

A Rare Case of Uterus Unicornis with Pyometra in a Pekingese Bitch

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Abstract: The present case report described a rare abnormality of uterus unicornis with pyometra. A 12 years old, unspayed Pekingese bitch was referred with a vaginal discharge. Pyometra was diagnosed based on anamnesis, clinical and ultrasonographic examination. An ovariohysterectomy was performed under inhalation anesthesia (1.5%-3% isoflurane). The pus-filled right uterine horn was exteriorized. Unexpectedly, the left uterine horn was absent and appeared only as a serosa membrane. The left ovary was smaller than the right one. Histopathological examination of reproductive organs revealed unilateral cornual agenesis in the left uterine horn and cystic endometrial hyperplasia, and pyometra in the right uterine horn.

As in this case, uterus unicornis is accidentally diagnosed during ovariohysterectomy performed routine spaying or surgical approach to reproductive disease.

Keywords: Pekingese bitch, Pyometra, Uterus unicornis.

INTRODUCTION

Urogenital canal organs develop from mesodermal ducts (Wolffian duct in males and Müllerian duct in females). In male embryos, the Wolffian ducts form epididymis, deferent duct, and accessory genital glands. The Müllerian (paramesonephric) ducts form the uterus, cervix, and external vagina in female embryos (1). Disorders of female genital system development occur in all mammalian species. However, genital canal anomalies are rare (%0.05-0.09) in domestic animals and humans. The uterine abnormalities are seen more in the cats than the dogs (10/10.000 vs. 5/10.000). Segmental aplasia of the uterine horn, uterine horn hypoplasia, and uterus

unicornis are the most detected congenital uterine anomalies (2,3). In uterus unicornis cases, only one uterine horn has a lumen, the other appears as a narrow, flat band. Ovaries are fully developed and functional on both sides (4). Genetic, hormonal, environmental, or undiagnosed factors are causes of congenital uterine anomalies (5).

Pyometra is one of the most frequent reproductive disorders of female dogs, and could be a life-threatening disease. Bacterial infection, purulent exudate accumulation, and cystic endometrial hyperplasia occur in pyometra. Progesterone plays a key role, and pseudo-placentational endometrial hyperplasia is significantly associated with canine pyometra (6). Pyometra is a diestrus stage

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pathology, and bacterial invasion, uterine motility, neutrophil activity, and increased immunoglobulin concentration are observed in pathogenesis (7). In the present case, a uterus unicornis syndrome with pyometra in a Pekingese bitch, which is not encountered frequently, and observed incidentally during ovariohysterectomy for pyometra, was described.

CASE PRESENTATION

A 12 years old, sexually intact Pekingese bitch was presented to our clinic with a vaginal discharge going on for more than six weeks. On anamnesis, the owner of the dog informed that the dog had been presented to another clinic six weeks ago due to purulent vaginal discharge, lethargy, anorexia, polyuria, and high body temperature (40.2 °C). Amoxicillin and clavulanic acid (Synulox® 8.75 mg/kg/day, Zoetis, Italy) and meloxicam (Maxicam®, 0.2 mg/kg, Sanovel, Türkiye) had been administered for seven days in that veterinary clinic. Cephalexin (Rilexine®, 18.7 mg/kg, Virbac, Türkiye) and carprofen (Rimadyl® 25 mg chewable tablets, Zoetis, Türkiye) had been used seven days following the first treatment protocol because of the continuing clinical symptoms.

The dog was in a normal appearance when presented to our clinic. Body temperature, respiratory rate, and heart rate were within normal limits. Blood biochemical parameters and cell blood count were also within normal limits. Abundant neutrophil leukocytes and

purulent debris consistent with pyometra were observed on vaginal cytology. Transabdominal ultrasonography revealed an enlarged uterus based on the presence of an anechoic structure. Pyometra was diagnosed based on anamnesis, clinical, and ultrasonographic examination.

An ovariohysterectomy was performed from the mid-line ventral abdominal wall under inhalation anaesthesia (Atropine sulfate®, 0.04 mg/kg/S.C., Galen ilaç San., Türkiye; Propofol® %1, 5 mg/kg/I.V., Fresenius ilaç San, Türkiye; Isoflurane® 2%, Adeka ilaç San., Türkiye). The enlarged, pus-filled right uterine horn was identified and exteriorized (Figure 1A). However, it was noted that the left uterine horn was not present and appeared only as a serosa membrane (Figure 1B). The left ovary was smaller than the right ovary (Figure 1C).

