

Addison's Disease

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Addison's disease (also called hypoadrenocorticism) is a treatable endocrine disorder in which the adrenal gland does not produce hormones necessary for normal cell function. Most commonly, patients with Addison's disease are deficient in two different types of hormone – glucocorticoids/cortisol and mineralocorticoids/aldosterone, but some patients are only deficient in glucocorticoid (called atypical Addison's disease).

Cause

Addison's disease occurs most commonly when the adrenal gland atrophies (shrinks) due to an inappropriate immune system response. Medications that are used to treat Cushing's disease can also cause a temporary or, in rare cases, permanent destruction of the adrenal gland. Certain breeds of dogs are predisposed to the development of immune destruction of the adrenal gland.

Clinical Signs

Cortisol helps maintain cellular integrity and energy during physical and emotional stress. Aldosterone manages electrolyte (mostly sodium and potassium) and fluid balance in the body. Addisonian patients present for lethargy, dehydration and gastrointestinal signs, often after a period of physical (surgery, an injury) or emotional (boarding, houseguests) stress. In some instances, the electrolyte imbalance results in life-threatening heart arrhythmias. Most commonly, Addisonian patients will be missing both forms of hormone (glucocorticoid and mineralocorticoid), less commonly, patients are only missing glucocorticoid hormone.

Clinical signs of Addison's disease vary with the stage and severity of the disease. Many patients present for intermittent lethargy and gastrointestinal signs (vomiting, diarrhea, poor appetite), while others are in shock and severely dehydrated with electrolyte and biochemical abnormalities and cardiac conduction issues. Patients with atypical Addison's disease often have vague, less severe gastrointestinal signs or low energy after stress.

Diagnosis

When blood test results or clinical signs suggest Addison's disease, a two-step blood test called an ACTH stimulation test will be recommended. This test should be done as soon as this disease is suspect because some of the medications used to treat shock can affect the results. An ACTH stim is the definitive test for Addison's disease.

Treatment

Addison's disease is treated by supplementing the patient with the missing hormones.

Mineralocorticoid/aldosterone supplements come in either a daily oral form (called Florinef or fludrocortisone) or an injectable form (called DOCP or Percorten) that is given every 3-4 weeks. Glucocorticoid/cortisol (prednisone) supplements come in a daily oral form. During the early stage of therapy, the dose of each medication is adjusted based on clinical response and blood tests. Because cortisol is a stress hormone, the dose of this medication is increased during periods of stress (boarding, surgery, houseguests). Patients with atypical Addison's disease only need supplementation of glucocorticoid hormone.

Prognosis

Most patients with Addison's disease survive for years on medication with good compliance and routine follow up care with a veterinarian. Patients that have suffered through a crisis can have some organ damage that requires monitoring.

Long-Term Follow-Up

Recheck evaluations (physical exam, electrolyte levels) on a consistent basis are necessary to adequately manage this disease. In general, for the oral form of medication (Florinef) recheck electrolytes are monitored every one to two weeks until the patient is stable. For patients on the injectable form of medication (DOCP/Percorten), electrolytes are checked midway through therapy and then again on the day of the next scheduled injection until stable. Once the Addisonian patient is stable on medications, recheck electrolytes can be checked every 4-6 months or so thereafter. After some training, many families learn to do monthly injections at home. The patient should also be monitored at home for signs of poor control (depression, poor appetite, lethargy, and/or change in water consumption) that might warrant a recheck examination.