

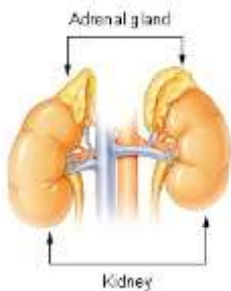


Addison's Disease

Hypoadrenocorticism, commonly referred to as Addison's disease, is a disease where the adrenal glands cannot produce needed steroid hormones. Any age or breed of dog may be affected. The disease is rare in cats.

Understanding the Body

The body normally produces steroids to maintain body function. The pituitary gland is located in the brain and controls the steroid release from the adrenal glands, which are located near the kidneys. The body has a delicate response system to keep everything in check and make sure the body has the needed steroids at the needed time.



The body has a delicate response system to keep everything in check and make sure the body has the needed steroids at the needed time.

The adrenal glands contain three main types of steroids: mineralocorticoids, glucocorticoids, and sex hormones. Mineralocorticoids maintain water and salt balances within the body.

Glucocorticoids are responsible for many body functions including glucose regulation, immune response, stress response, and normal gastrointestinal function.

Sex hormones include testosterone and estrogen and are responsible for sexual characteristics and reproduction. Addison's disease does not affect sex hormones.

Types of Addison's disease

There are two forms of Addison's disease: typical and atypical. Typical is the most commonly seen form and involves loss of both glucocorticoid and mineralocorticoid steroids.

Atypical Addison's disease is less common and involves only the loss of glucocorticoid steroids.

Causes

The most common cause of Addison's disease is the destruction of the outer portion of the adrenal glands that makes glucocorticoids and mineralocorticoids. A defective immune response may cause it, but commonly we don't know what causes the destruction. Rarely, an infection such as Blastomycosis (a fungal infection) may cause the damage.

The second most likely cause of this disease is due to a sudden decrease in steroids that someone is giving a pet (without stepping down the dose). When we have supplied the body with glucocorticoids (such as prednisolone), the adrenal gland starts to shut down. By stopping the supply of steroids too quickly, the body doesn't have time to reactivate the adrenal gland and the body is left without enough steroids.

Signs

The signs reflect the lack of steroids. Without mineralocorticoids, the body is not able to maintain the salt and water balance. This causes changes in blood pressure, body waste products, and electrolytes. Your dog may be weak, dehydrated (thus drinking more), urinate more, have a decreased appetite, and be depressed.



Without glucocorticoids, the body is not able to perform many of the normal body functions. This can cause your dog to have weakness, vomiting, diarrhea, stomach ulcers, decreased blood sugar (hypoglycemia), and an inability to handle stress.

Often these signs wax and wane over weeks or months. They tend to become worse during times of stress since the body is unable to respond properly.

Diagnosis

Unfortunately, Addison's disease can look like many other diseases. Lab tests will rule out other diseases as well as look for Addison's disease. An ECG will look for signs of abnormal electrolytes that affect the heart. X-rays of the chest look for signs of aspiration in the lungs due to vomiting.

A special test, an ACTH stimulation test, will confirm the diagnosis. With this test, the cortisol (a natural steroid produced by the adrenal gland) levels are tested with a blood test. An injection of medicine is given that would normally stimulate cortisol to increase.

After the injection, another blood test is taken to measure the cortisol levels again. A normal dog will have an increase in their cortisol levels because of the injection. A dog with Addison's disease will not show a change because the adrenal glands are not able to release cortisol.

Treatment

Treatment for Addison's disease involves supplementing the body with the missing steroids. Since there is usually a shortage of two kinds of steroids, two different kinds of medicine are given.



For a dog that is very sick, these medicines are given as injections initially (to avoid them being vomited).

Intravenous (IV) fluids will correct dehydration and electrolyte imbalances. Depending on the severity of signs, other treatments may be needed. Long-term treatment begins as your dog improves.

Long-term treatment for Addison's disease involves monthly mineralocorticoid injections (Percorten-V) and daily glucocorticoid medicine (usually prednisolone tablets).

During times of stress, such as a car ride or vet visit, your dog should receive extra glucocorticoid supplementation to help mimic the body's natural response. It's important to remember that you must give these medicines indefinitely.

Prognosis

If treatment is prompt and intensive, prognosis is excellent. Most dogs show great improvement within 24 hours of appropriate treatment. A dog with controlled Addison's disease can live a normal lifespan.

