Proceedings of the 34th World Small Animal Veterinary Congress
WSAVA 2009

São Paulo, Brazil - 2009

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The aim of this report is demonstrating the methods used to diagnose diabetes insipidus in a crossbred five-month-old Persian with polyuria and polydipsia (water intake of 350 mL/kg/24 hours). Important clinical aspects were not observed, although an easily touchable bladder and a wateravid behavior were noticed. The patient presented normal mean arterial pressure, glycemia and fructosamine; the urinalysis revealed specific gravity of 1.008; the venous hemogasometric evaluation demonstrated hypernatremia (160 mmol/L); abdominal ultrasound revealed normal kidneys and distended bladder. The gradual water restriction test was performed and the reduction was 2% of the body mass per day and the calculated volume was 40 mL daily, through four days sequentially. By the end of the test, urinary gravity was 1.010 and at the hemogasometric evaluation the serum sodium (160.6 mmol/L) and plasmatic osmolality (317.3 mOsm/kg) were higher than acceptable values. Due to the isoosmory observed post-gradual water restriction test, the occurrence of diabetes insipidus was suggested, so, the abrupt water restriction test was conducted. The patient was put indoor and under water fast, having its weight and degree of dehydration under control. At hourly evaluations, the urinary gravity ranged from 1.008 to 1.013, serum sodium from 161.8 to 177.4 mmol/L, demonstrating progressive hypernatremia and plasmatic osmolality from 319.3 to 348.5 mOsm/kg. According to those hydro-electrolytic disturbances and the 5% body mass weight loss after three hours of testing it was stopped and established the diagnosis of diabetes insipidus, once the patient, even though put under water restriction, in addition to the high
plasmatic osmolality and dehydration was not capable to have its urine concentrated. It strongly suggests that the animal has low vasopressin production or low response to that hormone. The differentiation between central and nephrogenic diabetes insipidus occurs by the administration of desmopressin acetate. An alternative diagnostic test is measuring plasmatic antidiuretic hormone. The most important stimulus for thirst and vasopressin secretion under physiologic conditions is the plasmatic osmolality. At 280 mOsm/kg level, the serum vasopressin is reduced or undetectable. At this point, plasmatic vasopressin and the desire for water improve directly according to the plasmatic osmolality improvement. The examinations were performed in order to verify the occurrence of diseases that could provoke polydipsia and polyuria, among them, hyperadrenocorticism, diabetes mellitus, psychogenic polydipsia and hyperthyreoidism. The patient is stable up to this moment, waiting for the differentiation between central and nephrogenic diabetes insipidus with desmopressin acetate administration.