



Prolonged suppression of reproductive activity in male cats with a 4.7 mg implant of deslorelin

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Introduction and aim

Gonadotropin-releasing hormone (GnRH) agonists are synthetic peptides which can be used in dogs for indications such as postponing puberty in both sexes; controlling reproductive cyclicity and treating post-spaying urinary incontinence in bitches; reducing aggressiveness, causing temporary sterility and treating androgen-dependent diseases in male dogs. Furthermore, prevention of mammary tumor metastatic disease has been proposed as an indication for the canine (1). The purpose of this study was to assess efficacy of a long-acting formulation of deslorelin (Suprelorin™ Virbac) for the control of feline reproduction.

Materials and methods

- 7 tomcats
- Adult
- Privately owned
- Living at home but with free access outside at all times
- Proven capacity to breed adult queens in heat

Number	Name	Breed	Date of birth	BW (kg)
1	Felix	European	2005	4.40
2	Punto	European	2006	4.10
3	Momi	European	2007	5.10
4	Gatto	European	2007	3.95
5	Birba	European	03/2008	3.70
6	Tigre	European	04/2008	3.65
7	Ugo	European	03/2008	3.55

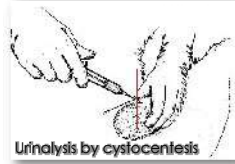
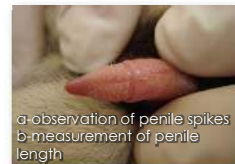
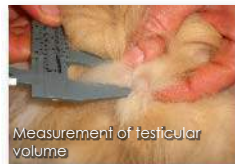
Study design

A) Before implantation

Clinical exam

Sedation

butorphanol 0,3 mg/kg (IM)
+
medetomidine 5 µg/kg (IM)
+
ketamine 3mg/kg (IM)



B) Implantation



C) Post-implantation

- Clinical examination
- Observation of penile spikes
- CBC
- GnRH stimulation test Pre-GnRH T + Post-GnRH T
- Measurement of testicular volume
- Bodyweight (BW)
- Behavioural data

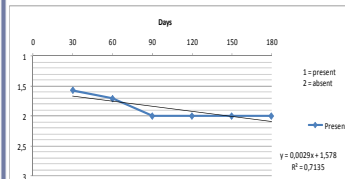
Monthly



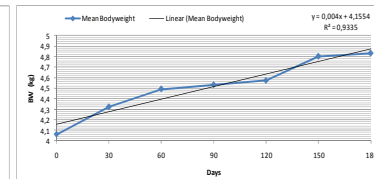
- Nutrition
- Biologic functions
- Reproductive behaviour
- Social behaviour

Results

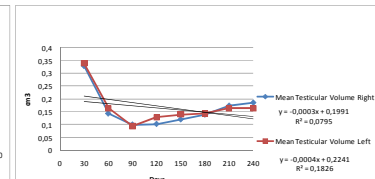
All cats were in good health conditions and in normal health prior to treatment, and their health status remained unchanged throughout the study based on the results of clinical exams and CBC + serum biochemistry. In all cats except cat n° 1, serum testosterone (T) dropped significantly to <0.1 ng/ml 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 n° 1 serum T 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 cats 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, male urine odor, roaming) became manifest in remaining cats between October 2009 (cats n° 2 and 3), November 2009 (cats n° 4 and 7) and December 2009 (cat n° 6).



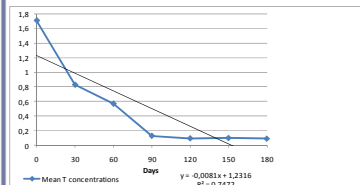
Observation of penile spikes



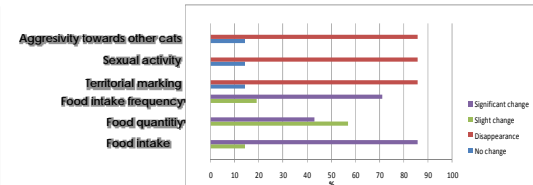
Bodyweight (BW)



Measurement of testicular volume



GnRH stimulation test



Behavioural data

Conclusions

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 odour, roaming and reproductive behaviour in 85.7% (6/7) treated cats. Such suppression lasted for 12-18 months. Deslorelin can be considered as a safe, temporary alternative to surgical castration in tomcats as it prevents the display of unwanted effects of gonadal steroid secretion for a prolonged period of time.

References

1) Romagnoli et al. Reproduction in Domestic Animals 2009, 44 (suppl. 2):36-39.

