The Indian Journal of Animal Reproduction; 27 (1): 62-63; June 2006

Short Communication

Medical termination of pregnancy in bitches using progesterone receptor blocker

K. KULASEKAR[1], CECILIA JOSEPH[2] AND S. RANGASAMY[3]

Department of Animal Reproduction, Gynaecology & Obstetrics,
Madras Veterinary College, Chennai-600 007.

Received : November 29, 2004
Accepted : August 29, 2005

ABSTRACT

This trial was undertaken to test the efficacy of progesterone receptor blocker, Mifepristone (Tab.Mifeprin-200 mg, Sun Phannaceuticals, Mumbai) in terminating pregnancy in bitches. Ten pregnant bitches brought to the Madras Veterinary College Hospital for medical termination of pregnancy were administered Mifepristone at the dose rate of 2.5mg/Kg body weight bid orally for 4-5 days. Ultrasonography was done to confirm pregnancy and to monitor fetal viability and resorption after induction of treatment. In all bitches, pregnancy was terminated between 3-6 with a mean of 4.5 ±1.5 days after treatment and there was no side effect associated with the treatment. Mifepristone administration is a safe and reliable method to terminate unwanted pregnancy in dogs.

Key words: Medical termination, pregnancy, progesterone receptor blocker, dogs.

Pregnancy that results from misalliance in bitches is a commonly encountered problem in the practice of veterinary small animal medicine. The most wide spread methods of terminating unwanted pregnancies in dogs are treatment with various oestrogenic preparation, prostaglandin and antiprolactin drugs. Protocols that used oestrogen for pregnancy termination have not found wide acceptance because they are not 100% effective and produce adverse side effects such as cystic endometrial, hyperplasia, pyometra, and bone marrow suppression (Gobello *et al.*, 2002). Pregnancy in the bitch is dependent on ovarian progesterone secretion throughout pregnancy and both LH and Prolactin are luteotrophins (Concannon *et al.*, 1990). Pregnancy can be terminated by luteolytic treatment including repeated administration of PGF2α (Concannon and Hansel, 1977) or of prolactin lowering dose of bromocriptin. Prostaglandin have a direct action on the corpus luteum where as bromocriptin act indirectly by lowering the luteolrophic hormone prolactin. Both treatments produce various undesirable side effects like salivation, emesis, nausea, diarrhoea and hyperpnoea (Gobello *et al.*, 2002). Recently, attention has been given to agents that prevent the action of progesterone. Mifepristone a 19-nor steroid is progesterone and glucocorticoid receptor antagonist proven to be an effective abortifacient in dogs (Concannon *et al.*, 1990). The present study was conducted to study the efficacy of Mifepristone on pregnancy termination in bitches.

Ten pregnant bitches aged between 1-8 yr brought to the small animal Gynaecology unit of the Madras Veterinary College Hospital with the history of misalliance were utilized for this study. In bitches, which were presented within 24 hr of misalliance, mating was confirmed by presence of sperms in the vaginal smear. Pregnancy was diagnosed in all bitches by abdominal palpation and confirmed by ultrasonography. The duration of pregnancy in these bitches ranged from 28-38 days.

Mifeprestone was administered orally at the dose of 2.5 mg/ Kg body weight twice daily until resorption / abortion was observed. Ultrasonography was done repeatedly on alternate days to assess the fetal viability and uterine status. Pregnancy termination was confirmed ultrosonographically by the absence of fetus and fetal sacs in the uterus. The pet owners were requested to

[1]Corresponding author & Associate Professor, [2]Associate Professor, Department of Clinics, [3]Post Graduate student

observe the treated dogs for any side effects like vomiting, nausea, diarrhoea, shivering, hyperpnoea and anorexia.

Termination of pregnancy occurred in all treated bitches between 3-6days with a mean of 4.5 ± 1.5 days. Termination was mostly by fetal resorption and expulsion of the fetus was not documented. Concannon *et al.* (1990) reported that complete termination of pregnancy occurred at 3.5- 4.5 days after start of treatment with Mifepristone on day 32 of pregnancy. Pregnancy was terminated in 35-days pregnant beagle bitches within 2-4 days with a single dose of 20mg/Kg of Mifeprestone (Linde Forsberg *et al.*, 1992). The variation in the duration of termination is influenced by the stage of gestation and dose of drug used.

Concannon *et al.* (1990) observed no change in the general health, appearance or behavior in any of the treated bitch. In our study, except a transient reduction in appetite on the second and third day of treatment, no other side effect was observed. The results of this study suggest that Mifeprestone can be used safely to terminate unwanted pregnancy in bitches.

REFERENCES

Concannon, P.W. and Hansel, W. (1977). Prostaglandin $F_{2\alpha}$ induced luteolysis, hypothermia and abortions in Beagle bitches. Prostagladins, **13**: 533-542.

Concannon, P.W., Yeager, A., Frank, D., and tyampilli. A. (1990). Termination of pregnancy and induction of premature luteolysis by antiprogestagen Mifepristone in dogs. J. Reprod. Fertil., **88**: 99-104.

Tristina, Gervasio Castex, Yanina, Liliana, Rodolfo, I de la Sota., Raul (2002). Use of prostaglandins and bromocriptine mesylate for pregnancy termination in bitches. JAVMA., **220**: 1017-1019.

Linde - Forseberg, C., Kindahl, H. and Madej, A. (1992). Termination of mid term pregnancy in the dog with oral RU486, J. Small Anim. Practice, **33**: 331-336.