

## Diagnosis and treatment of naturally occurring hypoadrenocorticism in 11 dogs

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**Signalment:** Hypoadrenocorticism was diagnosed in 11 dogs over 4-year period at Royal Animal Medical Center. Definitive diagnosis was made based on lack of adrenocortical response to exogenous adrenocorticotrophic hormone (ACTH) and high level of endogenous plasma ACTH concentration. The dogs ranged from 13 months to 9 years old. 6 dogs were female and 5 dogs were males. There were 2 Miniature Schnauzers, 3 Shih-Tzus, 3 malteses, 1 poodle, 1 Yorkshire terrier and 1 Pomeranian.

**Results:** Most dogs had chronic nonspecific signs such as poor appetite, shivering, lethargy and vomiting, but 3 dogs were in acute adrenal crisis at the time of diagnosis. 2 dogs revealed mild anemia and 3 dogs revealed hemoconcentration at the time of diagnosis, but 3 dogs revealed mild to moderate anemia after rehydration. Serum biochemical testing revealed mild to severe azotemia, hyperphosphatemia, hyperkalemia and hyponatremia in almost all the dogs. All dogs had a low Na:K ratio ( $< 27:1$ ). On urinalysis, urine specific gravity was  $< 1.030$  even though dogs were azotemic and hypovolemic. Radiographic findings included microcardia (7), narrowed caudal vena cava (7), and microhepatia (5), but there was no megaesophagus. Fludrocortisone acetate was initially used for mineralocorticoid replacement in all dogs. The daily dose of fludrocortisone increased significantly during the treatment period from an initial dose of 0.02 mg/kg to a final dose of 0.025 to 0.1 mg/kg. Prednisone was initially administered to 7 dogs, but was discontinued over 1 to 4 months after administration. 10 dogs were considered to have a good to excellent response to therapy, but 1 dog had a poor response to therapy.

**Clinical relevance:** If the patients have a hypovolemic signs, azotemia, and/or low urine specific gravity ( $< 1.030$ ), as well as low Na:K ratio ( $< 27:1$ ), clinical veterinarians have to suspect them with hypoadrenocorticism and test them with ACTH stimulation testing. Because response to therapy is good to excellent, clinicians have to emphasize the owners to treat their dogs with fludrocortisone acetate.

**Key words:** hypoadrenocorticism, fludrocortisone, ACTH stimulation test.

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