

Canine Glaucoma

Disease of the Optic Nerve in Dogs



NOTE: If you suspect glaucoma take your dog to a veterinarian as soon as you set up an appointment. It is not an emergency but with proper care the condition can be delayed.

Glaucoma is a condition in which pressure is placed on the eye, causing inadequate fluid drainage in the eye. If the condition becomes chronic or persists without treatment, it will eventually cause permanent damage to the optic nerve, resulting in blindness.

Glaucoma is common in certain dog breeds, such as basset hounds, that are **genetically** predisposed. Yes, predisposition for glaucoma is genetic in basset hounds. Unfortunately, most dogs affected by glaucoma will become blind in the affected eye within the first year, regardless of medical or surgical treatment and may end up with the condition in the second eye.

Symptoms and Types

There are two main types of glaucoma: *primary* and *secondary*.

Symptoms for sudden primary disease, due to the eye's inability to drain through the filtration angles of the eye, are as follows:

- High pressure within the eye
- Blinking of the eye
- The eyeball may recede back into the head
- Redness of the blood vessels in the whites of eyes
- Cloudy appearance at front of the eye
- Dilated pupil – or pupil does not respond to light
- Vision loss

Long-term, advanced disease:

- Enlargement of the eyeball (buphthalmos)
- Obvious loss of vision
- Advanced degeneration within the eye

Symptoms for secondary glaucoma, or glaucoma due to secondary eye infection(s), include:

- High pressure within the eye
- Redness of the blood vessels in the whites of eyes
- Cloudy appearance at front of the eye
- Inflammatory debris visible in the front of the eye
- Possible constriction of the pupil
- Possible sticking of the iris to either the cornea or the lens
- Possible that the edge of the iris circularly sticks to the lens

In addition, there may be:

- Headaches, with head pressing to relieve feelings of pressure in head
- Loss of appetite
- Change in attitude, less desire to play or interact

Causes

High pressure in the eye occurs when the normal outflow of fluid in the eye is impaired due to a primary eye disease such as the improper development of the eye's filtration angles, or secondary to other eye diseases such as primary lens luxation (slipping of the lens in the eye), inflammation of the tissues of the eye, eye tumor(s), or blood collection in the front of the eye from injury. In dogs, secondary glaucoma is more common than primary glaucoma.

Diagnosis

You will need to give a thorough history of your dog's health, onset of symptoms, as far as you have been able to tell, and possible incidents that might have preceded this condition, such as injuries to the eye (even those which you consider minor). During the physical examination, your veterinarian will test the pressure within your dog's eyes using a tonometer on the surface of the eye. If the disease began suddenly, your veterinarian will refer your dog to a veterinary ophthalmologist for a detailed examination of both eyes, including evaluation of the filtration angles by gonioscopy -- measuring the anterior of the eye. Pressure within the eye can measure as high as 45 to 65 mmHg, making this a very painful condition.

Electroretinography will be also performed by the veterinary ophthalmologist to determine if the eye will remain blind despite treatment. In secondary diseases, X-rays and an ultrasound may show abnormalities within the eye.

Often both eyes are affected, but not always. In cases where only one eye is affected, steps will be taken to protect the unaffected eye from developing a diseased condition.

Treatment

No preventative treatment is available that can totally stop glaucoma developing in the second eye. However, there is evidence that with the help of medication, the onset of the condition in the second eye may be delayed.

Eyes that have lost vision but continue to have an increased pressure are a cause of chronic pain for the patient. Removal of the eye must be considered in such cases to ensure the welfare and comfort of the patient. Occasionally, both eyes may unfortunately be lost. Should this be the case, most dogs will adapt very well to being blind and continue to lead a good quality life.



An example of a basset hound suffering from glaucoma.

