

# BLIND QUIET EYE

## BASICS

### OVERVIEW

- Loss of vision in one or both eyes, without externally apparent signs of inflammation of the eye

### GENETICS

- Many causes of blind, quiet eye (such as cataracts [opacities in the lens] and progressive deterioration of the back of the eye [the back of the eye is the “retina;” condition known as “progressive retinal atrophy”]) have a genetic basis; the “lens” is the normally clear structure directly behind the iris (colored part of the eye) that focuses light as it moves toward the back part of the eye (retina)

### SIGNALMENT/DESCRIPTION of ANIMAL

#### *Species*

- Dogs and cats

#### *Breed Predispositions*

- Many causes of blind, quiet eye (such as cataracts [opacities in the lens] and progressive deterioration of the back of the eye [retina; condition is progressive retinal atrophy]) are often breed-specific

#### *Mean Age and Range*

- Many causes of blind, quiet eye (such as cataracts [opacities in the lens] and progressive deterioration of the back of the eye [retina; condition is progressive retinal atrophy]) are often age-specific
- Sudden blindness due to “sudden acquired retinal degeneration syndrome” or “SARDS”—tends to occur in old dogs
- Underdevelopment of the optic nerve (the nerve that runs from the back of the eye to the brain; condition known as “optic nerve hypoplasia”)—congenital (present at birth)

### SIGNS/OBSERVED CHANGES in the ANIMAL

- Vary with underlying cause
- Bumping into objects
- Clumsy behavior
- Reluctance to move
- Impaired vision in dim light

### CAUSES

- Cataracts (opacities in the lens)—entire lens must become opaque to produce complete blindness; incomplete opacification may reduce performance of visually demanding tasks; the “lens” is the normally clear structure directly behind the iris (colored part of the eye) that focuses light as it moves toward the back part of the eye (retina)
- Loss of focusing power of the lens—rarely completely blinding
- Retina (back of the eye)—sudden acquired retinal degeneration syndrome (SARDS); progressive deterioration of the back of the eye (progressive retinal atrophy); separation of the back part of the eye (retina) from the underlying, vascular part of the eyeball (known as the “choroid;” condition known as “retinal detachment”); taurine deficiency that leads to retinal degeneration in cats (taurine is an amino acid [protein] that is an important component of the diet of cats; cats cannot produce enough taurine in their bodies and so, must obtain taurine from their food to maintain the health of several organs, including the retina); enrofloxacin toxicity in cats (enrofloxacin is an antibiotic); ivermectin toxicity in dogs and cats (ivermectin is a medication that kills a variety of parasites)
- Optic nerve (the nerve that runs from the back of the eye to the brain)—inflammation of the optic nerve (known as “optic neuritis”); tumor or cancer involving the optic nerve or adjacent tissues; trauma; underdevelopment of the optic nerve (optic nerve hypoplasia); lead toxicity; excessive traction on the optic nerve during surgical removal of one eyeball (procedure known as “enucleation”), resulting in trauma to the optic nerve going to the opposite eye (especially in cats and short-nosed, flat-faced [known as “brachycephalic”] dogs)
- Central nervous system blindness (known as “amaurosis,” in which the cause of the blindness is a lesion outside of the eye itself, usually involving a lesion in the brain)

### RISK FACTORS

- Poorly regulated diabetes mellitus (“sugar diabetes”)—cataracts (opacities in the lens)
- Related animals with genetic cataracts or progressive deterioration of the back of the eye (retina; condition is progressive retinal atrophy)
- Generalized (systemic) high blood pressure (known as “hypertension”)—separation of the back part of the eye (retina) from the underlying, vascular part of the eyeball (retinal detachment)
- Decreased oxygen (known as “hypoxia”) to the tissues of the central nervous system—blindness may become apparent after excessively deep anesthesia or revival from cardiac arrest

