

ASSESSMENT OF DIAGNOSTIC AND TREATMENT METHODS FOR PYOMETRA IN STRAY DOGS IN THE MUNICIPALITY OF GOSTIVAR

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Abstract

Pyometra is a severe, life-threatening bacterial infection of the uterus in female dogs, characterized by the accumulation of purulent exudate within the uterine lumen. The condition occurs in both owned and stray dogs and requires prompt diagnosis and treatment to prevent systemic complications and mortality.

The aim of this study was to evaluate diagnostic approaches and treatment outcomes of pyometra in stray female dogs in the Municipality of Gostivar during 2023. A total of 124 stray dogs were included in a municipal control program, of which 66 were female. Among these, 13 cases were diagnosed with pyometra, corresponding to a prevalence of 19.14%.

Diagnosis was based on clinical examination, hematological findings, and abdominal ultrasonography. The primary treatment method was ovariohysterectomy, supported by intravenous fluid therapy and postoperative antibiotic administration. The findings indicate that early diagnosis combined with surgical intervention represents the most effective strategy for the management of pyometra in stray dog populations.

Keywords: pyometra, stray dogs, ovariohysterectomy, diagnosis, veterinary surgery

Introduction

Pyometra is a bacterial infection of the uterus affecting female dogs and is considered one of the most significant diseases in veterinary gynecology. This condition is widespread in both owned and stray dogs. In the Polog region, particularly in the cities of Tetovo and Gostivar, pyometra represents an important health problem in the canine population, requiring early diagnosis and treatment.

Timely detection of the disease is crucial, as early treatment significantly increases the chances of recovery, whereas delayed diagnosis may lead to severe complications and death. Clinical signs of pyometra may vary. One of the most characteristic symptoms is vaginal discharge with an unpleasant odor, typically observed in cases of open-cervix pyometra. However, in some cases, the disease may develop without vaginal discharge, making diagnosis more difficult.

Additionally, affected dogs may exhibit other clinical signs such as vomiting, loss of appetite, depression, lethargy, and frequent urination. In cases without vaginal discharge, diagnosis becomes more challenging and requires laboratory and imaging diagnostic methods. Hematological analyses often reveal leukocytosis, while abdominal ultrasonography may show uterine enlargement and the presence of infectious fluid within the lumen.

Pyometra can occur in dogs of various breeds and ages, although incidence is higher in adult animals due to hormonal changes during the estrous cycle. The risk is particularly high after parturition, when the cervix remains open for a certain period, facilitating bacterial entry into the uterus. In some cases, retained placental material or pathogenic microorganisms may contribute to the development of uterine infection.

When the cervix is open, treatment is generally easier and prognosis is more favorable. However, in cases of closed-cervix pyometra, the accumulation of purulent exudate significantly increases the risk of serious complications, including uterine rupture and spread of infection into the abdominal cavity, leading to peritonitis and life-threatening conditions.

Materials and Methods

The diagnosis of pyometra in this study was based on a combination of clinical signs, laboratory analyses, and imaging diagnostic methods. Dogs diagnosed in the early stages often presented mild vaginal discharge and minimal clinical signs. However, in most cases, the disease was diagnosed at more advanced stages with more pronounced symptoms.

One of the characteristic clinical signs observed was increased water intake (polydipsia), often accompanied by frequent urination. In some cases, purulent vaginal discharge and abdominal distension were also observed, raising suspicion of pyometra.

Hematological analyses typically showed leukocytosis, indicating an infectious process. However, these findings are not specific and may occur in other bacterial infections, requiring confirmation through additional diagnostic methods.

Abdominal radiography was used to identify uterine enlargement, particularly in cases of closed-cervix pyometra. In open-cervix cases, uterine enlargement may be less evident, making radiography less conclusive. Therefore, abdominal ultrasonography is considered one of the most reliable diagnostic methods, as it allows identification of an enlarged uterus filled with infectious fluid and differentiation from normal pregnancy.

