

VETERINARY VOICE: Tips of the Trade

Ophthalmology- Collie Eye Anomaly

What is collie eye anomaly (CEA)?

CEA is a congenital and hereditary syndrome caused by abnormal mesodermal differentiation resulting in defects of the sclera, choroid, retina, optic disc, and retinal blood vessels. It is usually bilateral but the two eyes oftentimes show considerable differences in severity. The condition is not progressive but effects may range from no apparent defect to total blindness. It can occur in all of the collie breeds (rough, smooth, and Shetland sheepdog). It can also occur in the border collie, but with less frequency.

What are the fundic examination findings?

1. Choroidal hypoplasia: Essential lesion of CEA. Always bilateral, but often asymmetrical. Lateral to the optic disc, the choroidal vessels are abnormal in form and distribution, being fewer and broader. The vessels can be seen due to the absence of pigment and tapetum overlying them. The sclera can also usually be visualized.
2. Colobomas: Fairly common lesion of CEA. Usually involve the optic disc or peripapillary region. They are sometimes bilateral, but usually unilateral. They may appear on the medial or lateral border of the disc or may involve the whole disc. They vary in depth and size. Recognition is aided by the disappearance of retinal blood vessels over the edge of the coloboma.
3. Retinal detachment: Usually unilateral and may be partial. This can occur in association with colobomas and often occurs in young puppies.
4. Intraocular hemorrhage: Occasionally seen. If a young collie is seen with hyphema, CEA should be suspected.
5. Other ocular signs: excessive tortuosity of retinal blood vessels, retinal folds, blindness, and microphthalmos (not considered part of CEA, but can be common in the collie breeds).

Breeding recommendations?

It is recommended not to breed affected animals (no matter how mild the lesions). A genetic test is now available for CEA from optigen. The website is www.optigen.com.

Questions?

The Veterinary Specialty Center of Tucson has a board-certified ophthalmologist available for questions and consultations on ophthalmic diseases and surgeries during the weekdays. She is also on call to provide consultations to VSCT emergency doctors and to perform emergency procedures for patients seen by the VSCT emergency service. Board-certified ophthalmologists have four additional years of training after veterinary school and are certified by the American College of Veterinary Ophthalmologists' to assure competency in advanced veterinary ophthalmology.

**Ophthalmology
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