## TREATMENT

### HEALTH CARE

- Varies with underlying cause
- Try to obtain a definitive diagnosis on an outpatient basis, before initiating treatment
- Consider referral to a veterinary eye doctor (ophthalmologist)
- Most causes are not fatal, but must perform a diagnostic workup to rule out potentially fatal diseases
- Sudden acquired retinal degeneration syndrome (SARDS); progressive deterioration of the back of the eye (progressive retinal atrophy); deterioration of the optic nerve (the nerve that runs from the back of the eye to the brain; condition known as “optic nerve atrophy”); and underdevelopment of the optic nerve (optic nerve hypoplasia)—no effective treatment

### ACTIVITY

- Separation of the back part of the eye (retina) from the underlying, vascular part of the eyeball (retinal detachment)—recommend severely restricted exercise, until the retina is firmly reattached

### DIET

- Calorie-restricted diet—to prevent obesity; owing to reduced activity level
- Cats with nutritionally induced disease of the retina (known as a “retinopathy”)—ensure diet has adequate levels of taurine; taurine is an amino acid (protein) that is an important component of the diet of cats; cats cannot produce enough taurine in their bodies and so, must obtain taurine from their food to maintain the health of several organs, including the retina

### SURGERY

- Cataracts (opacities in the lens); lens that has moved out of its normal position in the eye (known as a “luxated lens”), and some forms of separation of the back part of the eye (retina) from the underlying, vascular part of the eyeball (retinal detachment)—best treated surgically

## MEDICATIONS

Medications presented in this section are intended to provide general information about possible treatment. The treatment for a particular condition may evolve as medical advances are made; therefore, the medications should not be considered as all inclusive.

- Depend on cause
- If infectious disease is unlikely, and the likely diagnosis is either sudden acquired retinal degeneration syndrome (SARDS) or inflammation of the optic nerve (the nerve that runs from the back of the eye to the brain) behind the eyeball (known as “retrobulbar optic neuritis”)—steroids (prednisolone) may be administered; also may administer chloramphenicol or other broad-spectrum antibiotic
- Flunixin meglumine (dogs)—may try a single dose in place of steroids, if infectious causes have not been ruled out
- Chemotherapeutic drug used to decrease the immune response (azathioprine)—may be used to treat immune-mediated separation of the back part of the eye (retina) from the underlying, vascular part of the eyeball (retinal detachment), if steroids are not effective

## FOLLOW-UP CARE

### PATIENT MONITORING

- Repeat ophthalmic examinations—as required to ensure that inflammation of the eye is controlled, and, if possible, vision is maintained
- Recurrence of vision loss—common in inflammation of the optic nerve (optic neuritis); may occur weeks, months, or years after initial presentation
- If treatment includes azathioprine (a chemotherapeutic drug used to decrease the immune response)—perform blood work, including a complete blood count (CBC), platelet count, and liver enzymes every 1 to 2 weeks for the first 8 weeks, then periodically

### PREVENTIONS AND AVOIDANCE

- Animals with progressive deterioration of the back of the eye (progressive retinal atrophy) or genetic cataracts (opacities in the lens) should not be bred and related animals should be examined by a veterinarian to evaluate the eyes

### POSSIBLE COMPLICATIONS

- Vary with underlying cause
- Permanent vision loss
- Loss of the eye
- Long-term (chronic) inflammation and pain of the eye
- Obesity from inactivity or as a sequela of sudden acquired retinal degeneration syndrome (SARDS)

- Death

#### **EXPECTED COURSE AND PROGNOSIS**

- Vary with underlying cause

#### **KEY POINTS**

- Most causes of a blind quiet eye are not painful and blind animals can lead a relatively normal and functional life
- The environment should be examined for potential hazards to a blind animal
- Animals with progressive deterioration of the back of the eye (progressive retinal atrophy) or genetic cataracts (opacities in the lens) should not be bred and related animals should be examined by a veterinarian to evaluate the eyes

