Vaccine for Hyperadrenocorticism?

In this pilot study, 4 dogs were inoculated with a recombinant hyperadrenocorticism (ACTH) vaccine every 4 weeks for 12 weeks. A pretreatment ACTH response test was performed one week before treatment and again at weeks 12 and 15. Additional serum for anti-ACTH antibodies was collected 2 weeks after every treatment. Vaccination resulted in the production of anti-ACTH antibodies in all of the treated dogs. Initial titers were high but decreased by the end of the monitoring period (week 15). With regard to plasma cortisol concentrations, there was no difference in ACTH response test between control and treated dogs pretreatment. A significant reduction in plasma cortisol concentrations was noted after ACTH response testing in 2 of the dogs at week 12 but not at week 15.

**Commentary**

Current medical management of hyperadrenocorticism is targeted at suppressing production of cortisol at the level of the adrenal gland with mitotane or trilostane. Although medical management is effective, treatment requires frequent monitoring and can result in potential adverse effects (eg, hypoadrenocorticism).

Although this novel therapeutic concept shows promise, the ACTH vaccine protocol evaluated did not suppress cortisol production reliably or long enough to recommend this as a treatment for dogs with pituitary-dependent hyperadrenocorticism. Future studies may evaluate different ACTH vaccine formulations or inoculation protocols that may be more effective. If a variation in the ACTH vaccine or protocol does result in a reliable reduction in cortisol production, I would have the following concerns: 1) ability to adjust the dose for individual patients, 2) potential for reactions with repeated administration, and 3) decreased efficacy in hyperadrenocorticism patients from an immunosuppressed state.—Laura A. Nafe, DVM, MS, DACVIM

**Source**


Potential New Screen for UTIs

Microscopic urine sediment examination, common in-clinic screening method for diagnosing urinary tract infections (UTI), is predictive of infection when coupled with urine culture and urinalysis bacterial results. It is only useful, however, when bacteria numbers in unstained urine are ≥10,000 rods/mL or ≥100,000 cocci/mL. The Accutest Uriscreen (accutest.com) is a catalase-based test for detection of bacteriuria and pyuria. These enzymes are found in most bacteria that infect the urinary tract as well as within somatic cells. It is currently used as a screening test for UTI in humans, but has not been validated for use in dogs and cats.

In this study, 165 urine samples were evaluated for UTI based on bacterial culture, sediment evaluation, or Uriscreen. Twenty-seven samples were positive on bacterial culture; 24 of these tested positive with the Uriscreen. Of the 138 samples that cultured negative, 98 were negative on the Uriscreen (specificity, 71%). The Uriscreen was found to be more sensitive than sediment evaluation for the detection of UTI (89% vs 78%, respectively). False-positive results were common, but UTI was unlikely if results were negative. Limitations include the need for a urine culture and the potential for false-positive results caused by somatic cells in the absence of bacteria or presence of dysplastic cells.

**Commentary**

The Uriscreen test may be useful, especially in cases of occult UTI associated with upper urogenital tract infection or increased morbidity. Unfortunately, the test could add to cost without contributing greatly to the diagnostic or prognostic plan, as it has a high number of false-positive and false-negative results. There is no perfect test for urine. The Uriscreen may improve positive predictability of UTI when used with a routine urinalysis while waiting on urine culture results.—Heather Troyer, DVM, DABVP, CVA

**Source**