The primary treatment for pyometra is surgical intervention, involving removal of the uterus and ovaries (ovariohysterectomy). In some cases, hysterectomy alone may be performed. Dogs diagnosed early generally have a good prognosis following surgery. However, surgical intervention in pyometra cases is more complex than routine sterilization due to the compromised condition of the animal and the risk of complications.

Most dogs are diagnosed at advanced stages and often present systemic clinical signs. Pre- and postoperative stabilization with intravenous therapy, including fluids and glucose, is necessary to improve the general condition. Postoperative antibiotic therapy is administered for approximately two weeks to prevent infectious complications.

Surgery is considered the safest and most effective treatment in most cases, particularly to prevent uterine rupture and spread of infection. Medical treatment with hormones such as prostaglandins is also possible, as they reduce progesterone levels, stimulate uterine contractions, and facilitate cervical opening, allowing elimination of infectious material.

However, hormonal therapy has significant limitations and is not always successful. It may be associated with side effects such as abdominal pain, discomfort, and behavioral changes. Moreover, in closed-cervix cases, uterine contractions may increase the risk of rupture and peritonitis.

Therefore, treatment choice should be made by the veterinarian based on the clinical condition of the animal. In most cases, timely surgical intervention offers the best prognosis and significantly increases survival rates.

Results and Discussion

Dogs were captured in the Municipality of Gostivar during 2023 and were treated for various diseases. All dogs were neutered or sterilized.

A total of 124 dogs were captured:

- 58 males (castrated)
- 66 females (sterilized)

Tab 1. Total number of captured stray dogs

	Breeds of captured dogs	Males	Females	Total
1.	Šar Mountain dogs	15	25	40
2.	Breeds Mixed	20	19	39
3.	Breeds Hunting	5	5	10
4.	Breeds Kangal	10	8	18
5.	Breeds Terier	5	4	9
6.	Asian breed dogs	3	5	8

Tab 2. Number of sterilized female dogs

1.	Šar Mountain dogs	25
2.	Breeds Mixed	19
3.	Breeds Hunting	5
4.	Breeds Kangal	8
5.	Breeds Terier	4
6.	Asian breed dogs	5
	Total	66

Tab 3. Clinical condition

	Dogs Female	
1.	Šar Mountain dogs	10
2.	Breeds Mixed	9
3.	Breeds Hunting	3
4.	Breeds Kangal	4
5.	Breeds Terier	1
6.	Asian breed dogs	2
	Total	29

Tab 4. Disease prevalence by breed

1.	Šar Mountain dogs	4
2.	Breeds Mixed	5
3.	Breeds Hunting	0
4.	Breeds Kangal	3
5.	Breeds Terier	0
6.	Asian breed dogs	1
	Total	13

Tab 5. Prevalence in terms of percentage and treatment

1.	Šar Mountain dogs	6,6 %
2.	Breeds Mixed	5,94 %
3.	Breeds Hunting	1,98 %
4.	Breeds Kangal	2,64 %
5.	Breeds Terier	0,66 %
6.	Asian breed dogs	1,32 %
	Total	19,14 %

Conclusion

- The Municipality of Gostivar issued a public call for the treatment of stray dogs (No. 07771/2023), followed by a contract with the Veterinary Clinic “Dok i Ket Dooool” Tetovo (No. 21-1155/1, dated 25.05.2023).
- A total of 124 dogs were treated, including 58 males and 66 females of various breeds. This study focused on the 66 female dogs and the occurrence of pyometra.
- Out of the treated dogs, 29 females were in poor health condition (cachexia, alopecia, mange, mechanical injuries, etc.). Among the sterilized females, 13 cases of pyometra were recorded, representing a relatively high prevalence of 19.14%.
- This prevalence also poses a risk to the environment, as these dogs may contribute to disease spread within their habitat. All treated dogs survived.
- The study concludes that pyometra is present throughout the country, but treatment remains insufficient. Untreated and deceased animals may serve as a source of infection for other animals and negatively impact biodiversity.
- Prevention of the disease is best achieved through early ovariohysterectomy before the onset of the condition.

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