EFFECT OF MIFEPRISTONE AND CABERGOLINE IN THE TERMINATION OF PREGNANCY IN BITCHES

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ABSTRACT

Termination of unwanted pregnancy is one of the most common requests from dog owners. Three bitcheswere presented to the clinics with a history that the bitches were mated 30 days back and were diagnosed as pregnant with help of ultrasonography. On the request of owner, pregnancy termination was carried out by using mifepristone @ 2.5mg/kg body weight, orally twice daily with cabergoline @ 5 µg/Kg body weight daily for 4 days. All the three bitches were aborted within 6 days without any side effects.

Keywords: Mismating, cabergoline, mifepristone, bitch, pregnancy termination

INTRODUCTION

Pregnancy termination is most common request from pet owners as unwanted mating occurs frequently in the bitches. Ovariohysterectomy (OVH) is the best choice of treatment when future breeding is not required. Besides OVH, abortion methods include several classes of pharmacological agents alone or in combinations (Wanke *et al*., 2002).Estrogens are used till date in India but, have many side effects such as pyometra, metritis, ovarian cyst and aplastic anemia (Fraser, 2018). Thus,estrogen based abortion could not be popularized among pet owners. Pregnancy termination using prostaglandin $F_{2\alpha}$ ($PGF_{2\alpha}$) analogues is controversial as they have many side effects and required hospitalization and monitoring of bitch (Lein *et al*., 1989). Cabergoline is more potent and has fewer or milder side effects as compared to bromocriptine and effective in terminating pregnancy in bitches at mid gestation or later (Post *et al*., 1988). Cabergoline was also used in combination with $PGF_{2\alpha}$ analogue to terminate the pregnancy in bitches (Onclin *et al*., 1995). The later combination has 100% efficacy in terms of abortion butwith side effects may be due to $PGF_{2\alpha}$. The Mifepristone is progesterone receptor antagonist developed for human application and is not marketed for veterinary use. In bitches, it terminates pregnancy by resorption when administered at day 32 of pregnancy without any side effects (Concannon *et al*., 1990 and Srinivas *et al*., 2008).Combination of aglipristone plus misoprostol could terminate pregnancy in all bitches within 6 days of treatment whereas additional use of cabergoline did not revealed improvement in the treatment (85.7 %) (Agaoglu *et al*., 2011). The present case reportstudied the efficacy of the combination of cabergoline and mifepristone for terminating unwanted pregnancy in bitches.

CASE HISTORY, CLINICAL EXAMINATIONS AND TREATMENT

Three bitches were presented to clinics with the history of mismating. The pregnancy was confirmed by ultrasonography. The stage of pregnancy was determined based on the date of mating and by ultrasonography.Three bitches having e"30 days pregnancywere treated with Mifepristone @ 2.5mg Kg^{-1} b wtb.i.d. and cabergoline @ 5 µg Kg^{-1}odorally for 4 days. All the animals were observed for side effects and examined daily for detection of vaginal discharge and expulsion of fetal components by the owners.

RESULTS AND DISCUSSION

Two bitches had 35 days pregnancy and one bitch had 30 days pregnancy. All the three bitches aborted in 4-6 days of initiation of treatment. There were no side effects in any bitches. It was reported that mifepristone is safe to terminate the unwanted pregnancy after 32 days (Concannon *et al*., 1990) while, combination of cabergolin and prostaglandin analogue resulted abortion in 100% cases but with side effects like excessive salivation, prostration, vomiting, diarrhea and scratching at the injection site etc. due to $PGF_{2\alpha}$.Cabergoline alone was able to induce pregnancy termination in 67% of bitches (Onclin *et al*., 1995 and Srinivas *et al*., 2008). Abortions in resulted in all bitches might be due to an additive or synergistic effect of the treatments. In addition, advantages of this combination are no noticeable side effect, hospitalization of bitches and effectiveat as early as day 30 pregnancy. Nevertheless, this study used a limited number bitches, and caution has to be taken in interpreting the results for clinical practice. This protocol needs to be studied more widely, before being used routinely.In conclusion, a combination of cabergoline (5µg/kgp.o) and Mifepristone (2.5 mg/kgp.o) is an effective method for inducing termination of pregnancy in the bitches.

REFERENCES:

Agaoglu, A.R., Schäfer-Somi, S., Kaya, D., Kucukaslan, I., Emre, B., Gultiken, N., Mulazýmoglu, B.S., Colak, A. and Aslan, S. (2011). The intravaginal application

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of misoprostol improves induction of abortion with aglepristone. *Theriogenology*, **76**(1): 74-82.

Concannon, P.W., Yeager, A., Frank, D. and Iyampillai, A., (1990). Termination of pregnancy and induction of premature luteolysis by the antiprogestagen, mifepristone, in dogs. *Reproduction*, **88**(1): .99-104.

Fraser, N.S. (2018). Mismating diagnosis and protocols. *Veterinary Clinics*: *Small Animal Practice*, **48**(4): 605-615.

Lein, D.H. (1989). Termination of pregnancy in bitches by administration of prostaglandin F-2α. J. Reprod. Fertil.(Suppl.), **39**: 231-240.

Onclin, K., Silva, L.D.M. and Verstegen, J.P. (1995). Termination of unwanted pregnancy in dogs with the dopamine agonist, cabergoline, in combination with a synthetic analog of PGF2alpha, either cloprostenol or alphaprostol. *Theriogenology*, **43(**4): 813-822.

Post, K., Evans, L.E. and Jöchle, W. (1988). Effects of prolactin suppression with cabergoline on the pregnancy of the bitch. *Theriogenology*, **29**(6): 1233-1243.

Srinivas, M., Rao, V.V. and Veena, P., 2008. Mismating in bitches. *IntasPolivet*, **9(2)**, pp.189-190.

Wanke, M.M., Romagnoli, S., Verstegen, J. and Concannon, P.W. (2002). Pharmacological approaches to pregnancy termination in dogs and cats including the use of prostaglandins, dopamine agonists, and dexamethasone. Concannon PW et al. Recent Advances in Small Animal Reproduction. www. ivis. org.