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Addison's disease in dogs

Addison's disease is a condition that occurs when the adrenal glands stop producing enough cortisol and in some cases aldosterone. It is also known as hypoadrenocorticism.

The adrenal glands are two small glands located above the kidneys. They produce glucocorticoids (cortisol) which enable the body to deal with stress; and mineralocorticoids which regulate water balance, blood pressure and the quantities of sodium and potassium in the bloodstream.

In Addison's disease, the adrenal glands stop producing these hormones. In most cases this is because the body's immune system destroys the adrenal glands. The reasons for this are not well understood, as with many auto-immune type problems.

Addison's disease can also be seen in dogs that suddenly stop long-term steroid therapy. When Addison's disease is triggered in this way it is referred to as secondary Addison's disease.

What are the symptoms of Addison's disease?

Addison's disease is often difficult to pick up as it begins very gradually with symptoms that are vague and similar to those of many other diseases. Possible signs are anorexia, vomiting, weakness, lethargy and depression, and these tend to come and go without any treatment.



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If Addison's disease is not detected in the early stages, the dog may become critically ill. Unfortunately, it is often not until this occurs that the diagnosis is made. These animals collapse and are found with pale mucus membranes, a slow heart rate, weak pulses and cold extremities. Vomiting and abdominal pain are also common features.

Diagnosis

Addison's disease may be suspected on the basis of the symptoms that a dog is showing. Blood tests performed at the surgery may be suggestive for the condition if they reveal an imbalance in the levels of sodium and potassium in the blood. An ultrasound scan may demonstrate small adrenal glands. However, the only definitive test to diagnose the condition is an ACTH stimulation test. This test requires two blood samples to be taken one hour apart, they are submitted to an external laboratory for analysis. The results are usually available in 1-2 days.

Treatment

Initial treatment of a dog in severe Addisonian collapse requires large volumes of intravenous fluids, and steroid injections to replace the hormone that the adrenal glands are unable to produce. The veterinary staff will do everything possible to get the body temperature back up to normal and treat all of the other secondary problems associated with an animal in shock.

Once the patient is stabilised, (and in those animals that are diagnosed before they reach such a critical state) treatment involves replacing the hormones that a healthy adrenal gland



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would produce. Since the adrenal gland produces two major types of steroid hormone (glucocorticoids and mineralocorticoids) we treat this disease by prescribing Prednisolone tablets (a glucocorticoid) and Zycortal injections (a mineralocorticoid).

After the initial period of treatment, most dogs do not require daily Prednisolone treatment and can be maintained with Zycortal injections only (usually once per month). However, prednisolone tablets will still be required at periods of stress in your dog's life, and a small number of dogs require both medications long-term.

When a patient is first beginning treatment, repeated blood tests are required to determine exactly how often the Zycortal injections are lasting in this particular patient, so that an ongoing regime can be finalised.

Prognosis

Addison's disease is treatable but not curable – dogs require daily medication for life. Once the initial collapse/crisis has been managed, and medication has begun, the prognosis for dogs with Addison's disease is excellent. It is vital to keep up with the daily medication, and to have regular check-ups and blood tests as advised by your vet to ensure that the disease is well-controlled and to adjust the dose as necessary.

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