

FAMILIAL HYPERCHOLESTEROLAEMIA IN COLLIES

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Objectives: The aim was to follow up a family of 5 privately owned Collie dogs suffering from corneal lipidosis (CL) due to primary hypercholesterolaemia.

Methods: Five privately owned Collie dogs (table 1) were referred for a special ocular examination to detect hereditary disorders. Collie Eye Anomaly (CEA) was detected in all dogs and CL was diagnosed in 3 of them. Routine haematological and biochemical analyses were carried out. Primary hypercholesterolaemia was detected. Treatment consisted in feeding first, a commercial low fat and energy restricted diet (LFER), and secondly fructooligosaccharides (FOS) at an incorporation rate of 1 to 1.5 % dry matter basis. To assess the effect of the diet, every 6 months, total plasma cholesterol (TC) was measured and eyes were examined. An electrophoresis profile of lipoproteins was also realised.

Results: TC1 (TC before treatment) was high in all cases, without relation with severity of ocular lesions (Table 1). Other parameters were within normal ranges. Six months after the beginning of the treatment, TC2 was reduced and the lesions of CL regressed. However, at the second control, TC3 was higher without any ocular aggravation. Electrophoresis profiles realised at this moment revealed an increase in the alpha band in all cases (alpha 1 increased in dogs 1, 2, 5; alpha 2 increased in all dogs).

Table 1: Cases histories and results

	Relationship	Date of birth	Sex	CL	TC 1	TC 2	TC 3
Dog 1	Father	7/90	M	-	3.4	3.0	4.4
Dog 2	Mother	10/93	F	-	3.4	2.6	3.8
Dog 3	Child	5/97	M	+	2.6	2.2	3.5
Dog 4	Child	5/97	F	+++	3.0	3.2	3.6
Dog 5	Child	5/97	Neutered M	++	3.8	3.2	3.9

Conclusions: Familial primary hypercholesterolaemia is characterised by an increase in alpha 2 and sometimes alpha 1 HDL in Collie dogs, as reported in Briards¹. Hypercholesterolaemia was associated in 3 dogs with CL, which can be treated by LFER and FOS. A rebound hypercholesterolaemia was noticed during treatment, while ocular lesions of CL were decreased. Adding FOS appears as an easy way to decrease CL, while the effects on TC are limited in time.

¹Watson et al. *Res. Vet. Sci.*, 93, 54, 80-85.