Diagnosis and management of preparturient hypoglycemia in a Great Dane bitch

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Abstract Normally, during pregnancy, progesterone acts as a potent insulin antagonist and results in hyperglycaemia; therefore, it is very rare for a bitch to become hypoglycaemic. A 4-year-old Great Dane pregnant bitch was presented because of severe weakness and dystocia. Despite various treatments such as the administration of calcium gluconate and oxytocin by the referring veterinarian, the dog remained lethargic and recumbent. On initial laboratory tests, the only abnormality was marked hypoglycaemia. Within few minutes following administration of intravenous Dextrose, the dog became alert, bright and was able to stand. Parturition occurred 40 min after administration of Dextrose, and the dog delivered live, healthy pups. There are only four cases of preparturient hypoglycaemia in dogs in the veterinary literature. All prior cases were small breed dogs. The present report is unique because it describes hypoglycaemia in a pregnant Great Dane.

Keywords Hypoglycaemia · Preparturient hypoglycaemia · Bitch

Introduction

Several abnormalities have been described as reproductive emergencies in pregnant bitches including ectopic pregnancy, uterine torsion, hypocalcaemia and hypoglycaemia (Johnson 1986; Biddle and MacIntire 2000). The fem

hypoglycaemia has two levels of usage in the medical literature. The most general usage is to indicate that the blood glucose concentration is below the lower limit of a statistically defined range of values for healthy individuals. However, an individual could have a blood glucose concentration below the normal range without exhibiting clinical signs. For example, the normal range of serum glucose concentration in the dog is 71–115 mg/dl, but clinical signs of hypoglycaemia in the dog do not usually manifest until the glucose concentration is less than 50 mg/dl. The second, more restrictive usage of hypoglycaemia, which is used in this report, is to designate a condition wherein glucose concentration is low enough to cause clinical signs (Little 2005). Hypoglycaemia is an extremely rare cause of dystocia in bitches (Johnston et al. 2001). There are very few published reports of preparturient hypoglycaemia in the veterinary literature. This report describes the diagnosis and management of hypoglycaemic crisis in a pregnant Great Dane bitch.

Case report

A pregnant 4-year-old Great Dane presented with lethargy and severe weakness. The dog had been examined by a primary veterinarian 1 day earlier and was found to be lethargic. The animal was in approximately the 60th day of the post-mating period. The primary consulting veterinary surgeon treated the dog with calcium gluconate. It appeared that the dog’s condition did not improve and the owner sought a second opinion; the second veterinarian treated the dog with oxytocin, calcium gluconate and intravenous Ringer’s solution. Despite various treatments, the dog remained lethargic and became recumbent for 24 h.

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