cases. Surgical ovariohysterectomy is the safest and most effective (Hagman, 2018).

According to Stanley et. al. (2008) after successful ovariohysterectomy and post operative antibiotic therapy there was no complications found which were very similar to this case. After follow up of 7, 10 and 15 days there was not any complication found.

**Conclusion**

Pet animals are being more popular. Elite people are rearing cats and dogs as pet. As pyometra may be fatal so the owners should have knowledge about pyometra and should be aware.

Figure 1(a): Fluid filled uterus

Figure 3: Tubular, radio-opaque fluid filled  
structures

Figure 6: Removal of ovary

Figure 5: Pus removed from uterus

Figure 4: Incision on abdomen

Figure 1(b): Fluid filled uterus

Figure 8: Post operative care

Figure 7: Uterine fluid

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**Biography**

I’m Maria Yeasmin Mili, daughter of Md Mozibur Rahman and Raniara Begum. I passed my Secondary School Certificate (SSC) examination from Mathbari Union High High School & College, Trishal, Mymensingh in 2013 and Higher Secondary Certificate (HSC) examination from Shahabuddin Degree College, Fulbaria, Mymensingh in 2015. I enrolled for Doctor of Veterinary Medicine (DVM) degree in Chittagong Veterinary and Animal Sciences University (CVASU), Bangladesh. I have immense interest to work in the field of Medicine.