Comp Clin Pathol (2016) 25:917–921
DOI 10.1007/s00580-016-2255-8

CASE REPORT

Report of diabetes mellitus remission in a cat by orally administered glibenclamide

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Received: 10 November 2015 / Accepted: 15 March 2016 / Published online: 30 March 2016

Abstract Clinical remission of diabetes mellitus which is one of the most commonly encountered endocrine diseases in cats is not very frequent. A 3-year-old male castrated Russian Blue cat with a history of excessive water intake and urination as well as weight loss, lethargy, and unkempt hair coat was referred to us. Type 2 diabetes mellitus was diagnosed based on clinical signs of laboratory findings in this cat. The cat was completely treated in six weeks by orally administered glibenclamide. Based on previously reported studies many factors are involved in the remission of diabetes. Most of these are due to the possibility of reversal of glucotoxicity with insulin injections or orally administered sulfonylurea drugs associated with a reduction of carbohydrates in the diet. The animal subject was monitored for 1 year after remission. The cat was normal in blood glucose after each follow-up. To the best of the authors' knowledge, this clinical description is the first report of remission in a cat with type 2 diabetes mellitus by glibenclamide in the veterinary literature reported from Iran.

Keywords Type 2 diabetes mellitus · Remission · Glibenclamide · Cat

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Introduction

Diabetes mellitus is reported as a relatively common endocrine disorder in cats, and it results from impaired glucose utilization, increased gluconeogenesis, and increased hepatic glycogenolysis (Selk Ghaffari et al. 2008). Diagnosis of diabetes is based on fasting hyperglycemia and glycosuria with polyuria, polydipsia/polyphagia and weight loss (Nelson et al. 1990, 1999). Hyperglycemia in cats is often largely caused by an insulin resistance and dysfunctional B cells. However, it is not caused by an absolute insulin deficiency. Life-long treatment usually is required and includes administering intermediate- or long-acting insulin or orally administered sulfonylurea drugs once or twice each day (Bertoy et al. 1995; Nelson et al. 1993). Feeding diets containing increased fiber content (Nelson et al. 1994) and adjusting the daily caloric intake to correct or avoid obesity (Biourge et al. 1997; Nelson et al. 1990) are necessary. A small percentage of diabetic cats have been shown to be transiently diabetic. Usually, clinical remission of diabetes takes from weeks to months after the diagnosis is characterized by a resolution of hyperglycemia, glucosuria, and clinical signs, thus negating the need for further treatment (Kirk et al. 1993).

Case description

A 3-year-old, 3.250-kg, male castrated Russian Blue cat was presented to our veterinary teaching hospital with a history of excessive water intake and urination for three weeks. The cat had lost almost 500–600 g during the last months. On admission, lethargy, reduced muscular masses, and unkempt hair coat were evident during the physical examination. Auscultation is performed for the purpose of examining the circulatory and respiratory systems during which harsh sounds