

Evergreen Avian & Exotic Animal Hospital

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Adrenal Disease in Ferrets

-Cathy A. Johnson-Delaney, DVM

Adrenal disease is extremely common in ferrets, with estimates of 100% by the time the ferret reaches old age (5-7 year lifespan). It is caused by stimulation from the brain (hypothalamus, pituitary) that sends out chemical signals (LH in particular – lutenizing hormone) to turn cells in the adrenal glands to produce sex hormones (testosterone, estradiol, progesterone). Many stimulated adrenal tissue likely produce excesses of histamine and in some cases cortisol as well. The constantly stimulated tissue of the adrenal gland progresses from a benign state to one of neoplasia (cancer). The tissue progresses from hyperplasia to adenoma to adenocarcinoma. The mechanism by which the pituitary/hypothalamus to adrenal stimulation starts is when the ferret is neutered or spayed. At puberty, LH is produced which in an intact animal would properly stimulate the ovaries or testicles. Without these end organs, the adrenal glands pick up the stimulation and begin producing sex hormones.

Signs of adrenal disease include itching, aggression, hairloss (especially starting with tail and rump), blackheads on the tail, prominence of teats, problems urinating (males – prostate enlargement), swollen vulva (females), vulvar discharge (females), abdominal enlargement, and other non-specific signs of not feeling well. It is possible females may become anemic due to the constant elevation of estradiol. Eventually the adrenal gland forms a tumor and can grow large, putting pressure on other organs and the gastrointestinal tract. The right adrenal gland may even compress the caudal vena cava, preventing normal blood return to the heart. The tumor may be painful and contribute to abdominal enlargement .

Diagnosis is made by presence of clinical signs with enlargement of the adrenal glands (seen on ultrasound), elevations in sex hormones (adrenal panel – bloodwork) and in some instances biopsies of the glands if an exploratory abdominal surgery is performed.

Treatment is aimed at stopping production of sex hormones. This is done medically using a synthetic hormone that causes the pituitary/hypothalamus to stop the stimulus hormone to the adrenal gland. Lupron (leuprolide acetate depot formulation) is given on a monthly basis. A newer form of therapy negates the need for the monthly lupron shot – this is another synthetic hormone called deslorelin which does the same thing lupron does: stops the production of sex hormones. Deslorelin (Suprelorin-F) is an implant that is given by injection and is similar in size to a microchip. The efficacy of this is for at least 1 year, whereupon the ferret receives another implant. In some circumstances ferrets can have the adrenal glands removed surgically. Determination if the ferret is a candidate for surgery is decided based on the ultrasound examination and other health parameters. Even with surgery, the ferret still needs to have the sex hormones suppressed.

Prevention of adrenal disease is probable by the use of the Suprelorin-F implant starting as young as 4 months of age. Any ferret can be implanted—the sooner the better for prevention of adrenal disease. All ferrets should be implanted on an annual basis.