

be practical, melatonin implants are routinely used to manipulate the estrus cycles in ewes. Therefore, the aim of this study was to assess the efficacy of subcutaneous (SC) melatonin implants to reversibly suppress estrus in queens. The hypothesis was that SC melatonin implants would prolong anestrus in cycling queens without any side effects. Fourteen adult queens aged between 12 and 14 months and weight between 2 and 4 kg were maintained under artificial illumination (14 h light:10 h dark) in cages during an initial period of 45 days and then assigned to one of two treatments (TRT). At interestrus (IE), queens assigned to TRT1 received a SC melatonin implant (18 mg; Melovine[®], CEVA Sante Animal, France; $n = 9$; MEL), and queens assigned to TRT2 received a subcutaneous placebo implant without melatonin (0 mg; $n = 5$; PLA). At the next proestrus (PE), all queens received a new MEL or PLA implant. Blood samples were taken when queens showed proestrus signs to measure E_2 , and during inter-estrus to measure P_4 by RIA (Coat-A-Count, Diagnostic Product Corporation, Los Angeles, CA). No significant differences in interestrus length were observed in PLA animals whether the implant was placed in the IE or PE (6 days versus 14 ± 9 days). However, when MEL implants were placed in IE, the interestrus length were twice longer than when they were placed in PE (113 days versus 66 ± 7 days; $P < 0.001$, interaction of treatment by cycle phase). The E_2 and P_4 concentration were similar between queens with PLA and MEL implants (E_2 : $P > 0.23$; P_4 : $P > 0.37$) and between queens who received implants in PE or IE (E_2 : $P > 0.25$; P_4 : $P > 0.54$). Side effects were not observed. In conclusion, subcutaneous melatonin implants effectively suppressed estrus in queens for a period of 4 months with no side effects.

Keywords: Domestic cat; Contraception; Reversible; Melatonin implants

SEMEN QUALITY OF STALLIONS IN RESPONSE TO DEXAMETHASONE ADMINISTRATION

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Poor semen quality can have a dramatic economic impact to owners of breeding stallions. Semen quality may be affected by glucocorticoids (endogenous or exogenous) as they alter the release of male reproductive hormones and subsequently affect spermatogen-

esis. Dexamethasone, a glucocorticoid, is often used for anti-inflammatory therapy in stallions. There are anecdotal reports of decreased semen quality following administration of dexamethasone. The purpose of this study was to evaluate the effect of short-term anti-inflammatory doses of dexamethasone on sperm quality. Stallions ($n = 6$) with normal semen quality were collected for a 10 d period to determine their daily sperm output (DSO). Total sperm numbers on days 8–10 of semen collection were averaged and used to calculate DSO. After determination of volume and sperm concentration, semen was diluted with warmed (37°C) semen extender to a concentration of 25 million/mL. After dilution, sperm motility (total; TMOT and progressive; PMOT) and curvilinear velocity (VCL) were determined using computer assisted semen analysis. Following the 10 days collection period, stallions ($n = 3$ per group) were randomly assigned to treated (0.1 mg/kg of dexamethasone IV; DEX) or control (25 mL injection of saline IV; CON) groups, with the groups being balanced for semen quality. Treatments were administered twice at 24 h intervals. Three days post-treatment; semen from all stallions was collected again for 10 days to determine DSO. Sperm samples from the last day of the pre- and post-treatment 10 days collection periods were examined using differential interference microscopy ($1250\times$), to evaluate the morphologic profile. Total testicular volume (mL) was determined pre- and post-treatment via ultrasonography. A two way, repeated measures ANOVA was used to evaluate the effects of time, treatment, and time $\times$ treatment with $P < 0.05$ considered significant. Total sperm numbers did not differ between treatment groups ($P > 0.1$) before or after treatment nor between pre- and post-treatment within the DEX group ($P = 0.9$). Motion characteristics (TMOT, PMOT, and VCL) did not differ ($P > 0.3$) between or within groups before or after treatment. Percentage of normal sperm did not differ ($P > 0.5$) between or within groups before (CON = 66.3 ± 25.6 ; DEX = 74.7 ± 14.5) or after treatment (67.3 ± 24.4 ; DEX = 77.0 ± 5.0). Testicular volume also did not differ ($P > 0.3$) between or within groups before (CON = 319.6 ± 83.5 ; DEX = 290.4 ± 100.2) or after treatment (298.3 ± 50.9 ; DEX = 234.1 ± 25.9). Results of this study indicate that practitioners can give short-term anti-inflammatory doses of dexamethasone to stallions without adversely affecting sperm quality.

Keywords: Stallion; Sperm quality; Dexamethasone