

## Gonadotropin Releasing Hormone Vaccination for Immunocastration in Male Dogs

**K Peed and M Kutzler:** Oregon State University, College of Veterinary Medicine, Corvallis, Oregon, USA

**S Lamb:** Cornell University, Animal Health Diagnostic Center, Endocrinology Laboratory, Ithaca, New York, USA

The purpose of this study was to determine if a commercial canine gonadotropin releasing hormone (GnRH) vaccine labeled for the management of benign prostatic hyperplasia would also be effective for immunocastration of male dogs. The hypothesis was that, in addition to stimulating anti-GnRH antibody formation and decreasing testosterone concentration, vaccination against GnRH would decrease male reproductive behavior.

Intact postpubertal dogs (n=6) received two (1-mL) subcutaneous injections of Canine Gonadotropin Releasing Factor Immunotherapeutic® vaccine (Pfizer Animal Health, Exton, Pennsylvania)<sup>1</sup> at 4-week intervals. Blood samples were collected at the time of the initial vaccination (week 0) as well as at week 4, 8, 12, 16, and 20. Serum GnRH antibody titers were determined by an enzyme linked immunosorbent assay. Serum testosterone concentrations were measured using a double antibody radioimmunoassay (Diagnostic Products Corporation, Los Angeles, California).

There was little to no change in behavior. No GnRH antibodies were detected at week 0 but all dogs had detectable titers by week 8. GnRH antibody titers decreased after week 12. Mean±SD testosterone concentrations were consistent with those of castrated dogs at weeks 8 and 12, which was significantly lower than week 0 (Figure 1). However, testosterone concentrations began to increase when GnRH antibody titers fell. In conclusion, this vaccination protocol results in a short period of immunocastration in male dogs with inconsistent effects on sexual behavior.

<sup>1</sup>This product is no longer commercially available.

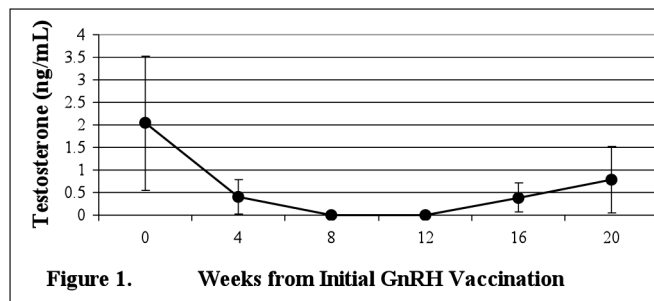


Figure 1. Weeks from Initial GnRH Vaccination