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MEDICAL AND SURGICAL TREATMENT OF PYOMETRA IN DOGS

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This study is an outcome of the cooperation between the Faculty of Veterinary Medicine in Tirana and the Department of Veterinary in the Faculty of Agriculture and Veterinary in Prishtina. During the period from December 2004 to September 2008, data on the frequency of Pyometra in dogs have been studied and analyzed in the Veterinary Clinic in Malisheva and the Institute of Veterinary at the Faculty of Agriculture and Veterinary in Prishtina. Currently there is a considerable number of Small Animal Clinics in Kosovo which treat different breeding problems in pets. Referring to the latest data of the Kosovo Veterinary and Food Agency, the number of such animals in country is large and is increasing. The awareness of the owners is not yet in the proper levels in relation to the prophylaxis and the control on different pathologies, including Pyometra. During the above mentioned period a considerable number of such animals were checked and treated for different problems.

Key words: pyometra; ovary; uterus; fluidotherapy; ovaryhisteroctomy; dog

МЕДИЦИНСКИ И ХИРУРШКИ ТРЕТМАН НА ПИОМЕТРА КАЈ КУЧИЊА

Оваа студија произлезе од соработката меѓу Факултетот за ветеринарна медицина во Тирана и Одделот за ветеринарство при Факултетот за земјоделство и ветерина во Приштина. Во периодот декември 2004 – септември 2008 во Ветеринарната клиника во Малишева и во Ветеринарниот институт при Факултетот за земјоделство и ветерина во Приштина беа проучувани и анализирани податоците за зачестеноста на пиометра кај кучињата. Моментално значаен е бројот на клиники за мали животни на Косово кои третираат различни проблеми во чувањето на миленичиња. Повикувајќи се на последните податоци на Агенцијата за ветеринарство и храна на Косово, бројот на овие животни во земјата е голем и се зголемува. Кај сопствениците сè уште не е на соодветно ниво свеста за врската меѓу профилаксата и контролата на различни патологии, вклучувајќи ја и пиометрата. Во текот на споменатиот период значителен број од овие животни беа проверени и третирани за разни проблеми.

Клучни зборови: пиометра; јајник; матка; флуидотерапија; оварихистеректомија; куче

INTRODUCTION

Pyometra is a hormonally mediated diestral disorder characterized by an abnormal uterin endometrium with secondary bacterial infection. Pyometra is specialy more frequent in bitches over 8 years old. The bithches that haven't given any birth for a long time are more disposed to pyometra. Pyometra affects also young bitches and the bitches that have given many births. Pyometra is caused by the action for a long time of the estrogenous (E2) and progesterone (P) in uterus. These hormones produce one after the other in uterus many processes such as hyperplasia of endometrium glands, exudation increase, decrease of immunity, decrease of the uteurs peristalsis and the proliferation of bacteria. During proestrus and estrus the esrtrogenous level is high. This level influences their sexual behaviour and their uterus. The level of progesterone begins to rise up during the estrus phase and during the diestrus phase (at this phase the yellow body persists from 8 to 12 weeks). The estrogen stimulates the endometrium receptions for continual action of progesterone. Progesterone stimulates the growth of endometrium glands and increases the exudation. On the

other hand, progesterone inhibits the uterus immunity system against present bacteria and the others that come from vagina. Other factors associated with ocurrerrence of pyometra include administration of long-lasting progestational compounds to delay or suppress estrus, administration of estrogens to mismated bitchs, and postinsemination or postcopulation infections. Bacteria from the normal vaginal flora or subclinical urinar tract infections are the most likely source of uterine contamination. The most frequent microorganisms presented during pyometra are Escherichia coli, Staphylococcus, Streptococcus, Pseudomonas, Proteus spp, etc. All these factors cause pyometra or cystic endometral hyperplasy (HEC) in bitches. Clinically pyometra can be classified in open pyometra (open cervix) and closed pyometra (closed cervix). The affected animal with open pyometra is clinically with purulent discharge from vagina, depression, anorexia, thirsty, sporadic vomiting, sporadic improvement. Clinical sings change according to the pyometras form. Mostly the white blood cells (WBC) count doesn't change. The Dekursi of open pyometra can extend for a couple of months or years. The affected animal with closed pyometra is clinically with enlarge drooped abdomen, absence of purulent discharge from vagina, dehydration, depression. In the first phases of pyometra (about 20% of cases) high fever of 39.5–40.5 ºC, and later hypothermia is observed. White blood cells (WBC) count results in increased number of leukocytes to 50000 leukocyt /ml. The course of closed pyometra is about 2–3 weeks and without intervetion the prognosis becomes unfavourable because of toxemia and shock conditions. Pyometra is diagnosed throught animal history, clinical examination x-rays and blood tests white blood cells (WBC) count. Pyometra can be treated in a medical way and by surgical intervetion (ovariohysterectomy). Because of that the best way of treatment consists of the use of combination of PGF 2-alfa and antibiotics with broad spectrum. The doses of PGF_2-alfa are calculated according to the animal's weight (0.25 mg/kg body wt, SC, s.i.d. for 5 days). Prostoglandins cause luteolysis, contraction of the myometrium, relaxion of the cervix, and the expulsion of the uterine exudate. They should not be used in animals > 8 yr old. Pyometra can be treated for 7 days with antibiotics with broad spectrum continuously. The treatment begins one day before the use of PGF 2-alfa and ends one day after it.

