

VETERINARY TECHNICAL DATASHEET

Primary Open Angle Glaucoma (POAG); mutation originally found in Petit Basset Griffon Vendéen



Mutation Found In :Basset Griffon Vendéen (Petit)

Disorder Type

- Eye

Disease Severity

- Moderate

Background

Glaucoma is one of the most common ocular disorders causing irreversible blindness in dogs. Glaucoma is characterized by defects in the normal flow of intraocular fluid leading to elevated intraocular pressure which can in turn damage the optic nerve and retina. This condition leads to blindness if left untreated. Glaucoma affects multiple breeds but in most cases the causative mutation has not been identified.

Key Signs

- Elevated intraocular pressure
- Loss of vision
- Ocular pain

Clinical Description

The loss of vision from glaucoma often occurs gradually over a long period of time and the first clinical signs frequently go unnoticed. Glaucoma is usually diagnosed when intraocular pressure has been elevated enough to cause loss of vision and pain. The clinical signs include pupil dilation, redness in the eye, corneal opacification, mild enlargement of the eye, possible partial lens luxation, and abnormalities in the optic nerve and retina. Glaucoma typically affects both eyes but not necessarily simultaneously. The age of onset is typically in middle-age. Glaucoma is diagnosed based on clinical signs, a thorough eye examination, measurement of intraocular pressure, and gonioscopy.

Mode of Inheritance

- autosomal recessive

Gene Name

- ADAMTS17

Next Steps

Intraocular pressure should be measured regularly (e.g. once every 3-4 months). If the pressure rises above normal, medications reducing intraocular pressure are required. If medications are unable to keep intraocular pressure within the normal range, surgical intervention may be considered. Emergency treatment is needed in the case of acute glaucoma which is very painful and rapid treatment may prevent loss of vision. In very advanced cases, where the eyes are very painful and vision is lost, enucleation is recommended.

References

Forman OP, Pettitt L, Komáromy AM, Bedford P, Mellersh C. A Novel Genome-Wide Association Study Approach Using Genotyping by Exome Sequencing Leads to the Identification of a Primary Open Angle Glaucoma Associated Inversion Disrupting ADAMTS17. PLoS One. 2015 Dec 18;10(12):e0143546. doi: 10.1371/journal.pone.0143546. eCollection 2015.