

A Case Report Of

Cushing's Syndrome In The Dog

A. L. Trapp, D.V.M., F. K. Ramsey,
D.V.M., Ph.D., C. E. Whiteman,
D.V.M., D. L. Baker, D.V.M.,
M. W. Sloss, D.V.M., M.S.

Drs. Trapp, Ramsey, Whiteman, and Sloss are with the Dept. of Pathology and Parasitology, and Dr. Baker is with the Dept. of Medicine and Surgery, Iowa State College.

IN 1953 Coffin and Munson gave an excellent review of the endocrine diseases of the dog associated with bilateral distribution of hair loss. These three endocrine conditions are (1) Sertoli cell tumor of the testis, (2) hypothyroidism and (3) an abnormal pituitary-adrenal state known as "canine Cushing's syndrome." The bilaterally symmetrical alopecia caused by these endocrine disturbances is seen infrequently.



Fig. 1. Note alopecia and focal pigmentation of the skin of the thoraco-lumbar region, dorsal view. (Clinic No. 17092).

We present here a brief summary of a recent case of "canine Cushing's syndrome" to emphasize the fact that alopecia can be associated with conditions other than infectious agents, nutritional deficiencies, chemicals, allergies and parasitisms.

Cushing's syndrome in dogs occurs most frequently in animals 5 to 16 years of age. It predominates in the Boston Terrier breed. This animal was a 5-year old fox terrier. Prior to presentation this fox terrier evidenced loss of hair with spotty

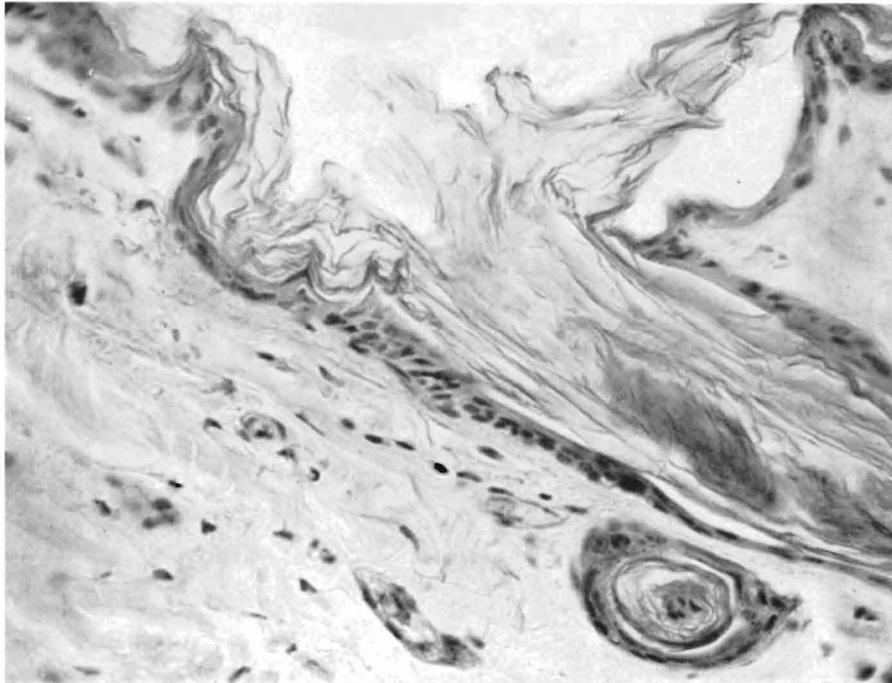


Fig. 2. Atrophy and hyperkeratinization of hair follicles, loss of dermal fat and condensation of collagenous and elastic fibers. x430.

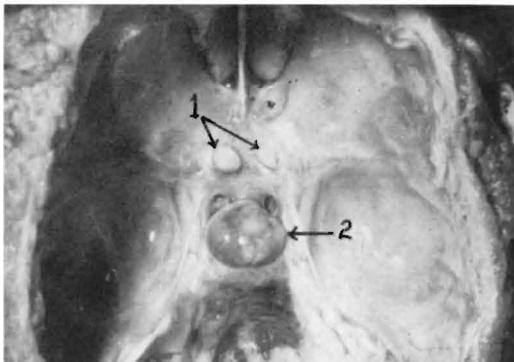


Fig. 3. Pituitary gland, enlarged approximately two times. (1) Optic nerves, (2) pituitary gland.

pigmentation of the skin of the abdomen. Skin lesions later appeared over the back. Plaques of skin had been shed exposing suppurating ulcers which responded to topical applications of erythromycin ointment and intramuscular injections of penicillin.

