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CLINICAL CASE

Hyperthyroidism in a Guinea pig (*Cavia porcellus*)☆

Hyperthyroïdie chez un cobaye (*Cavia porcellus*)

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Guinea pig;
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Summary A five-year-old female Guinea pig was presented for a history of 2 months losing weight despite an increased appetite. Physical examination revealed a loss of weight of 37% in 4 months, and a mass of 1 cm diameter in the cervical area. A thyroid hormones dosage revealed an increase of free T_4 and free T_3. These results associated with the clinical signs lead us to conclude that this animal was suffering of hyperthyroidism. The animal was treated with methimazole (1 mg/kg bid). The owners reported a good tolerance to the treatment and a gain of weight of 25% in 1 month. Hyperthyroidism is not a pathology well described in Guinea pigs. Some diagnostics methods, such as dosage of thyroid hormones, scintigraphy, or advanced imaging are available in this species. Medical treatment, surgery, or injection of radioactive iodine could be considered.

MOTS CLÉS
Cobaye ;
Hyperthyroïdisme ;
Médicament antithyroïdien

Résumé Une femelle cobaye de cinq ans est présentée en consultation pour perte de poids depuis deux mois, malgré un appétit augmenté. L'examen clinique met en évidence une perte de 37 % de poids du corps en quatre mois, et une masse de 1 cm de diamètre, en région cervicale ventrale. Un dosage d'hormones thyroïdiennes révèle une augmentation de la T_4 libre et de la T_3 libre. Ces dosages, associés aux signes cliniques, nous permettent de conclure à une hyperthyroïdie. Le cobaye reçoit un traitement de methimazole à la posologie de 1 mg/kg toutes les 12 heures. Le propriétaire rapporte une bonne tolérance au médicament, et un gain de poids de 25 % en un mois de traitement. L'hyperthyroïdisme est une pathologie peu décrite chez le cobaye. Plusieurs outils diagnostiques tels que le dosage des hormones thyroïdiennes, la scintigraphie ou l'imagerie avancée sont utilisable chez cette espèce. Outre le traitement

☆ Crédits de formation continue. La lecture de cet article ouvre droit à 0,05 CFC. La déclaration de lecture, individuelle et volontaire, est à effectuer auprès du CNVFCC (cf. sommaire).

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médical, un traitement chirurgical ou radiothérapique à base d'iode radioactive peuvent être envisagés.

Introduction

Primary pathology of the thyroid in the Guinea pig was described in the literature more than 40 years ago [1,2]. Recently, a relatively high incidence of thyroid pathology in Guinea pigs has been reported [3]. The relative prevalence was reported to be 4.6% at one pathology facility, making thyroid pathology the second most commonly reported after lymphoma (Garner, personal communication, 2006). According to another author, thyroid tumors are among the most common neoplasms seen in cases submitted to Northwest ZooPath [4]; however, there is few scientific report that describes the clinical case of a confirmed hyperthyroid state of a Guinea pig in the English literature.

Clinical case

History and physical examination

A five-year-old female Guinea pig was presented for 2-month history of losing weigh despite a normal appetite. The owner described increase of activity level and increase of vocalizations in particular when she was feeding her Guinea pig. She did not have any previous medical history. The husbandry was proper with the need of this specie. The diet was composed of hay ad libidum, pellets, fresh vegetables (parsley, spinach, peppers), and a complementation of vitamin C in the drinking water, once a day.

During the consultation, the animal was in good body condition despite a poor body condition (1/5) (Fig. 1). Her weight was 710 g (normal weight 700—900 g). According to the owner, the patient lost 265 g (27% of bodyweight) in 2 months. Her heart rate was 250 beats per minutes (normal values 230—380 beats per minutes); her respiratory rate was 60 respirations per minutes (normal values 40—100 breath per minute). During the abdominal palpation, the animal produced some stool with normal consistency. The palpation of the base of her neck allows us to point out a smooth round mass of 1 cm of diameter. This was located ventrally in the cervical region, in deep layer, and was hard to mobilize. The examination of the oral cavity with a video endoscope did not reveal any dental malocclusion.

Because of the non-specificity of the clinical signs, our differential was based on a wasting disease in otherwise healthy Guinea pig. The differential was at this time internal parasite infection, metabolic disease (renal or hepatic insufficiency), neoplasic disease or endocrinologic disease.

Figure 1. A five-year-old female Guinea pig in poor body condition, loosing weight despite a ravenous appetite.

Diagnostics

Blood was sampled from the cranial vena cava under anesthesia (3% sevofluran, Sevoflo®, Abbott laboratory, USA) (Fig. 2) and was sent to biochemistry and hematology. Feces were sampled and fecal flotation was performed. An abdominal ultrasound was also elected by the owner. All of these three exams did not reveal any abnormalities (Tables 1 and 2). Then it was decided to perform a dosage of the thyroid hormones. The blood was sample from the cranial vena cava under general anesthesia. The dosage of the free T_4 was 2.8 ng/dL (usual values 1.08—1.58 ng/dL) and the free T_3 was 380 pg/dL (usual values 201—319 pg/dL) (Table 3). The result of these dosages, in addition to the clinical signs, led us to conclude that this Guinea pig was suffering from hyperthyroidism.

Figure 2. Blood sampling from the cranial vena cava under gas anesthesia. The needle is inserted at the junction of the sternal manubrium and the first rib with an angle of 45° and in the direction of the opposite hip.