

**PYOMETRA IN A FEMALE LION (*Panthera leo*): REPORT OF CASE**

Felipe Fornazari<sup>1,2\*</sup>  
Carlos Roberto Teixeira<sup>2,3</sup>  
Sheila Canevese Rahal<sup>3</sup>  
Patrícia Yoshida Faccioli<sup>1</sup>  
Patrícia Helena Nogueira Almeida<sup>4</sup>  
Helio Langoni<sup>1</sup>

**ABSTRACT**

Pyometra is a common disease of intact bitches that may also occur in large wild cats. The present study describes a case of pyometra in female lion (*Panthera leo*). The animal was referred with a vulvar discharge; physical examination and complementary exams did not show abnormalities. An ovariohysterectomy was performed, and the uterus reveals a thick endometrium with purulent/sanguinolent fluid. The bacterial culture resulted in *Escherichia coli*. The animal had an excellent recovery.

**Key-words:** pyometra, lion, *Panthera leo*, ovariohysterctomy, *Escherichia coli*.

**PIOMETRA EM UMA LEOA (*Panthera leo*): RELATO DE CASO****RESUMO**

Piometra é uma doença comum em cadelas inteiras que também pode ocorrer em felinos selvagens de grande porte. O presente estudo descreve um caso de piometra em uma leoa (*Panthera leo*). O animal apresentava uma descarga vulvar; exames físicos e complementares não apresentaram anormalidades. Foi realizada uma ovário-histerectomia, e o útero possuía o endométrio espesso e com líquido purulento/sanguinolento. A cultura bacteriana resultou em *Escherichia coli*. O animal teve uma excelente recuperação.

**Palavras-chave:** piometra, leoa, *Panthera leo*, ovário-histerectomia, *Escherichia coli*.

**PIOMETRA EN UNA LEONA (*Panthera leo*): REPORTE DE CASO****RESUMEN**

Piometra es una enfermedad común en perras no esterilizadas y puede ocurrir también en felinos salvajes de grande porte. El presente estudio expone el caso de piometra en una leona (*Panthera leo*). El animal tenía una descarga vulvar; exámenes físicos y complementares no presentaron anormalidades. Se realizo una ovariohisterectomía, el útero tenía el endometrio espeso y con líquido purulento/ y con sangre. El cultivo bacteriano resultó en *Escherichia coli*. El animal tuvo una excelente recuperación.

<sup>1</sup> Departamento de Higiene Veterinária e Saúde Pública, Faculdade de Medicina Veterinária e Zootecnia, Universidade Estadual Paulista (UNESP), Distrito de Rubião Jr, S/N, Botucatu, SP 18618-970, Brasil. \* Autor para correspondência: ff\_vet@yahoo.com.br.

<sup>2</sup> Centro de Medicina e Pesquisa de Animais Silvestres (CEMPAS), Faculdade de Medicina Veterinária e Zootecnia, Universidade Estadual Paulista (UNESP), Distrito de Rubião Jr, S/N, Botucatu, SP 18618-970, Brasil.

<sup>3</sup> Departamento de Cirurgia e Anestesiologia Veterinária, Faculdade de Medicina Veterinária e Zootecnia, Universidade Estadual Paulista (UNESP), Distrito de Rubião Jr, S/N, Botucatu, SP 18618-970, Brasil.

<sup>4</sup> Zoológico Municipal de Garça, rua Vital Soares S/N, Garça, SP 17400-000, Brasil.

**Palabras-clave:** piometra, leona, *Panthera leo*, ovariectomía, *Escherichia coli*.

## INTRODUCTION

Pyometra is a clinical disorder characterized by purulent material in the uterus. It is usually associated with cystic endometrial hyperplasia (1), a common lesion in the uterus that predisposes to bacterial infection (2). Occurs frequently in intact female bitches (3), and may cause severe systemic effects due to septicemia, leading to death if not treated. Pyometra can also occur in domestic and wild female cats, but it is less commonly seen (4). In these cases the clinical pattern of the disease is similar to those reported in domestic female dogs, although many aspects remain unclear.

Studies related to pyometra in wild cats are extremely scarce. In Brazil it is known that captive large felids, such as lions (*Panthera leo*), jaguars (*Panthera onca*) and tigers (*Panthera tigris*), may develop the disease (5, 6), but these cases are rarely reported. Thus, the aim of this report is to describe a case of pyometra in a captive female lion (*Panthera leo*).