When presented obesity was pronounced and the typical bilateral loss of hair was noted. Mild polydipsia and polyuria were evidenced. The urine analysis showed a specific gravity of 1.004, pH of 7

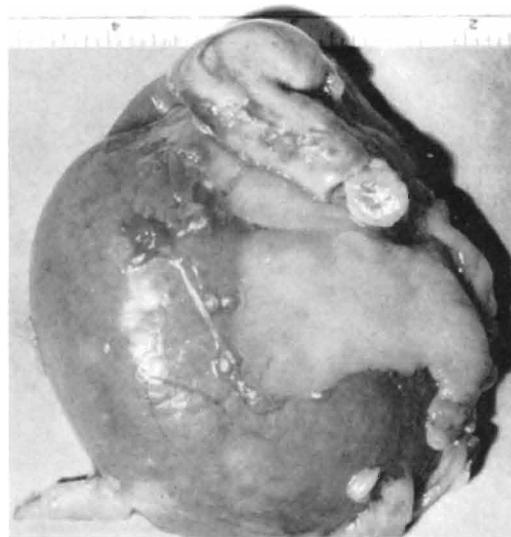


Fig. 4. Kidney and marked enlargement of adrenal gland.

and a negative albumin test. Muscular weakness and atonia had gradually developed and were accompanied by the appearance of lordosis and enlargement of the abdomen as occurs in developing ascites.

The presence of a lymphopenia and an eosinopenia with the above history, symptoms and skin lesions are very suggestive of canine Cushing's syndrome.

In consideration of the above findings an unfavorable prognosis was given, and permission for euthanasia was obtained.

Necropsy examination revealed a bilateral alopecia of the thoraco-lumbar re-

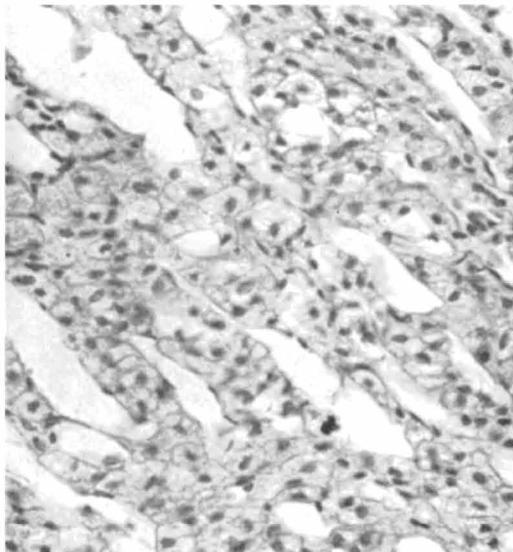


Fig. 5. Marked hyperplasia of the adrenal cortex. x430.

gions extending down to the flanks. Focal pigmentation of the affected skin was present (Fig. 1). Microscopic examination of this skin revealed hyperkeratosis of the stratum corneum and thinning of the stratum spinosum, atrophy and hyperkeratinization of hair follicles, loss of dermal fat in some areas, and condensation of collagen and elastic fibers (Fig. 2). The pituitary gland (Fig. 3) was enlarged approximately two times. Marked symmetrical enlargement of the adrenal cortices (Figs. 4 and 5) had occurred.

SUMMARY

1. The history, symptoms and lesions of a case of canine Cushing's syndrome have been reported.

2. This condition is one of the endocrine disturbances leading to bilateral alopecia in the dog.

REFERENCES

1. Coffin, D. L. and Munson, T. O. Endocrine diseases of the dog associated with hair loss. *Jour. A.V.M.A.* 123:402-408. 1953.
2. McGrath, J. T. *Neurologic Examination of the Dog with Clinicopathologic Observations.* Lea & Febiger. Philadelphia. 1956.
3. Smith, H. A. and Jones, T. C. *Veterinary Pathology.* Lea & Febiger. Philadelphia. 1957.

CORRECTIVE SURGERY FOR ABNORMAL EAR CARRIAGE. Failure of the ear to stand erect following trimming is not necessarily the fault of the surgeon or his methods. The inherent structure of the cartilage may be such that it does not give assistance to a fine end result.

The object of this corrective technique is to stimulate the formation of additional scar tissue in the cartilage.

First locate and mark the line of cartilage break, then make four 1-inch incisions perpendicular to the break and equally bisect the line of break on the lateral aspect of the ear. To provide additional irritation, setons of umbilical tape are passed from one incision to the next. These are tied loosely. A roll of 2-inch gauze covered with tape is fitted into the area at the junction of the base of the ear and the skull. A long strip of adhesive tape is then fastened to the tip of the ear and the ear is bent tightly over the gauze roll. The tape is carried around the head to its origin. The ears are left in this position for 10 days, but the setons are removed in 8 days. Provide support for the ears 1 to 2 weeks after the removal of all tape.

Booth, Frank R. Corrective surgery for abnormal ear carriage. *The Southwestern Veterinarian.* 10:217-219. Spring, 1957.

Dextran, used in solution as a substitute for blood plasma, has been found by Swedish workers to act in the blood like serum albumin in reducing the hemolysis of erythrocytes in hypotonic solutions, as compared with hemolysis in ordinary hypotonic salt solutions.