VETERINARY TECHNICAL DATASHEET

Rod-Cone Dysplasia 3, (rcd3)

WISDOM HEALTH™

Mutation Found In :Cardigan Welsh Corgi, Pembroke Welsh Corgi

Disorder Type

- Eye

Disease Severity

- Moderate

Background

Rod-cone dysplasia 3 (rcd3) is an inherited eye disorder in the Cardigan Welsh Corgi, where development of retinal photoreceptors is disturbed. Rcd3 causes blindness and is inherited in an autosomal recessive manner.

Key Signs

- Night blindness
- Loss of vision
- Blindness

Clinical Description

As a first sign, a puppy affected by rcd3 has weak or non-existent night vision which is due to a developmental defect in retinal rod cells. The cone cells will also show reduced function early on in an affected dog's lifetime and impair day vision. First ophthalmoscopic evidence is usually observed by the age of 3 months, followed by blindness usually by 1 year of age. Some dogs retain partial vision until 3 to 4 years of age.

Mode of Inheritance

- autosomal recessive

Gene Name

- PDE6A

Next Steps

A blind dog tends to adapt well to the loss of vision. However, some dogs may exhibit a tentativeness when introduced to unknown environments because their vision is compromised. Occasionally, they may react abruptly (snapping) if they are startled so caution and use of verbal queues should be taken when handling a blind dog. Caretakers should take precautions to protect the blind dog from threats it cannot detect (ex. cliffs, sharp points on furniture, moving vehicles).

References

Petersen-Jones SM, Entz DD, Sargan DR cGMP phosphodiesterase-alpha mutation causes progressive retinal atrophy in the Cardigan Welsh corgi dog. Invest Ophthalmol Vis Sci. 40(8):1637-1644, 1999.

Tuntivanich N, Pittler SJ, Fischer AJ, Omar G, Kiupel M, Weber A, Yao S, Steibel JP, Khan NW, Petersen-Jones SM Characterization of a canine model of autosomal recessive retinitis pigmentosa due to a PDE6A mutation. Invest Ophthalmol Vis Sci. 50(2):801-813, 2009.

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