

Ferret Disease: Insulinoma

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All ferret owners should be familiar with pancreatic beta cell tumors, also called insulinoma disease, which are common in ferrets. Fortunately, a perceptive ferret owner will see evidence of this disease in its early stages. A recent study at our hospital showed that the earlier the disease is diagnosed in a ferret, the better the ferret's chance of living longer.

The signs of an insulinoma are insidious. Many owners do not know the ferret is sick until its blood sugar is so low that the ferret becomes lethargic and listless. At this point, the insulinoma has been present for months. The low blood sugar, called hypoglycemia, makes your ferret sick. Hypoglycemia results from too much insulin, which in turn causes the sugar concentration in the blood to be too low and important organs will begin to improperly function. When the brain's blood sugar gets dangerously low, ferrets may seizure or go into a coma.

Owners commonly misinterpret lethargy as geriatric changes, because older ferrets are usually more prone to develop insulinomas. The most common signs of an insulinoma are lethargy, depression, rear leg weakness, hypersalivation and gagging or pawing at the mouth. Infrequently, ferrets have seizures or go into a coma.

Most ferrets develop insulinomas between the ages of 4 and 5 years old. Commonly, the physical examination is normal, but if the blood sugar is very low at the time of the visit, the ferret will appear weak or nonresponsive. Your veterinarian will recommend blood tests to examine the health of your ferret. The vet will also probably recommend radiographs or an abdominal sonogram. If the insulinoma has progress and spread to the liver, it may be visible on the sonogram.

If your ferret has an insulinoma, your vet will give you three treatment options: medical, surgical or medical and surgical. With medical treatment, the two most commonly used medications are prednisone and diazoxide. These medications are given individually or at the same time. Prednisone increases the blood glucose concentration, while diazoxide inhibits the release of insulin into the blood stream.

When medication is used to treat an insulinoma, it is important that you recognize the signs of the disease as it progresses. Your vet will tell you how to determine when you need to increase the dose of medication and when you need to bring the ferret to the hospital. You must understand that medication only helps the signs of the disease - it does not stop the progression of the disease.

If you and your vet decide surgery is the best treatment for your ferret, you must consider a number of factors, including the age of the pet, the cost of surgery, the presence of concurrent disease, and the possible spread of disease. Above all else, you must be aware that it is unlikely surgery will cure an insulinoma. Surgery will only remove part of the tumor, and the insulinoma can and will recur.

During surgery, your veterinarian will examine not only the pancreas but also the adrenal glands, lymph nodes, liver and spleen. Any abnormalities will be biopsied or removed. Your vet may remove small nodules from the pancreas or part of the pancreas, but the whole pancreas cannot be removed. At the same time, a biopsy of the liver will be taken to determine if the insulinoma has spread to this organ.

After surgery, the care your ferret receives is directed toward keeping the blood sugar in the normal range. Your ferret may go home on medication, and its blood sugar should be rechecked 10 to 14 days after surgery.

The prognosis of ferrets with this disease depends on a number of factors, including how soon the insulinoma is diagnosed and the treatment the ferret receives. Our observations are that ferrets that undergo surgery live longer than ferrets treated only with medication.