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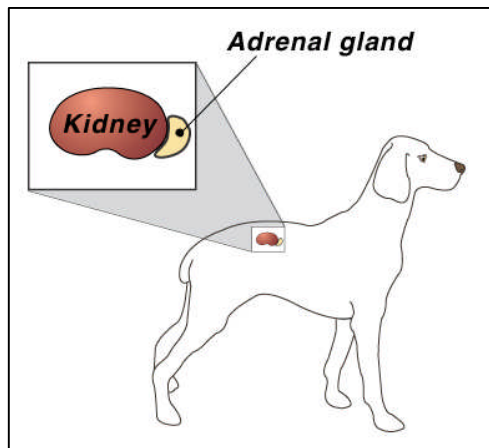
ADDISON'S DISEASE

What is Addison's disease?

Addison's disease is the common name for *hypoadrenocorticism*. Hypoadrenocorticism is a condition where there is diminished or lowered hormone production from the outer part or *cortex* of the adrenal gland.

What are the adrenal glands?

The adrenal glands are small, paired glands next to the kidneys. Each gland consists of an



outer cortex and an inner medulla. The glands produce several substances which regulate a variety of body functions and are necessary to sustain life. The most widely known of these substances is *cortisol*, commonly called cortisone or steroid, produced by the outer part of the adrenal cortex. Also produced by the cortex and equally important is *aldosterone*, which is a mineralocorticoid hormone. Aldosterone hormone regulates the electrolyte and water balance of the body and is involved in the excretion of potassium and retention of sodium.

Deficiency of these two hormones, cortisol and aldosterone, is referred to as Addison's disease.

What causes Addison's disease?

In the dog the main causes are direct injury to the adrenal gland tissue, infection or certain autoimmune conditions.

Primary hypoadrenocorticism may be caused by immune-mediated disease. It can also occur when treating Cushing's disease (hyperadrenocorticism), a disease in which too much cortisol and aldosterone are produced. Addison's disease may result when the drug used to treat Cushing's disease, Lysodren® (mitotane), destroys too much of the adrenal tissues, resulting in a deficiency of cortisol and aldosterone.

Addison's disease can also develop if a dog has been treated with long term steroids for any reason and the medication is suddenly stopped. This is known as iatrogenic hypoadrenocorticism.

Finally, Addison's disease can develop because of disease in the pituitary gland, located in the brain.

What are the clinical signs of hypoadrenocorticism?

Clinical signs of Addison's disease are usually vague and non-specific, and are similar to the symptoms seen in animals with more common medical disorders such as chronic gastroenteritis or renal diseases. There may be vomiting and weight loss. A waxing and waning course with diarrhea, increased thirst and urination is not unusual. Intermittent shaking episodes are also characteristic.

These animals will often improve with non-specific medical treatment. For example, the administration of fluids or corticosteroids appears to help temporarily, but the signs soon return. In a pet that experiences recurrent bouts of sudden lethargy, diarrhea and vomiting, increased thirst and urination or other non-specific illness, Addison's disease should be considered as an underlying cause.

What is an Addisonian Crisis?

Sometimes the condition takes on a much more serious form. There is sudden weakness, vomiting, diarrhea and sometimes collapse. This is an **Addisonian crisis and is considered a medical emergency**. Under these circumstances urgent hospitalization and supportive treatment will be necessary.

How is Addison's disease diagnosed?

Diagnosis is based on your pet's medical history and clinical signs, coupled with the results of blood and urine tests. The most common diagnostic tests are the ACTH-stimulation test and the low-dose dexamethasone suppression (LDDS) tests. Your dog will probably have to be admitted for the day to perform the necessary tests. Additional tests such as radiographs or abdominal ultrasound are performed in suspicious cases or to rule-out another cause for your pet's clinical signs.



How is Addison's disease treated?

Once a diagnosis of hypoadrenocorticism has been made, most dogs can be successfully treated with oral medications. Your dog's diet and activity levels can often remain unchanged. The majority of dogs resume normal lives, ever after an Addisonian crisis.

It will be necessary to monitor progress carefully, particularly at the start of treatment. This may involve occasional hospitalization for monitoring and follow-up testing.

It must be emphasized that lifelong replacement of both the glucocorticoids (cortisol) and mineralocorticoids (aldosterone) may be necessary. Some of these medications may have to be increased during periods of stress, such as when traveling, if your dog is going to be boarded, or if your dog has to undergo surgery. In addition, your veterinarian will have to see your pet at fairly frequent intervals to ensure that stabilization is satisfactory. This usually involves simple follow-up blood and urine tests and routine ACTH-stimulation tests or LDDS tests. .

What is the prognosis for a dog diagnosed with Addison's disease?

The vast majority of patients with Addison's disease have a good to excellent prognosis once the diagnosis has been established and they have been stabilized with the appropriate drugs. If you wish to discuss the long-term prognosis for your pet, please do not hesitate to contact your veterinarian.

This client information sheet is based on material written by Ernest Ward, DVM.
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