

VETERINARY TECHNICAL DATASHEET

Primary Open Angle Glaucoma, (POAG); mutation originally found in Beagle



Mutation Found In :Beagle

Disorder Type

- Eye

Disease Severity

- Moderate/severe

Background

Primary open angle glaucoma (POAG) is an eye disorder affecting intraocular fluid circulation that is associated with increased intraocular pressure. POAG affects many different breeds. The mutation affecting Beagles is known, and it has autosomal recessive inheritance.

Key Signs

- Increased intraocular pressure
- Loss of optic nerve cells
- Loss of vision
- Ocular pain
- Light sensitivity

Clinical Description

The first clinical signs are usually observed at the age of 2 to 5 years, although the eye pressure may be elevated as early as the first year of age. The elevated eye pressure causes significant pain to the affected dog. Typical signs are red, itching, squinting, watery, and cloudy eyes. In advanced cases, the globe is enlarged and blind. In POAG, both eyes will be affected but not necessary simultaneously. Thus, the pupils of an affected dog may be of different sizes and vision impairment may be noted in one eye before the other.

Mode of Inheritance

- autosomal recessive

Gene Name

- ADAMTS10

Next Steps

Routine monitoring of eye pressures and medical management of the glaucoma is recommended. Advanced cases which do not respond well to medical therapy may benefit from enucleation.

References

Kuchtey J, Olson LM, Rinkoski T, Mackay EO, Iverson TM, Gelatt KN, Haines JL, Kuchtey RW. Mapping of the disease locus and identification of ADAMTS10 as a candidate gene in a canine model of primary open angle glaucoma. PLoS Genet 7(2):e1001306, 2011.