

MEANING OF CLINICAL SIGNS AND BLOOD HORMONE MEASUREMENTS, TO DETERMINE HYPERADRENOCORTICISM IN FERRETS (*Mustela putorius furo*)

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INTRODUCTION. There are many research studies about hyperadrenocorticism (excessive adrenal production of sex steroids related to adrenocortical adenomas and carcinomas) that is a common disease in neutered male and female pet ferrets (*Mustela putorius furo*) and causes significant morbidity. The chronic elevation in circulating luteinizing hormone (LH) that follows ovariectomy or orchietomy is a prerequisite for neoplastic transformation in the adrenal glands. Without specific examination the detecting of adrenal disease can be difficult. This is a pending matter in Europe and all over the globe, where ferrets are held as pets. Incidence of ferret adrenal disease in Latvia is high because majority of them are gonadectomized.

The aim of this research study was to evaluate clinical signs and blood hormone measurements, to determine hyperadrenocorticism in ferrets.

MATERIALS AND METHODS. To find out the most relevant clinical signs of hyperadrenocorticism 28 (n=15 male, n=13 female) pet ferrets, diagnosed with adrenal disease, were included in this research (age 3 – 6 years). Full clinical examination was performed, and from 10 ferrets out of 28 blood samples were taken, and levels of 17-hydroxyprogesterone, estradiol and androstendione were detected. Hormonal values were compared with *adrenal panel* (The University of Tennessee). To establish clinical signs, noticed by ferret owners, a questionnaire was developed, and 10 owners were interviewed.

RESULTS. Blood sample test results indicated abnormal hormonal levels in all the animals. The results of interviews showed that main clinical signs were – alopecia, observed to all animals in various degrees, fragile skin, behavioral changes (ferrets became lethargic), weight loss, recurrence of sexual behavior (vulvar swelling in females, mating aggression in males), poliuria and polidipsia, pruritus and scaling (observed in most of ferrets). In individual animals numerous clinical signs were observed. We would like to point out that in each ferret approximately 4 – 6 clinical signs were noticed.

CONCLUSIONS. Most common clinical signs were alopecia, pruritus and behavioral changes. Hormonal levels were abnormal in all animals, included in this research. Even if the level is abnormal in one of the hormones, diagnosis hyperadrenocorticism is most likely to occur. The most sensitive of sex steroids is androstendione. In this research androstendione level was abnormal in all blood samples. Clinical signs and blood hormone measurements are equally significant to diagnose hyperadrenocorticism.