ABSTRACTS

ISCFR 2012

July 26-29, Whistler, Canada

7th International Symposium on Canine and Feline Reproduction

In a joint meeting with

EVSSAR 2012

15th Congress of the European Veterinary Society for Small Animal Reproduction

Editors: Gary England, Michelle Kutzler, Pierre Comizzoli, Wojciech Nizanski, Tom Rijsselaere and Patrick Concannon

Reprinted in IVIS with the permission of the ISCFR Organizers
Use of cloprostenol for treatment of feline open-cervix pyometra

García Mitacek, MC1,2; Stornelli, MC3, Tittarelli, CM1; Mansilla Hermann, D1; de la Sota, RL1,3; Stornelli, MA1,4

1Catedra y Servicio de Reproducción Animal, Facultad de Ciencias Veterinarias, Universidad Nacional de La Plata, La Plata B1900AVW, Buenos Aires, Argentina; 2CIC Calle 526 e/10 y 11, La Plata B1906AOM, Buenos Aires, Argentina; 3CONICET, Av. Rivadavia 1917, Capital Federal C1033AAJ, Argentina.

INTRODUCTION: Pyometra (PYO) is one of the most common reproductive disorders in the queen which is characterized by accumulation of purulent or mucopurulent material within the uterine lumen with an open or closed cervix during the luteal phase (1-3). An association between pyometra and cystic endometrial hyperplasia (CEH) has been established (1-3). The CEH-PYO complex is much less common in the queen than in the bitch, probably because ovulation is induced by coitus (3). Also, this condition has been also observed in queens treated with progestogens (3). Clinical signs include inappetance, polydipsia/polyuria and vaginal discharges in case of open-cervix pyometra (2,3). Recommended treatment for CEH-pyometra in queens is ovariohysterectomy (OHE) with antibiotic and fluid replacement (2,3). However, in animals with breeding value or in pets to preserve the reproductive capacity of the patient, medical therapy without OHE is desirable (2,3). Prostaglandin Fα and cloprostenol have been proofed effective for medical treatment of CEH-PYO in the bitch (4). Although prostaglandin Fα has been reported to be successful in resolving open-cervix pyometra in felines (5), there are no clinical studies of use of cloprostenol in queens. Therefore, the aim of the study was to assess the clinical and reproductive efficacy of cloprostenol in medical treatment for feline open-cervix pyometra. The hypothesis was that cloprostenol could be effectively used for treatment of feline open-cervix pyometra in queens.

MATERIALS AND METHODS: Five domestic short-haired queens, aged between 2 and 6 years old and weighing between 2 and 4 kg were referred to the Animal Reproduction Service of the Veterinary Teaching Hospital. All queens showed clinical signs of open-cervix pyometra with purulent vaginal discharge, inappetance, depression, polydipsia/polyuria and vomiting. Diagnosis of pyometra was based on a complete physical examination and ultrasonographic, hematological, biochemical and vaginal cytology studies. After a complete physical examination, samples for vaginal cytology study were obtained, stained with Diff Quik® and examined at X 100 and X 400 magnification. Subsequently a trans abdominal ultrasonographic examination using an ultrasound scanner equipped with a 5-7.5-10 MHz linear transducer (MindrayTM, DP-600 Vet, Nanshan, China) was done. Lastly, samples for routine hematological and biochemical analyses were taken. After pyometra was diagnosed, animals received 5 μg/kg cloprostenol (sc; Ciclar, p.a.®, Zoovet, Argentina), fluid replacement with saline solution on three consecutive days, and 20 mg/kg amoxicillin (im; Clamoxil LA®, Pfizer, Argentina) on seven consecutive days. During treatment a physical examination was performed every day and females were monitored by ultrasonography every other day. When the treatment was completed, vaginal cytology samples were obtained every third day until the onset of estrus. All queens were mated in the second estrous post-treatment.

RESULTS: In all queens, vaginal cytology samples before treatment showed between 80 % and 90 % of intermediate cells, 10 % - 20 % of superficial cells, bacteria, and 20-30 degenerative neutrophils by microscopic field at X 400 magnification. The ultrasonographic study showed a moderate to significant uterine enlargement with anechoic or hypo echoic fluid content. The endometrium was thickened with hypo echoic areas of varying size. Hematological studies showed leukocytosis and neutrophilia with left shift in all queens. Two females had normocytic and normochromic anemia. Biochemical parameters showed hyperglobulinemia in three animals. Between ten and fifteen minutes after cloprostenol administration, diarrhea, vomiting and vocalizations in treated queen were observed, and side effects never lasted more than 30 min minutes post treatment. After treatment with cloprostenol the amount of vaginal discharge increased during the first two days, the uterus diameter decreased and animals started to eat. Fifteen days after treatment had ended, no discharge was seen, and the uterus was found of normal size by abdominal palpation. At this time vaginal cytology showed an image of normal interestrus (between 50 and 60 % of intermediate cells and 40 %, 50 % of superficial cells). Hematological and biochemical parameters were between physiological normal ranges. Animals had not clinical signs of illness and ultrasonographic study showed a normal uterine image. Likewise food and water intake were normal. All animals came into estrus between 15 and 20 days after treatment ended. Two queens became pregnant after mating and had a normal gestation and parturition. One queen delivered three and the other five kittens. All females remained healthy until the end of the study, one year after treatment.

DISCUSSION: Although CEH-PYO is less common in the queen than in the bitch, still is one of the most common illnesses observed in feline reproductive practice (2,3). Successful medical treatment of CEH-PYO cases in animals with
breeding value, in old queens or in queens with very poor surgical risk is desirable (2,3). In the present study, cloprostenol showed to be an effective alternative medical treatment in queens with CEH-PYO. Cloprostenol was efficacious to evacuate the uterine content and to recover from the open-cervix pyometra. In our study two animals (40%) became pregnant after treatment. To our knowledge this is the first report of successful use of cloprostenol for treatment of CHE/PYO complex in the queen. Although some side effects were observed after drug administration they were slight and of short duration. It has been reported that prostaglandin F2α side effects are dose-dependent and are known to diminish with repetition of treatment in the bitch (2). Furthermore, it is recommended to start with the lowest dosage to avoid the classic side effects of vomiting, and then to slowly increase the dosage to reach the recommended doses after 2-3 d (2). This recommendation could be extended to the use of cloprostenol in future studies to reduce the side effects observed in queens. In this study, even though we observed reduced side effects, we did not observed a slower evacuation of the uterus after the use of cloprostenol. Nevertheless, in this study, all queens increased the amount of vaginal discharge during the first two days post treatment, the uterus diameter decreased, and all animals started to eat, showing a quick and good response to treatment.

CONCLUSION: The results of this study show that cloprostenol is an efficient option for medical treatment of queens with open-cervix pyometra. Whether a treatment plan that includes lower and repeated daily doses of cloprostenol to reduce side effects is effective needs further investigation.

(1) Schlafer DH, Gifford AT. Cystic endometrial hyperplasia, pseudo-placentational endometrial hyperplasia, and other cystic conditions of the canine and feline uterus. Theriogenology 2008; 349-358.