

Ferret Neoplasia

A PowerPage Presented By



Ferrets make up only a small proportion of the questions you will be asked on board exams. Because there are a handful of unique and common diseases in ferrets, most of those questions will come from these. Neoplasia is the most common notable disease seen in domestic ferrets. The goal of this PowerPage is to review the common ferret neoplasms because they present uniquely in ferrets and need to be recognized. Other diseases and general ferret information are reviewed in the *Ferret General Information and Common Diseases PowerPage*.

Hyperadrenocorticism or Hyperestrogenism (Adrenal Associated Tumor)

- Prevalent and treatable syndrome in pet ferrets in US
- Common signs include
 - **Bilateral alopecia**
 - **Swollen vulva** and vaginal discharge, stump pyometra in spayed jill
 - Urinary blockage or dysuria in males
 - **Excessive mounting** behavior and aggression in both sexes
- Signs are secondary to hyperestrogenism due to adrenal tumor
- Called ferret hyperadrenocorticism but it is **NOT** like canine Cushing's disease with elevated cortisol levels; ferrets have elevated estrogen
- Chronic cases:
 - Anemia, bone marrow suppression
 - Muscle wasting
 - Posterior weakness and lethargy
- Most effective treatment is adrenalectomy of affected gland but this is sometimes difficult due to close proximity to vena cava
- Alternative medical treatments include:
 - Lysodren, an adrenal toxic agent
 - Lupron, an estrogen reducing GnRH agonist

Insulinoma

- Tumor of the pancreas derived from beta cells secreting insulin
- Beta cells normally secrete insulin in response to increases in blood glucose. Increased insulin lowers blood glucose to normal levels
- Insulinomas secrete unregulated amounts of insulin resulting in hypoglycemia
- Very common in ferrets > 5 years of age
- Glucose levels < 60 mg/dl (normal 80-120) are suggestive but insulin secretion may be inconsistent so glucose levels can vary
- **Hypoglycemia and neurologic signs** are most common symptoms
- Surgical removal of affected pancreas is commonly performed but recurrence rates are high (40% over 10 month post-op span)
- **Whipple's triad** is diagnostic:
 - Low fasting glucose level
 - Neurological signs typical of hypoglycemia
 - Relief of symptoms with administration of glucose or feeding

Lymphoma/Lymphosarcoma

- Two forms in ferrets:
 - Juvenile lymphosarcoma, < 2 years old
 - Fast-growing, aggressive lymphoblastic disease
 - Adult lymphosarcoma, > 4 years old
 - Slow-growing, chronic lymphocytic disease
- Poor prognosis
 - < 10% respond to chemotherapy
 - Short-term palliative relief may be achieved with administration of prednisone

Mast cell tumors

- Generally cutaneous, visceral involvement is rare
- Single or multiple raised, well-circumscribed, hairless nodules from 2mm to 1 cm
- May be associated with pruritus and cause self-excoriation
- Diagnosed and treated with surgical biopsy

