Arbor View Animal Hospital

Ferret Adrenal Disease

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What are the adrenal glands?

The adrenal glands are small, triangular-shaped glands found near the kidneys. They are responsible for producing hormones that help regulate many body functions including blood pressure, metabolism, stress responses ("fight or flight"), and immune function. Another important function is the production of sex hormones.

What is adrenal disease?

In ferrets, adrenal disease is caused by an overproduction of sex hormones. This is different than in dogs and cats, where the overproduced hormone is cortisol (Cushing's disease AKA hyperadrenocorticism). The adrenal tissue becomes either hyperplastic (increased cell numbers) or neoplastic (cancerous growth). This is one of the most common diseases seen in ferrets.

Why does this occur?

There are numerous reasons why adrenal disease may occur, but research is still ongoing. It is likely that there is a genetic component, as most ferrets in the US are produced by a single supplier and this disease is less common in other populations. The early age of spaying and neutering has also been a long-time suspect for the development of adrenal disease, as this may disrupt the normal pathways that help regulate hormone production. Daylength and light exposure have also been suggested, with light exposure over 8 hours also associated with an increase in hormone production.

What are the symptoms of adrenal disease?

Hair loss is the most common symptom. It often starts with patches of thin hair, particularly on the tail (AKA "rat tail"), but can progress to full-body hair loss. Many ferrets are also very itchy and may scratch sores into their skin. In males, the prostate may enlarge and lead to straining during urination. In females, the vulva may become enlarged. Some ferrets may become more aggressive or start showing breeding behavior even though they are spayed or neutered. Muscle loss and lethargy may occur as well. Tumors of the adrenal gland rarely metastasize (spread) to other organs. In very rare cases, bone marrow suppression has been reported.

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How do I know if my ferret has adrenal disease?

Your veterinarian will perform a thorough examination of your ferret and rule out other causes of their symptoms. Usually, a presumptive diagnosis based on clinical signs is made. Blood work, x-rays, or other diagnostics may be recommended to rule out different conditions. Hormone panels are also available but are less often utilized. Adrenal disease can occur at any age, but most commonly occurs in ferrets over 3 years old.

What are the treatment options?

There are two options: medical or surgical. A surgical approach involves removing one, both, or parts of the adrenal glands to remove the diseased tissue. Lifelong medications may be needed following the removal of both glands. Surgery is the only way to get rid of the tumor and cure the disease. More commonly, hormone injections or implants are now being utilized to replace the regulatory actions that prevent the overproduction of sex hormones. Both lupron and deslorelin mimic gonadotropin-releasing hormone (GnRH), which tells the body that no more sex hormones need to be made. Lupron is given as an injection that typically lasts around 3 months, whereas deslorelin is an implant that needs to be replaced yearly (it lasts 16-18 months on average). These hormones do not affect the tumor itself but do allow the ferret to live without the symptoms.

How long can a ferret live with adrenal disease?

Survival time is dependent on the severity of symptoms, which treatment is used, and the response to treatment. Adrenal disease symptoms are not commonly life-threatening, but there may be a quality of life concern due to the discomfort that occurs with the most common symptoms. Additionally, other diseases like insulinomas (insulin-producing tumors of the pancreas), lymphoma, or heart disease often occur simultaneously with adrenal disease. Most ferrets with adrenal disease can maintain an excellent quality of life with appropriate therapy.

How is adrenal disease prevented?

Spayed or neutered ferrets over the age of 1 can receive a deslorelin implant to prevent the development of symptoms. January-February is often considered the most ideal time to receive treatment, as this coincides with the start of increasing day length. This practice is becoming more commonly recommended and has shown to be quite effective. If a ferret is not spayed or neutered, deslorelin can also be used to chemically alter them and prevent breeding behavior. The implant will need to be replaced approximately every year, but it is becoming a more popular alternative to surgical altering (spaying and neutering). It is important to note that female ferrets not being bred MUST be either chemically or surgically altered. Female ferrets that go through estrus without breeding can overproduce estrogen, leading to estrogen toxicity and suppression of the bone marrow.