MATERIALS AND METHODS

This study was realized in some clinics in Tirana and Prishtina. The animals affected with pyometra were about 35 bitches of different breeds and ages. The animals were divided in two groups. The first group included the bitches with open pyometra and the second group included the bitches with closed pyometra. Blood tests were performed in all bitches for evaluation of white blood cells (WBC). The bitches were treated as below:

a) Bitches with open pyometra (15 animals):.

– First day: Fluido therapy + antibiotic therapy.

– Second day: PGF_2-alfa (0.25 mg/kg body wt, SC) + antibiotic therapy + fluido therapy.

– Third 4^{th}, 5^{th}, 6^{th} day idem.

– Seventh day: Antibiotic therapy.

– Side effects of PGF 2-alfa. Prostoglandines side effects will be normalized by use of atropines 10 mg/kg body wt.

b) Bitches with closed pyometra (20 animals):.

– 10 animals out of this group are treated in a medical way and the others in a surgical way (ovariohysterectomy).

RESULTS AND DISCUSSION

This study was realized in 35 bitches of different ages and breeds. (Table 1 and Table 2).

Table 1

Distribution of bitches according to the age

Type of pyometra	Age 3–6 years old	Age 6–9 years old	Age 9–12 years old
Open pyometra	1	6	8
Closed pyometra	2	8	10
All (35 animals)	3	14	18

Table 2

The breeds of biches diagnosed with pyometra

Breed	Number of animals	Age years old
Pekinez	20	8–9
Terrier	8	8–9
Setra	5	8–9
Metis	2	8–9

According to the first table results pyometra is more frequent in bitches older than 8 years old (51.4%). Bitches with closed pyometra are more frequent than bitches with open pyometra (20/15) or 57.4%. Also bitches over 8 years old results more frequent with closed pyometra than bitches under 6 years old. Breeds in our country are more affected.

The clinical signs that were observed in the two types of pyometra are represented in Table 3 and Table 4.

Table 3

Main clinical signs were observed in bitches with open pyometra

Animals	Vaginal discharge	Anorexia	Thirsty	Vomiting
15	15	11	13	6

Table 4

Main clinical signs were observed in bitches with closed pyometra

Animals	Vaginal discharge	Anorexia	Thirsty	Vomiting
20	3	6	16	6

According to our records the clinical signs are present in all cases. In cases with closed pyometra only 3 out of 20 bitches (15%) manifested high temperature. Hypothermia was observed only in 30% cases.

From the blood test resulted that in the bitches with open pyometra only 3 out of 15 cases results with leukocytemy (over 30.000 leucocytes/ml), while the other cases resulted normaly. Whereas leukocytemy was present in bitches with closed pyometra. (from 32000 to 56000 leukocytes/ml).

Bitches of the first group have been treated with PGF_2–alfa and antibiotics (Table 5), while bitches with closed pyometra have been treated in a surgical way (Table 6).

Table 5

The treatment of bitches with open pyometra

Treated animals	Treatment success	
	Successful	Not successful
15	13 (86.6%)	2 (13.4%)

Only in 2 bitches the treatment did not result successfully. These bitches were treated in a surgical way.

Table 6

The treatment of bitches with closed pyometra

Type of treatment	Animals treated	Treatment results	
		Successful	Not sucesful
Medical	10	6	4
Surgical	10	8	2

According to our results the surgical treatment of closed pyometra was more successful than medical treatment (80%/60%), because through surgical intervention we eradicate the source of infection and toxicity. Medical tretament resulted less successful than surgical treatment because PGF_2–alfa can't cause opening of uterus cervix in every case.

Photos from surgical interventions (ovariohysterectomy) from a dog with closed pyometra

CONCLUSION AND RECOMMENDATION

– Pyometra is frequent pathology in dogs.

– The most affected animals are those over 8 years old.

–The early sterilization of female dogs is usually recommended.

– Breed and weight are not predisposed factors for origination and development of pyometra.

– The surgical treatment in the case of open pyometra is successful when it is performed in the first stage of pathology.

– The aggravation of condition after the medical treatment for few days could be a significant factor for the interruption of this treatment.

– The surgical treatment in closed pyometra is successful in 80% of the cases whereas the medical treatment is successful in 60 % of the cases.

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