PREVALENCE OF METABOLIC SYNDROME IN DOGS WITH PITUITARY-DEPENDENT HYPERADRENOCORTICISM. V. De Marco[1,2], VK Ramos[2], V. Oliveira[2], JS Silva[2], T Parraz[2], RS Pereira[2]. 1-Pompéia Veterinary Hospital, São Paulo, Brazil. 2-Universidade Guarulhos, SP, Brazil.

Metabolic syndrome is a cluster of metabolic abnormalities that increases the risk for type 2 diabetes and vascular disease. Pituitary-dependent hyperadrenocorticism (PDH) is one of the most common endocrinopathies in dogs. PDH, characterized by excessive levels of glucocorticoids, results in increased glucose and insulin levels which cause insulin-mediated effects on adipose tissue, ultimately promoting visceral adiposity, insulin resistance, dyslipidemia and hypertension. This group of abnormalities is observed in obese human patients with metabolic syndrome and at least three of these events must occur simultaneously in the same individual to confirm the metabolic syndrome diagnosis. The aim of this study was to evaluate the prevalence of metabolic syndrome in dogs with PDH. Seventy-seven dogs (54 females, mean age of 9.5 ± 2.6 years) from various breeds with untreated PDH were evaluated in the University Guarulhos Veterinary Hospital over a period of 4 years. The diagnosis of PDH was based on clinical signs (polyphagia, polyuria, polydipsia, abdomen enlargement, panting), cortisol levels > 1.4 µg/dl after dexamethasone suppression test, bilateral adrenal enlargement at abdominal ultrasound, hyperlipidemia, hyperphosphatasemia and/or low urinary density. The metabolic syndrome investigation was based on measurement of systolic blood pressure, fasting blood glucose paired with basal insulin levels, serum cholesterol and triglycerides. Blood pressure measurement was conducted in 62 dogs and fasting serum insulin was determined in 35 recent cases. Sixty per cent of the dogs (n = 37/62) had arterial hypertension with an average systolic pressure of 164 ± 24 mmHg. Elevated blood levels of cholesterol (mean ± SD, 382 ± 155 mg/dl) and triglycerides (181 ± 108 mg/dl) were observed in 74% (n = 57/77) and 75% (n = 58/77) of the cases, respectively. Absolute basal hyperinsulinemia (37 ± 27 µUI/ml) associated to normoglycemia (81 ± 11 mg/dl) was observed in 68.5% (n = 24/35) of the dogs. All animals with insulin resistance had dyslipidemia (increased blood levels of cholesterol or triglycerides). Hypertension and dyslipidemia was observed in 54.8% (n = 34/62) of the dogs in addition to visceral obesity. In conclusion, a significant number of PDH dogs of our cohort presented metabolic syndrome, confirming that hypercortisolism shares many characteristics of metabolic syndrome and should always be investigated in order to reduce morbidity and mortality of this endocrinopathy.

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