Effectiveness of etonogestrel implants on estrus suppression in mares

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The objective is to evaluate a human contraceptive implant (Implanon®, Organon labs, Cambridge, UK) as a reliable method to suppress behavioral estrus in mares.

Twenty healthy mares were randomly assigned to 4 groups (n=5). Group 1: control (no treatment), Group 2: one Implanon® subdermal implant (68 mg etonogestrel), Group 3: two implants (136 mg); and Group 4: positive control, 0.044 mg/kg altrenogest (Regu-Mate®, Intervet/Schering Plough Animal Health, Whitehouse Station, NJ) orally daily.

Behavioral estrus was evaluated twice weekly by a blinded observer. Estrous cycles were monitored for three months by weekly progesterone levels and twice weekly transrectal examinations. Interestrus interval (IEI) was determined based on behavioral estrus (teasing scores) and progesterone levels (below 1.0 ng/ml).

Mean IEI (± SEM) per group, based on teasing and progesterone levels respectively, were as follows: Group one: 21.2±0.3 and 21.7±0.4 days; Group two: 34.5±8.2 and 31.4±6.4 days; Group three: 42.7±14.1 and 41±14.4 days; Group four: 111.2±1.3 and 48±0.9 days.

In group four, estrus behavior was suppressed during the entire study period. Group three had an IEI twice as long as group one, which is clinically meaningful; however, no statistical difference was found between groups one, two and three. Group four was different from all other groups (P<0.05) based on teasing observations. The IEI determined by teasing and progesterone levels were highly correlated (r=0.91).

In conclusion, etonogestrel was not consistently effective for estrus suppression in mares at either dose (68 or 136mg). Future studies with a higher dose would be necessary to determine the efficacy of etonogestrel in suppressing behavioral estrus in mares.

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