

Congenital Corneal Opacity in a Nigerian Local Puppy (A Case Report)

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ABSTRACT

A four-week old Nigerian local puppy was presented to the Veterinary Teaching Hospital, University of Ibadan with a history of bilateral corneal opacity. This was observed as the eyes opened at the age of seven days. General examination did not reveal any other abnormality. There was a gradual clearing of the opacity and by the age of eighteen weeks, it was completely resolved.

Key words: Congenital corneal opacity, local dog

INTRODUCTION

The word cornea is derived from the Greek word corneus which means horny (Thomas, 1955). In the canine, the cornea is about one-sixth of the fibrous tunic while the sclera makes up the remaining five-sixth (Evans and Christenssen, 1979). The dimensions of the cornea are known to vary in different breeds of dogs (Prince *et al.*, 1960).

In the newborn, the cornea is somewhat hydrated and less clear than that of the adult but by 2 - 4 weeks of life, there is sufficient clearing to permit ophthalmoscopy (Glaze and Carter, 1995). Factors affecting normal development of the globe and inflammation, which could be intrauterine or foetal, have been suggested as possible causes of congenital canine corneal opacity (Dice, 1991)

Corneal opacities are classified as, 1. Nebula - faint clouding of the cornea; 2. Macula - definite gray opacity and, 3. Leucoma - dense white opacity (Startup, 1969). There has been no previous reports on congenital corneal conditions in Nigerian local dogs. This paper reports a case of congenital corneal opacity in a Nigerian local puppy.

Case history and physical examination

A 4-week old Nigerian local puppy with a history of bilateral corneal opacity from birth was presented to the Small Animal Clinic of the Veterinary Teaching Hospital, University of Ibadan, Ibadan, Nigeria, for routine check up and de-worming. All the other littermates of the puppy were completely normal. Examination revealed the presence of a bilateral, pale bluish-gray opacity covering the entire surface of the cornea (Fig. 1). There was also a slight bilateral serous ocular discharge. All other physical examinations on the dog were found to be normal. About 5 ml of blood were collected by jugular veni-puncture using a 23-gauge needle into bijou bottles containing EDTA for haematological and haemo-protozoological examinations. Despite the opacity, the puppy was found to be able to maneuver fairly well in the environment.

Treatment

The puppy was placed on mebendazole, 5 mg/kg b.i.d. for three days, oxytetracycline hydrochloride injection at the dosage of 10 mg/kg for five consecutive days and multivitamin tablets (Vetzyme B+E®) daily

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RESULTS

The haematological parameters were within normal range for puppies and the blood was found to be negative for haemo-protozoan parasites. There was a gradual clearing of the cornea from six weeks of age and it was totally cleared by age eighteen weeks.



Fig. 1. Corneal opacity in the puppy at the age of 4 weeks



Fig. 2. Slight clearing of the cornea at the age of 10 weeks

DISCUSSION

The occurrence of congenital corneal opacity has not been previously described or documented in Nigerian local dogs hence this is probably the first reported case. However, the condition has been reported in puppies of age 10 to 15 days prior to the opening of the eyelid. Metabolic, respiratory and toxic factors affecting the fragile surface cells prior to the opening of the lid have been incriminated (Dice, 1991). In the dog, deep corneal opacities are associated with the remnants of embryonic papillary membranes (persistent papillary membranes) that adhere to the inner corneal surface (Glaze and Carter, 1995).

Many cases of corneal opacity are sporadic while in some breeds like the Basenji, it is hereditary (Roberts and Britsner, 1968). In this present case however, the disposition is not known.

REFERENCES

- Dice, P. F. (1981). The Canine Cornea. In: *Veterinary Ophthalmology*, 1st ed. (Gelatt, K. N., ed.). Lea and Febiger, London. pp 343-374
- Evans, H. E. and Christensen, G. G. (1979). *Miller's Anatomy of the Dog*, 2nd ed. W. B. Saunders Company, Philadelphia, USA.
- Glaze, M. B. and Carter, J. B. (1995). The eye. In: *Veterinary Paediatrics: Dogs and Cats from Birth to Six Months* 2nd ed. (Hoskins, J. D., ed.). W. B. Saunders Company, Philadelphia, USA. pp. 297-336
- Prince, J., Diesem, C., Eglitis, I. and Ruskell, G. L. (1960). *Anatomy and Histology of the Eye and Orbit in Domestic Animals*. Springfield: Charles C Thomas, Illinois, USA.
- Roberts, S. R. and Britsner, S. I. (1968). Persistent papillary membranes in Basenji dogs. *J. Am. Vet. Med. Assoc.* 153(5): 533-542.
- Startup, F. G. (1969). *Diseases of the Canine Eye*, 1st ed. Balliere Tindall and Cassell, London. p. 188.
- Thomas, C. I. (1955). *The Cornea*. Springfield: Charles C Thomas, Illinois, USA.