



Peak Veterinary Specialists

4630 Royal Vista Circle Unit #11
Windsor, CO 80528

970-674-1775
Fax 970-674-0900

ADDISON'S DISEASE (Hypoadrenocorticism)

THE ADRENAL GLANDS AND THEIR HORMONES

The adrenal gland is so named because it is located near the kidney ("renal" means kidney). The center of the gland is called the "medulla" and the outer area is called the "cortex." While both areas produce hormones, Addison's disease concerns the hormones produced by the cortex. These hormones are called glucocorticoids and mineralocorticoids. Glucocorticoids are the hormones that enable us to adapt physiologically to stress. They ready the body for a fight or flight situation. The mineralocorticoids maintain normal sodium and potassium concentrations.

WHAT IS ADDISON'S DISEASE?

In animals with Addison's disease, there is a deficiency of the glucocorticoids plus or minus the mineralocorticoids. This can be caused by autoimmune destruction of the adrenal glands, trauma, infections, cancer, or medications.

CLINICAL SIGNS

Patients are usually young female dogs (rarely occurring in cats). At first, signs are very vague—listlessness and/or some vomiting or diarrhea. The disease may result in an "Addisonian crisis". The animal collapses in shock due to its inability to adapt to stress. Blood sugar may drop dangerously low. Potassium can increase and cause dangerous disturbances in heart rhythm. Sometimes, the disease comes on slowly. These dogs lose weight, have poor appetites, and intermittent vomiting and diarrhea.

DIAGNOSIS

Addison's disease is diagnosed by a combination of patient history, physical exam findings, and lab results. The history of weakness, loss of appetite, vomiting or diarrhea in a young dog may increase the index of suspicion. The lack of history of physical exam findings to suggest toxin or foreign body ingestion is also helpful. Low blood sugar, low serum sodium, high serum potassium, and high serum calcium along with high kidney indicators may be present when blood work is performed.

The only definitive test for Addison's disease is the ACTH stimulation test. Serum cortisol concentrations are measured before and after the patient receives a dose of ACTH. The pituitary hormone is responsible for the release of corticosteroids in times of stress. A normal animal will show an elevation in cortisol in response to ACTH while an Addisonian has minimal if any cortisol. This lack of response to a dose of ACTH is diagnostic for Addison's disease.

TREATMENT

The initial treatment of an Addisonian crisis is intravenous fluids and dexamethasone to reverse the shock state. Usually, the patient with Addison's disease will improve quickly with this therapy. Other therapies may include the addition of glucose or bicarbonate to the fluids or heart medications, if abnormal heart rhythms are present.

Once the patient is stable, more specific treatments include hormone replacement. Prednisone replaces the missing glucocorticoid. It is usually given daily to start and may be discontinued in some cases or used only during times of stress. Florinef replaces the missing mineralocorticoid and normalizes sodium and potassium levels in the blood. Florinef is given once to twice a day at a dose determined by the patient's sodium and potassium blood tests. At first, these electrolytes are monitored weekly. When levels seem stable, these blood tests are repeated 2-4 times per year. Often with time, it will be found that the dose of Florinef needed to control the Addison's disease will increase. Since Florinef has glucocorticoid activity as well as mineralocorticoid activity, it may not be necessary to use prednisone with it.

Another mineralocorticoid medication is called DOCP. DOCP is given by injection approximately every 25 days. Electrolytes are measured prior to injections at first but testing can usually be tapered 2-4 times a year. Patients receiving DOCP do require glucocorticoid supplementation, such as a low dose of prednisone.

PROGNOSIS

With treatment and monitoring, patients can have a normal life span and an excellent quality of life!

If you have any questions regarding this information, please contact Peak Veterinary Specialists.