Ovarian Response to Injectable Deslorelin During Anestrus in Mares

Farhad Ghasemi, DVM; Stephen T. Manning, DVM, MSc, Diplomate ACT; Alexandra Rauch, DVM; Nora-Katarina Huaman Chavarria, DVM; and Claire E. Card, DVM, PhD, Diplomate ACT*

Administration of deslorelin to anestrous mares resulted in follicular development and fertile ovulation. Authors’ address: Department of Large Animal Clinical Sciences, Western College of Veterinary Medicine, University of Saskatchewan, Saskatoon, SK, Canada S7N 5B4; e-mail: claire.card@usask.ca. *Corresponding author. © 2010 AAEP.

1. Introduction
Induction of ovarian activity in anestrous mares is desirable. The objective was to use deslorelin in anestrous mares to stimulate ovarian activity.

2. Materials and Methods
Mares, 3–20 yr of age, were monitored weekly in January 2010 using ultrasound and defined as anestrus if no luteal tissue or follicles ≥21 mm were present for ≥2 wk. Mares (n = 8/group) were randomly assigned to either control (no treatment) or twice daily Deslorelina treatment (62.5 μg, IM, q 12 h) until a 35-mm follicle was detected or for a maximum of 14 days. After detection of a 35-mm follicle, 2000 IU human chorionic gonadotropin (hCG) was administered IM, and mares were inseminated 24 h later with >200 million progressively motile sperm. Mares were rebred every 48 h until ovulation or for up to 96 h after hCG. Pregnancy status was determined by ultrasound. Data were analyzed with the Shapiro-Wilk test and Kruskal-Wallis tests at p < 0.05.

3. Results
Deslorelin treatment resulted in more mares (seven of eight; 87.5%) developing follicles ≥35 mm (p = 0.0033) and (six of eight; 75%) receiving hCG treatment (p = 0.0117) compared with control mares. One mare ovulated before hCG was administered and was not bred. The ovulation rate was four of eight (50%) for deslorelin-treated mares and zero of eight (0%) for control mares. Median duration of deslorelin treatment was 12 days (range, 6–14 days), with an interquartile range of 2.5 days. Three of the six mares treated with hCG ovulated (48, 96, and 120 h) and became pregnant, and three others had large (>40 mm) static follicles.

4. Discussion
Reports of the ovarian response to deslorelin implants or injectable formulations in transitional
mares also showed acceptable ovulation rates. In this study, twice daily deslorelin treatment induced follicular development and fertile ovulation in anestrous mares.

Footnote

*Deslorelin, BET Pharmacy, 1501 Bull Lea Road, Lexington, KY 40511-1209. Deslorelin is a compounded substance which is not approved by FDA for use in horses.