

Equine Glaucoma

Heather Trainor, DVM

Overview:

Glaucoma is a disease of the eye, which results in an overall increase in intraocular pressure (IOP) within the globe. The aqueous humor (nutrient rich fluid) is produced more than it is able to be drained from the globe causing the pressure increase. This abnormal increase in pressure prevents the retina and optic nerve from functioning normally, disturbing the horse's normal vision. There can be multiple reasons why a horse can develop glaucoma resulting in either congenital, primary or secondary glaucoma.

Primary glaucoma is often heritable, such as in Appaloosa horses, where there are anatomical abnormalities preventing the aqueous humor from draining properly. Secondary glaucoma is the most common type of glaucoma in the horse and can be due to a myriad of different inciting causes such as uveitis, luxation of the lens or certain neoplasias of the eye. Certain risk factors also exist that increase the prevalence of developing glaucoma such as the Appaloosa breed itself, advanced age and current or previous uveitis.

Clinical signs of glaucoma include mild to moderate ocular discomfort, reduced vision or blindness and diffuse corneal edema. Other clinical signs that can be observed via a thorough ophthalmic exam are PLR deficits, mydriasis (dilated pupil), iridocyclitis and optic nerve atrophy. The severity and number of clinical signs depend on how long the glaucoma has been present and how high the IOP is within the globe.

Diagnosis:

Most glaucoma is diagnosed based on the IOP measurements made via tonometry. Any pressures that measure over 30 mmHg are considered higher than normal and should be further evaluated followed by close monitoring. The IOP measurement, in the presence of clinical signs, is the best way to diagnose glaucoma in the horse.

Treatment and Prognosis:

Medical treatment can be attempted in the beginning stages of glaucoma but is often difficult. The treatment often is based on the underlying condition (if there is one) that first initiated the glaucoma. The goal of medical treatment is to decrease any inflammation present with use of NSAIDs or steroids in order to hopefully decrease the IOP. Topical glaucoma drops also exist and can be used in horses as well to try to decrease the IOP and/or decrease production of aqueous humor.

Even with medical management, the prognosis remains guarded. If the IOP cannot be managed and maintained at a reasonable level, enucleation of the affected eye is often indicated for the long-term comfort of the horse.