

VETERINARY TECHNICAL DATASHEET

Primary Open Angle Glaucoma and Primary Lens Luxation (POAG/PLL); mutation originally found in Chinese Shar-Pei



Mutation Found In :Chinese Shar-Pei

Disorder Type

- Eye

Disease Severity

- Moderate/severe

Background

Primary open angle glaucoma (POAG) is a hereditary ocular disorder affecting fluid circulation within the eye causing increased eye pressure. The elevated intraocular pressure damages the optic nerve and retinal cells and leads to blindness if untreated. Primary lens luxation (PLL) is an inherited condition in dogs where the ocular lens gets moved out of place and endangers their vision. In Chinese Shar-Pei dogs, both of these disorders are caused by the same mutation.

Key Signs

- Eye redness
- Eye pain
- Increased intraocular pressure
- Lens subluxation
- Lens luxation
- Blindness

Clinical Description

The first clinical signs are usually observed at the age of 3 to 6 years. The elevated eye pressure causes significant pain to the affected dog. Typical signs are red, itchy, squinting, watery, and cloudy eyes. In advanced cases, the globes are enlarged and blind. This mutation also causes lens luxation, likely secondary to the elevated intraocular pressure. Subluxation, or partial lens detachment, commonly occurs before complete luxation. When the lens luxates, it may do so either anteriorly or posteriorly. An anterior lens luxation is particularly serious and manifests as squinting, redness, and watering of the eyes and requires immediate veterinary care. Displacement of the lens in the other eye usually occurs weeks or months after the first luxation.

Mode of Inheritance

- autosomal recessive

Gene Name

- ADAMTS17

Next Steps

Routine eye examinations, for example once in every 3-4 months, are advisable. If pressure within the eye is elevated, ocular drops intended to lower the pressures are likely to be prescribed. Acute glaucoma is very painful and requires emergency treatment to prevent impairment of vision. Surgical intervention is needed in cases where local treatment isn't sufficient for maintaining normal eye pressure. In chronic glaucoma cases where blindness and pain is present, surgical removal of the affected eye may be deemed the best therapy.

Regular eye examinations also help in diagnosing lens luxation at its early stage. Treatment can be used to prevent the lens from luxating into the front chamber. Lens luxation can be treated surgically but has a better outcome if the lens is only partially detached. Primary anterior lens luxation is a condition that needs emergency treatment. Emergency treatment consists of drugs reducing intraocular pressure. The actual treatment consists of surgical removal of the lens. Treatment should be started as soon as possible to prevent blindness.

References

