Prolonged Suppression of Reproductive Activity in Male Cats with a 4.7 Mg Implant of Deslorelin

S Romagnoli, N Geretto, C Stelletta, C Milani, D Gelli and A Mollo: Faculty of Veterinary Medicine, University of Padova, Padova, Italy

H Sontas: University of Istanbul, Istanbul, Turkey

The purpose of this study was to assess efficacy of deslorelin (a GnRH agonist recently marketed in Europe for the control of male dog reproduction) in the control of feline reproduction. Seven tomcats of 3.5–5.1 kg body weight (BW) and 7 months to 3 years of age were selected for this study. All cats were adult, privately owned domestic shorthair European cats who were living at home but with free access outside at all times and were of proven capacity to breed adult queens in heat.

The following procedures were performed on each cat prior to treatment: (1) thorough clinical exam, including observation of penile spikes, measurement of penile length, measurement of testicular volume; (2) GnRH stimulation test (assay of testosterone before and after intramuscular (IM) injection of 50 mcg GnRH); (3) urine collection by cystocentesis. A complete blood count (CBC) and serum biochemistry was performed on all animals prior to treatment and monthly throughout the study. Between May 2008 (cats 1, 2) and October 2008 (cats 3, 4, 5, 6, 7), a deslorelin implant (Suprelorin, Virbac) was administered to all cats in the subcutaneous (SC) tissue in between the shoulder blades using a disposable needle.

Following treatment, each cat was seen monthly for blood collection, clinical examination and collection of behavioural data relative to nutrition, biologic functions (micturition, defecation, etc.), reproductive behaviour, and social behaviour (with other cats and with humans). All cats were in good body condition and in normal health prior to treatment, and their health status remained unchanged throughout the study based on the results of clinical exams and CBC + serum biochemistry.

In all tomcats except for cat 1, serum testosterone dropped significantly to <0.1 ng/ml already at 30 days post-treatment and remained below detection levels for up to 390 days; testicular volume dropped significantly from 0.33 cc to 0.07 cc at day 90 and was still at 0.15 cc at day 240; penile spikes started disappearing at 60 days and were absent by 210 days. In cat 1, serum testosterone took 90 days to drop to 0 and raised again to above threshold at 210 days; testicular volume decreased but to a lesser extent (his testicles were larger than those of all the other tomcats at the start of the study); penile spikes never disappeared. Clinical signs of normal reproductive activity (initial growth of penile spikes and increased size of testicles, urine odor typical of tomcats, roaming) became manifest in the remaining cats between October 2009 (cats 2 and 3), November 2009 (cats 4 and 7) and December 2009 (cat 6).

In conclusion, in our study a 4.7 mg deslorelin implant was able to suppress the hypothalamic-pituitary-gonadal axis, leading to disappearance of serum testosterone, male urine odor, roaming and reproductive behaviour in 85.7% (6/7) treated cats. Such suppression lasted for 12-18 months. Deslorelin can be considered a safe alternative to surgical castration in tomcats as it prevents them from displaying all unwanted effects of gonadal steroid secretion for a prolonged period of time.