



CLINICAL SYMPTOMS AND ALTERATION OF LIVER PROFILE PARAMETERS IN HYPERTHYREOID ANIMALS

Holičková, M.¹, Páleník, L.¹, Kovalík, M.²

¹University of Veterinary Medicine and Pharmacy, Clinic for small animals, Komenského 73, 041 81 Košice
The Slovak Republic

²University of Edinburg Hospital for Small Animals, Roslin, Midlothian
Scotland

palenik@uvm.sk

ABSTRACT

Sixty four clinical records of cats with hyperthyreosis diagnosed in 2002–2008 were processed for a retrospective study. The most frequently observed symptoms were weight losses and polyphagia. Thyroid gland dysfunction can lead to secondary hepatopathy. The majority of patients (62.5%) showed increased activity of alanine aminotransferase and 38.5% had increased activity of alkaline phosphatase. The non-specific clinical symptoms, such as, apathy, anorexia and somnolence, that could be ascribed to secondary damage to the organs, such as liver, or classified as apatic hyperthyreosis, were observed in 26% of the animals.

Key words: alkaline phosphatase ALP; alanine aminotransferase ALT; hepatopathy; hyperthyreosis; thyroxine

INTRODUCTION

The liver performs many functions affecting the activity of other organs and, conversely, diseases of other organs may cause secondary damage to the liver. Secondary (reactive) hepatopathies are a relatively frequent complications of other primary diseases. Changes in the activity of liver enzymes in the blood serum allow one to monitor the reaction of hepatocytes to endogenous and exogenous insults. The aim of this study was to determine the proportion of patients with altered activity of the liver enzymes alkaline phosphatase (ALP) and alanine aminotransferase (ALT) at the time of the initial diagnosis of hyperthyreosis. We recorded: the mean age of patients at the time the hyperthyreosis was diagnosed; frequency of its occurrence in the respective breeds; and the presence of other than the

common symptoms of hyperthyreosis that could be related to the development of secondary hepatopathy in the afflicted animals.

MATERIAL AND METHODS

The criterion for inclusion of a patient in the study was a serum thyroxine (T4) level above 60 nmol.l⁻¹. T4 levels between 55–60 nmol.l⁻¹ were considered dubious and such patients were included in the study if the repeated sampling provided result above 60 nmol.l⁻¹. The reference levels for the activity of enzymes in the relevant laboratory were 12–130 U.l⁻¹ for ALT and 14–111 U.l⁻¹ for ALP. The clinical symptoms of hepatopathy (or non-specific with respect to hyperthyreosis) were: anorexia; lethargy; and somnolence. According to the clinical symptoms and the activity of ALT, the patients were divided to the following basic groups: A1 (increased ALT and in some cases also ALP), A2 (normal ALT and ALP), B1 (increased ALT and mostly also ALP) and B2 (normal ALT and ALP). Patients with no records of the ALT activity were included in the groups A3 and B3.

RESULTS AND DISCUSSION

Results processed in this study are presented in Table 1.

Of the 64 hyperthyreoid cats studied, 57 were European shorthaired cats (95%), 5 European longhaired cats, 1 Siamese and 1 Persian cat. No breed predisposition to this disease was observed. The mean age of the animals was 13 years and 9 months. According to other authors the disease affects