## REPORT OF CASE

An 11-year-old female captive lion was referred to the veterinary hospital for evaluation of a vulvar discharge. Despite this, the animal did not show any other clinical signs. Physical examination under dissociative anesthesia (ketamine 5mg/kg associated with xylazine 1mg/kg) revealed no other alterations. An abdominal ultrasonography was performed, and did not show abnormalities in the uterus, suggesting an open-cervix pyometra. Complete blood cell counts, biochemical profile, and urinalysis were normal. The animal was submitted to surgery, and an ovariectomy was performed through a ventral midline incision using the same techniques described for domestic dogs and cats. Macroscopically, the uterus size was normal. The body of the uterus was incised using sterile materials, revealing a thick endometrium and purulent/sanguinolent fluid. It was not possible to perform a microscopic analysis of the uterus, but macroscopically it was compatible with a moderate endometrial cystic hyperplasia. A sterile swab was used to collect a sample for microbiological analysis. This was submitted to aerobic culture according to standard methods (7). The microbiological analysis resulted in *Escherichia coli*. The animal received antiinflammatories and antibiotics, and no vulvar discharge was seen postoperatively. However, an incisional hernia was observed 4 days after the surgery, and surgical correction was performed with strong non-absorbable sutures. The animal had an excellent recovery and it was reintroduced into the exhibition area of the zoo.

## RESULTS AND DISCUSSION

The present case consisted of an open-cervix pyometra. As occurs in domestic female dogs and cats, it is common the absence of systemic abnormalities in cases of open-cervix pyometra (8), and that explain why the animal did not show other physical alterations, neither the complementary exams. The ultrasonography is one of the best diagnostic techniques to detect alterations in the uterus (9). In the present case the thickness of the uterus wall did not show significant alterations, making impossible to confirm the disease using this method. Several species of bacteria have already been isolated from the uterus of bitches with pyometra, such as *Streptococcus canis*, *Pseudomonas* spp. *Klebsiella* spp. and *Proteus* spp (9,1). However, *Escherichia coli* is the most common (10), and has already been reported in captive wild felids (11). The animal was 11-year old, and, as observed in the present case, old

intact females are more susceptible to pyometra (12). The eventration occurred due to rupture of the suture, which is common in big animals. In addition, the difficulty of the postoperative management in wild animals is also an important factor to be considered. McCain et al. (11) also observed dehiscence of the suture in the linea alba in a female lion submitted to ovariohysterectomy.

The present case showed similarities with canine pyometra. The ovariohysterectomy is the recommended treatment for canine pyometra (3,1), and should also be considered in wild felids when the reproduction is not desirable.

## REFERENCES

1. Verstegen J, Dhaliwal G, Verstegen-Onclin K. Mucometra, cystic endometrial hyperplasia, and pyometra in the bitch: Advances in treatment and assessment of future reproductive success. *Theriogenology*. 2008;70:364-74.
2. Schlafer DH, Gifford AT. Cystic endometrial hyperplasia, pseudo-placental endometrial hyperplasia, and other cystic conditions of the canine and feline uterus. *Theriogenology*. 2008;70:349-58.
3. Smith FO. Canine pyometra. *Theriogenology*. 2006;66:610-2.
4. Agudelo CF. Cystic endometrial hyperplasia – pyometra complex in cats. A review. *Vet Q*. 2005;27:173-82.
5. Silva JCR, Adania CH. Carnivora – Felidae (Onça, Suçuarana, Jaguatirica, Gato-do-mato). In: Cubas ZS, Silva JCR, Catão-Dias JL. *Tratado de animais selvagens*. São Paulo: Roca; 2006. p.505-46.
6. Toniollo GL, Faria Jr D, Lega E, Batista CM, Nunes N. Piometra na espécie felina – Relato de um caso em *Panthera onca*. *Braz J Vet Res Anim Sci*. 2000;37:166-8.
7. Krieg NR, Holt JC. *Bergey's manual of systematic bacteriology*. 9th ed. Baltimore: Williams & Wilkins; 1994.
8. Pretzer SD. Clinical presentation of canine pyometra and mucometra: a review. *Theriogenology*. 2008;70:359-63.
9. Bigliardi E, Parmigiani E, Cavirani S, Luppi A, Bonati L, Corradi A. Ultrasonography and cystic hyperplasia-pyometra complex in the bitch. *Reprod Domest Anim*. 2004;39:133-40.
10. Siqueira AK, Ribeiro MG, Leite DS, Tiba MR, Moura C, Lopes MD, et al. Virulence factors in *Escherichia coli* strains isolated from urinary tract infection and pyometra cases and from feces of healthy dogs. *Res Vet Sci*. 2009;86:206-10.
11. McCain S, Ramsay E, Allender MC, Souza C, Schumacher J. Pyometra in captive large felids: a review of eleven cases. *J Zoo Wildl Med*. 2009;40:147-51.
12. Fukuda S. Incidence of pyometra in a colony-raised beagle dogs. *Exp Anim*. 2001;50:325-9.

**Recebido em: 01/04/11**

**Aceito em: 12/05/11**