Proceedings of the 8th International Symposium on Canine and Feline Reproduction
ISCFR

June 22-25, 2016
Paris, France

In a joint meeting with the XIX EVSSAR Congress

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Effect of interscapular vs umbilical location on onset and duration of efficacy of deslorelin implant in male and female cats

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Gonadotropin Releasing Hormone (GnRH) agonists are veterinary drugs commercially available in many countries of the World. Deslorelin is a long-acting GnRH agonist implant marketed for the control of aggressiveness and pharmacological sterilization in male dogs whose off-label use in cats is on the increase. Such implants are normally placed in the interscapular region, although placement in the umbilical area is becoming popular due to the ease of removal if necessary. The objective of this study was to investigate whether the different location influences onset and duration of efficacy in treated male and female cats. Thirty-one privately owned male and female cats referred to the Veterinary Teaching Hospital of the University of Padova, Italy, with a presenting complaint of suppressing reproduction were enrolled in this study. Clients had to fill out and sign an informed consent form and a behavioral questionnaire. Each cat received a) a clinical and reproductive exam (including checking penile spikes and doing vaginal cytology); b) blood sampling for haematology, biochemistry and hormonal assay; c) administration of 50 mcg gonadorelin (Fertagyl™ Intervet) followed by blood sampling 1-2 hours later to assay serum testosterone (T) in males or estradiol and progesterone (E and P4, respectively) in females); d) subcutaneous administration of a 9.4 mg deslorelin implant either in the interscapular (IS, N= 10 male and 11 females) or umbilical region (UMB, N= 6 males and 4 females). For the UMB cats the implant was administered following tricotomy in the center of an area of approximately 8x4 cm around the umbilical scar (but not on the scar itself). All cats were checked twice monthly for the first 2 months and then at month 4, 6, 12 and thereafter every 6 months until cessation of effect. At each visit duration of treatment effect and occurrence of local and general side effects were checked through a clinical exam and a GnRH stimulation test, and each time owners had to fill out the behavioral questionnaire. Duration of treatment effect was assessed based on hormonal concentration, exfoliative vaginal cytology, development of penile spikes and onset of reproductive behavior. Data were analyzed using a ONE-way ANOVA procedure, using P<0.05 as a threshold of significance. No side effects were observed following implant administration in the interscapular vs the umbilical area both in male and female cats. None of the 35 treated cats vocalized or reacted in any way during either procedure. Some cats were lost to follow-up (1, 2). Total length of duration of deslorelin effect was 705±50 and 768±124 days for males (N= 8) and females (N=11), respectively (average ± SD) In tomcats, treatment length was 687.5±58.5 (N=4) and 721±40.5 (N=4) days when implant was placed in the IS and UMB location, respectively (P=0.85). In queens treatment length was 751±110 (N=7) and 804.7±173 (N=4) days when implant was placed in the IS and UMB location, respectively (P=0.85). Treatment duration did not differ depending on location of administration in all cats. Therefore, the UMB site can be considered appropriate for deslorelin implant administration. Added advantage of the UMB site are ease of implant identification following administration, and the possibility to continue identifying it over time thanks to reduced skin thickness.

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