

The Ferret Endocrine System

The glands and hormones of a ferret's endocrine system play a major role in health and behavior.

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Diseases Of The Endocrine System

Three diseases of the endocrine system are seen in ferrets. The most common is adrenal gland disease, with insulinoma, cancer of the insulin-secreting cells of the pancreas, being the second most common. Diabetes is the third disease; fortunately it is still uncommon in ferrets.

Adrenal gland disease is the most common problem of middle-aged and older ferrets, and it is by far the most common ferret problem seen at my clinic.

Adrenal gland disease in ferrets is quite different than adrenal gland disease in dogs, cats, and people. In ferrets, the sex hormones and adrenal androgens are overproduced, but in dogs, cats and people cortisone is overproduced.

Common signs of adrenal gland disease include hair loss ("the bald ferret"), itchy skin, a noticeable increase in musky body odor, return of sexual or aggressive behavior, and enlargement of the vulva in females. Other signs may include prostate problems in males, estrogen-induced bone marrow toxicity and anemia, mammary gland enlargement, bladder infections, muscle loss, weight loss and lethargy.

Adrenal gland disease can be a serious and even fatal disease in ferrets, so it should be treated as soon as clinical signs are noticed.

Treatment of adrenal gland disease can be surgical and/or medical. In healthy ferrets less than 6 years of age, surgery is the first choice for treatment. During the surgery both of the adrenal glands are examined and the diseased gland or glands are removed.

In general it is easy to remove the adrenal gland on the left side of the abdomen, but it can be a challenge to remove the entire right adrenal gland, because it is usually attached to the caudal vena cava. The vena cava is the largest vein in the ferret's body. The surgeon has to be ready to repair the vena cava when removing the right adrenal gland.

In geriatric ferrets and ferrets with health problems that would make anesthesia and surgery a high risk, medical therapy may be the best treatment option. Because LH stimulates the adrenal glands to overproduce the hormones, medications that lower LH levels should stop the stimulation to the adrenal glands, stop the overproduction of hormones, and control the clinical signs of adrenal gland disease. Three current medications do this: Lupron depot (leuprolide), melatonin and Suprelorin (deslorelin). Lupron depot and Suprelorin work directly on the pituitary gland to stop LH production, while melatonin works on the hypothalamus to stop LH production. Medical treatment is needed for the rest of the ferret's life.

Insulinoma is a cancer of the insulin-secreting cells of the pancreas. Insulinomas are rare in dogs, cats and people, but they are the most common cancer in ferrets. Insulinomas overproduce insulin, which lowers the blood sugar level.

Common signs of insulinoma include weakness in the rear legs, anorexia, nausea, lethargy, mental dullness, weight loss, cataracts, seizures and even death.

Treatment for insulinoma can be surgical and/or medical. During surgery the pancreas is examined and as much as possible of the cancerous portion of the pancreas is removed. Medical treatment is used to raise and maintain the blood sugar level and consists of a high-protein, low-carbohydrate diet, Pediapred (prednisolone) and Proglycem (diazoxide). Pediapred works by raising the blood sugar level, and Proglycem works by lowering insulin secretion from the pancreas.

Unfortunately, over time insulinomas usually get worse and can end up being a fatal condition.

Diabetes is common in cats, dogs and people, but it is rare in ferrets. Diabetes can occur after long-term prednisolone use, after insulinoma surgery or all by itself.

The treatment of diabetes in ferrets is similar to the treatment for diabetic cats. The main components being a high-protein, low-carbohydrate diet, insulin (PZI or Glargine), and chromium.

The ferret endocrine system is quite complex and involves a lot of hormones that interact on different organs. Two of the most common ferret diseases affect the endocrine system. Fortunately these diseases can be controlled with surgical and/or medical therapy. <HOME>

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Dr. Jerry Murray practices at the Animal Clinic of Farmers Branch in Dallas. He currently has two senior ferrets (Bam-Bam and Mr. Slate) and one hyperactive Rottie (Katarina). Both of his ferrets are being treated for adrenal gland disease and insulinoma.