

CONGENITAL DIABETIC CATARACT IN PUPS

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Congenital Bilateral Cataract associated with diabetes mellitus in three young pups belonging to different small dog breeds has been recorded and thoroughly discussed. This condition should be kept in mind of Veterinary Clinicians during routine check-up of pups, specially of small breeds.

Introduction

Cataract is the focal or diffuse opacification of the lens as a result of degeneration and ultimately liquification of normal protein structure of lens fibres. Out of multifactorial cause of cataract in dog, diabetes mellitus is the commonest (Kirk, 1983); and Diabetes is the most common endocrinopathy in dogs (Prathaban and Gnanaprekasam, 2002), specially amongst small breed (Nelson and Couto, 1998). This study deals with the detection of congenital bilateral cataract associated with diabetes mellitus in three young pups.

Case History and Observations

One and half month old two female Lhasa Apso pups and a two month old male Spitz Pup were presented by three different owners in three occasions with the similar history of repeated stumbling with objects. Clinical examination revealed bilateral bluish cloudy appearance of the lens of the eye; vision becomes blurred and sluggishness was noticed in all the pups. On the basis of clinical examination, the pups were suspected to be suffering from cataract as well as Diabetes mellitus which were later confirmed as hyperglycemia (236 mg/dl, 242 mg/dl, 278 mg/dl respectively) in fasting blood samples. Analysis of urine samples revealed pH 6.7-6.8, specific gravity 1.010, and glucose (++) . All the urine samples were found negative for bilirubin, ketone bodies, protein, blood, urobilinogen etc. Primary renal glycosuria was differentiated on the basis of moderate hyperglycemia. Surgical extraction of lens was advised to all the owners with life time antidiabetic therapy and restricted diet.

Result and Discussion

Surprisingly, all the owners did not cooperate and further treatment could not be continued and later one of the owners opted for euthanasia.

Though diabetes mellitus is primarily a disease of senile dogs, its onset is recorded in pups (Atkins, Hill and Johnson, 1979). Ameerjan (2005) rightly described that most cataract in dogs were inherited, which either might be caused by congenital defects or nutritional deficiencies or toxic substances or uveal adhesions or diabetic mellitus. Here, all the present cases must be congenital cataract since birth, but no history was available regarding hereditary onset. Also the clinical and laboratory findings were consistent with the observations of Vivek, Ganesh, Patil and Prasanna (1999) and Chand, Singh, Dhaliwal (2007). In the present study, all the cataract pups belonged to small breeds, which was corroborated with the observation of Nelson and Couto (1998), though the sample numbers were statistically very small. Whatever the exciting cause may be, actual causes of the condition is desiccation of the lens from aqueous humor and metabolised by Hexokinase pathway. But in diabetes mellitus, due to persistent hyperglycemia, glucose concentration is increased in the lens and excess of glucose is metabolised by sorbitol pathway, a non-diffusible alcohol causing increased osmolarity within lens; fibres disrupt and as a result progressive opacity of lens develops.

Hence, the possibility of congenital cataract in new born or young pups, especially of small breeds should always be considered in mind during routine clinical check-up by the Veterinary Clinicians.

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