Influence of immunization against GnRH on reproductive cyclicity and estrous behavior in the mare

Summary / Zusammenfassung

The aim of this study was to evaluate the effect of active immunization against GnRH on ovarian activity, plasma progesterone and estradiol concentrations and on estrous behavior in adult mares. Eighteen cyclic mares were randomly divided into a treatment and control group. Nine mares were immunized twice with 2 mL (400 mg GnRH-protein conjugate) of a GnRH-vaccine (Improvacâ, CSL Limited, Australia) administered intramuscularly, 4 weeks apart. Control mares received the same amount of saline solution. Ovaries and uterus of all mares were examined weekly by ultrasonography from 3 weeks before to 60 weeks after first immunization. Thereafter, vaccinated mares were evaluated monthly until 100 weeks after first vaccination. In addition, mares were teased with a stallion for assessment of estrous behavior and blood was collected for progesterone, estradiol-17β and GnRH antibody titer determination. Results demonstrate that vaccination against GnRH significantly (P<0.05, progesterone >1 ng/mL) while 3 mares showed only follicular activity (follicles >3 cm) and 1 mare remained completely suppressed for the entire duration of the study. In spite of ovarian suppression, 4 mares expressed sporadic and 1 mare continuous estrous behavior. In conclusion, reproductive cyclicity in adult mares can be successfully suppressed by immunization against GnRH but the timing of resumption of cyclicity is highly variable and estrous behavior may occur in spite of ovarian suppression.

Publications / Publikationen


Keywords / Suchbegriffe

Mare, GnRH-vaccine, ovary, follicles, progesterone, estradiol

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