

By Dr. Charles Weiss

POTENTIAL BENEFITS OF ADRENAL CRYOSURGERY

- Significantly less bleeding postoperatively
- Quicker recovery time
- More likely to completely destroy right adrenal tumors
- Shorter operative time
- Technically easier procedure for surgeon

In the ferret, adrenal disease is the most common problem we face, with an incidence of up to 70%. The two adrenal glands are small oval shaped organs, which are present in the abdomen, in front of each kidney. Adrenal disease is the result of adrenal tumors and hyperplasia, which produce an excess of hormones (estrogen and testosterone). It is this excess of hormones which result in the symptoms we see from this chronic, debilitating disease.

There are many symptoms present in ferrets with adrenal disease. Of these symptoms, there are three which are almost diagnostic when present alone or in combination, including alopecia (hair loss), an enlarged vulva and return to male sexual behavior. Ferrets with one or more of these symptoms are almost certain to have adrenal disease. Although the hair loss generally begins on the tail and base of the tail, the tops of the rear feet and over the shoulder blades, it can occur anywhere on the ferret's body. An enlarged vulva occurs in about 50% of the female ferrets afflicted with this disease. The vulva, located just below the anus, can become quite large. Secondary urinary tract infections can occur as a result of the enlarged vulva due to the pooling of urine. Return to male sexual behavior can occur in neutered male ferrets as a result of elevated testosterone levels. This behavior can include trying to mount a female spayed or another male ferret, or aggression toward other ferrets or rarely toward people. Other symptoms, which occur as a result of this disease, include lethargy, muscle loss, pruritis and straining to urinate (as a result of an enlarged prostate due to elevated testosterone levels).

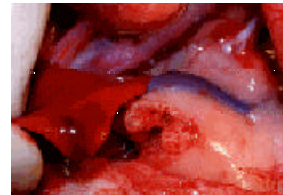
Diagnosis is made at surgery finding one or both enlarged adrenal glands. A adrenal profile (University of Tenn., School of Veterinary Medicine), which includes three different hormone levels, are frequently elevated. Radiographic findings are usually inconclusive and ultrasound can pick up the enlarged adrenals in about 50% of the cases.

The treatment of choice for this condition is surgery, removing the abnormal adrenal(s). This surgery, particularly when the right adrenal gland is involved, is technically difficult since the right adrenal gland normally is attached to the vena cava (the largest vein in the body). Right adrenal tumors, as a result, are difficult to completely remove and can be associated with postoperative bleeding.

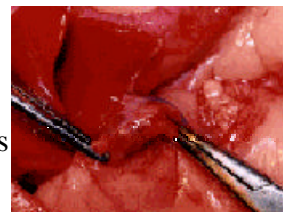
Cryosurgery is the freezing of tissue with liquid nitrogen, intending to kill the cells, which are frozen. Cryosurgery has been used, in human medicine, for decades for the removal of skin tumors, and has been used more recently to destroy many other tumors including tumors of the liver, breast, prostate and adrenal. One of the many potential benefits of cryosurgery is decreased bleeding, less intraoperative time, a quicker recovery and a technically easier procedure. Cryosurgery has been shown to be very safe, even when used on tumors adjacent to large vessels.

CRYOSURGERY PHOTOS

A photo of a right adrenal tumor. Note that the tumor is surrounded by fat.



Same tumor as in photo above. Clamps hold fat on either side of the adrenal gland.



Cryosurgery on the same tumor as in photos above. Cryosurgery is safe around large blood vessels



I have used cryosurgery to treat over 35 cases, with excellent results. Since I have performed hundreds of traditional adrenalectomies, it is easy for me to already see the tremendous advantages of cryosurgery, particularly when the right adrenal gland is involved. This new technique offers the ferret surgeon many potential advantages over traditional adrenalectomy, and may someday be the technique of choice to treat adrenal tumors in the future. Studies are currently underway to compare adrenal cryosurgery and traditional adrenalectomy in the ferret with adrenal disease.

For more information on this new exciting technique contact Dr Weiss. For a detailed, step-by-step video on this new procedure and other common ferret surgeries, contact Ferret Video Productions, PO Box 59510, Potomac, MD 20859 or fax (301) 349-3997.

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