



ADDISON'S DISEASE (Hypoadrenocorticism) IN DOGS

Addison's disease is a disorder of the adrenal glands in which the production of adrenal hormones (*glucocorticoids* and *mineralocorticoids*) is insufficient. This condition most commonly results from disease affecting both adrenal glands. Less commonly, abnormalities in the hypothalamus and pituitary gland (which control the adrenals) cause Addison's. It is thought that primary Addison's may be caused by immune mediated destruction of the adrenal gland's hormone producing cortex. Secondary Addison's may be caused by excessive or long-term steroid use, such as those prescribed for conditions such as allergies. Animals on long-term steroid therapy sometimes stop producing their own glucocorticoids.

How is Addison's disease diagnosed?

Addison's can affect any dog, but it is most commonly found in young to middle aged neutered female dogs. Symptoms include poor to no appetite, lethargy, weight loss, weakness, vomiting, diarrhea, and collapse. Because these symptoms are common to several other illnesses and signs can vary greatly from dog to dog, Addison's disease is often hard to recognize in a patient. We often may suspect the syndrome in dogs that have repeated bouts of the above signs over time. Some dogs, left untreated, can progress to an "Addisonian crisis" characterized by profound weakness, collapse, vomiting and diarrhea. These dogs may also present with cardiac abnormalities due to elevated potassium levels in their bodies.

Diagnosis is based on clinical signs and bloodwork. Electrolyte levels may be abnormal. Many Addisonians have the "classic" low sodium (hyponatremia) and high potassium (hyperkalemia). A ratio of sodium:potassium of less than 27 is suggestive, but not definitive for Addison's disease. Many Addisonians will also be azotemic (elevated blood urea nitrogen and creatinine). Definitive diagnosis is usually made via the ACTH stimulation test, in which a blood sample is obtained before and after giving an injection of a hormone designed to stimulate the adrenal gland. Dogs with Addison's disease will show little to no response to the hormone.

How is Addison's disease treated?

Dogs that are in a crisis situation require immediate emergency treatment, which may include fluid support, medications to treat heart complications, and even treatment with mineralocorticoids and glucocorticoids before a full workup for the disease can be performed. Patient stabilization is the first priority.

It is important to remember that Addison's disease is an incurable condition requiring long-term management. A long-acting injectable drug called *Percorten-V* (desoxycorticosterone pivalate) is given at intervals of 25-30 days according to the dog's needs to replace the mineralocorticoids. Alternatively, an oral medication called *Florinef* (fludrocortisone acetate) may be given on a daily basis. Prednisone is used on a daily basis for glucocorticoid replacement.

Frequent monitoring of the Addisonian dog is vital. Following the sodium, potassium, and blood urea nitrogen levels on an ongoing basis allows us to establish the most effective medication dosages for your pet. Once your dog is regulated we recommend exams at least twice yearly, as poorly controlled dogs are at risk for life-threatening complications.

In summary, Addison's disease is a condition resulting from an insufficient production of hormones by the dog's adrenal glands. While it is not curable, the prognosis for Addison's disease is excellent with proper management. With diligent veterinary care and informed, observant owners most Addisonian's live their full, normal lifespan. Please do not hesitate to contact our office with any questions you may have concerning Addison's disease.