On histopathological examination of the right uterine horn, degenerated uterine epithelial cells, cystic degeneration on uterine glands, endometrial hyperplasia, intensive inflammatory cell infiltration, necrosis, haemorrhage, and bacteria on propria mucosa, and oedematous submucosa were revealed the cystic endometrial hyperplasia and pyometra in the right uterine horn. Histopathology of the left uterine tissue revealed unilateral cornual agenesis because of a flat band without lumen characteristic of this tissue.

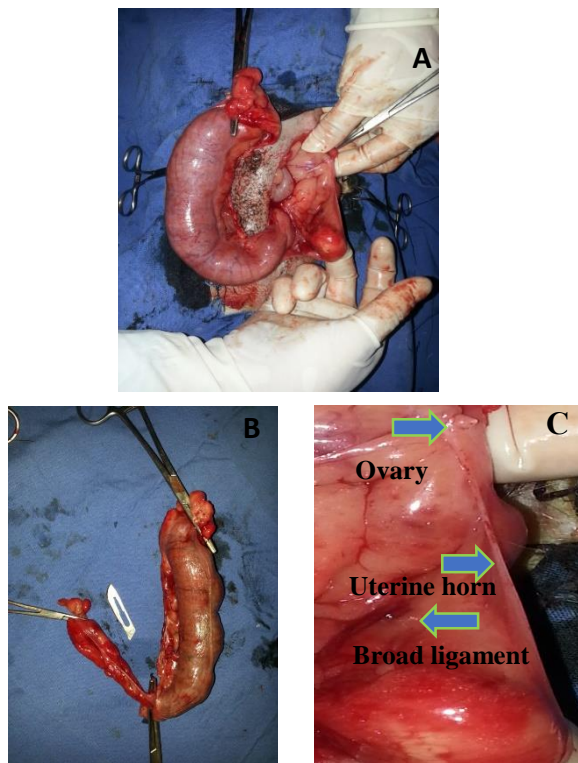


Figure 1. The view of the right uterine horn with pyometra and the left uterine horn with uterus unicornis.

DISCUSSION and CONCLUSION

The exact frequency and characteristics of congenital genital canal abnormalities could not be determined due to the existence of ovaries. The sexual cycle generally continues regularly, and the animal exhibits typical estrous behaviors, which could establish normal pregnancies (5,8). The cases are mainly detected incidentally during ovariectomy. In the infertility or failure of pregnancy cases, the inspection of genital organs via laparotomy or laparoscopy, hystero-graphy, or indirect radiography with radiopaque contrast media used for the diagnosis of uterine abnormalities (9,10). In the present case report, the dog had regular estrous

cycles, but the owner had not wanted any puppies, so the dog did not breed. The uterus unicornis was diagnosed incidentally during surgical pyometra treatment.

The pyometra, mucometra, or ovarian cysts could co-exist in unilateral uterus cases. Hence, ongoing ovarian activity affects endometrial gland activity and uterine functions; pyometra could occur, especially in older animals with ascending uterine infections (11-13). Pyometra can be treated by surgical or medical methods. The treatment options can be changed according to the clinical status of the animal, veterinary skills, practice, the cost of therapy, and pet owner finances. The safest and most effective treatment option is ovariectomy. Medical treatment using antibiotics, supportive treatment, or progesterone receptor blockers is an option for pyometra treatment (14,15). In the present case, the Pekingese dog was 12 years old, and the vaginal discharge and symptoms were observed six weeks ago before the first going to a veterinary clinic. The medical treatment was applied in another veterinary clinic following a pyometra diagnosis. Two different antibiotics and NSAID treatment protocols were used for seven days in that clinic. The patient came to our clinic due to the unhealed clinical symptoms, and an ovariectomy was performed.

In conclusion, uterus unicornis had not been realized until a twelve-year-old in this bitch and was observed during ovariectomy for pyometra

treatment. As in this case, uterus unicornis is accidentally diagnosed during ovariohysterectomy performed routine or surgical approach to reproductive disease.

CONFLICT of INTEREST

There is no conflict of interest between the authors.

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