

EFFICACY OF CABERGOLINE ON INDUCTION ESTRUS IN BITCHES

Gauri S. Nalkande¹, A.D. Patil², S.K. Sahatpure³, S.K. Sheetal⁴, D.V. Patil and G.P. Shende

¹M.V.Sc. Student, ²Assistant Professor, ³Associate Professor and I/c, Department of Animal Reproduction, Gynecology & Obstetrics, ⁴Hospital Registrar, TVCC, Nagpur Veterinary College, MAFSU, Nagpur – 440006.

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Total twenty four anestrus bitches were selected. The selected bitches were divided in four equal groups. Each group consists of six anestrus bitches. Selection of the bitches was based on the problem of irregular or absence of estrus cycle reported at Teaching Veterinary Clinical Complex, Nagpur Veterinary College, Nagpur. Group I was treated with Tab. Cabergoline @ 5µg/kg body weight for 15 days. Group II was treated with Tab. Cabergoline @ 5µg/kg body weight with cap. Vit. A and Vit. D @ 1 Cap daily for 15 days. Group III was administered Tab. Cabergoline @ 5µg/kg body weight and vitamins supplements @ 1 tab daily for 15 days and Group IV was untreated.(control). Group I showed 50.00 per cent positive response within 10 to 15 days to the treatment. In Group II all six bitches 100% responded within 10 to 15 days to the treatment and in Group III, out of six bitches, four bitches (66.66 per cent) responded within 10 to 15 days to the treatment. Only two bitches responded from group IV (control group). No pregnancy was found in control group. It can be thus concluded that cabergoline in combination with cap. Vit.A and Vit D is successful treatment for induction of estrus in bitches.

Keywords: Cabergoline, Bitches, Estrus induction,

The reproductive physiology of domestic bitches is unique that they exhibit cyclicity only once or twice in a year. The length of estrus cycle in the bitch is considerably longer than that of most other domestic species and there is an obligatory anestrus following the termination of the luteal phase (Verstegen *et al.*, 1999). The anestrus could be primary (the bitch that never had an ovarian cycle) or secondary (the bitch that had one or more ovarian cycles but subsequently failed to cycle) (Feldman and Nelson, 1996). Timely reproduction has got paramount importance in optimizing the return from dog breeding units, owners of elite bitches with long inter-estrus interval often approach veterinarians with the request to shorten it in order to increase the number of litters born per year.

Materials and Methods

Twenty four anestrus bitches were studied with history of normal food intake, normal reproductive health status, but still showing anestrus or irregular estrus cycle. The selected bitches had a good body condition. The phase of estrus was confirmed by vaginal cytology and electronic ovulation

detector, progesterone estimation and pregnancy diagnosis after 30 days of mating. The present study was carried out at Teaching Veterinary Clinical Complex, Nagpur Veterinary College, Nagpur.

The bitches were divided in four equal groups. Each group consists of six anestrus bitches. Group I was treated with Tab. Cabergoline @5µg/kg body weight. Group II was treated with Tab. Cabergoline @5µg/kg body weight and cap. Vit. A and Vit. D (Cod liver oil) @ 1 cap daily for 15 days. Group III was administered Tab. Cabergoline @5µg/kg body weight and vitamins supplements @ 1 tab daily for 15 days and Group IV was untreated (control).

Results and Discussion

In the present study, in Group I, out of six bitches, three bitches (50.00 per cent) responded within 10 to 15 days to the treatment. Three bitches did not respond to the given treatment. In Group II, all six bitches (100%) responded within 10 to 15 days to the treatment and in Group III, out of six bitches, four bitches (66.66 per cent) responded within 10 to 15 days to the treatment. Only two bitches from control group responded. No pregnancy was found in control group. Bitches who responded to the treatment were bred by artificial insemination

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or natural service as per availability and convenience. Conception rate of all group was fair.

The present findings are in agreement with Ajitkumar and Praseeda (2010) who administered Cabergoline @ 5µg/kg body weight orally for 20 consecutive days and found 80% (n=16) response to the treatment by evincing proestrual bleeding and the mean time taken from treatment onset to proestrus was found to be 13.44± 3.12 days. The duration of proestrus and estrus was found to be 10.11 ± 0.68 (8-12) and 8± 0.29 (6-9) days respectively which is a higher induction rate compared to the present studies in bitches.

Anestrus is a quiescent period for reproductive organs and sexual behavior. This prolonged stage lasts for 3-5 months as also reported by Noakes *et al.* (2001). Prolactin-lowering doses of dopamine agonists administered beginning at days 90- 135 of the cycle can result in premature proestrus and fertile estrus with pro-estrus occurring by 17-50 days of treatment. Dopamine agonist may cause unpleasant side effects such as anorexia and vomiting as also recorded by Concannon (1993) also. On the other hand, dopamine agonist seems to give unsuccessful induction of proestrus in cat as also mentioned by Kutzler (2007) whereas in the present study positively induced heat in three anestrus bitches within 10 to 15 days.

Administrations protocols of most of these drugs involved daily to weekly injections and the results were not encouraging (here comes the importance of newer drugs with better estrus induction and conception rates).

Cod- liver oil capsule is the best source of omega 3 fatty acids and relatively vitamin A and Vitamin D is extremely important for hormonal activation. All are

capable of altering reproductive performance. Healthy adult dogs should be fed a diet high in digestibility, low in residue and high in nutrient bioavailability.

It can be thus concluded that cabergoline in combination with cap. Vit.A and Vit.D (Cod liver oil) can be successfully used for the treatment of induction of estrus in bitches followed by cabergoline with vitamin supplements. Cabergoline alone was found to give a very poor response in the present study. Nutraceuticals in combination with cabergoline may boost the fertility rate in bitches.

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