



Ophthalmology for Animals **Equine Recurrent Uveitis (ERU)**

Equine recurrent uveitis (ERU) is the leading cause of blindness in horses. It is characterized by recurrent episodes of inflammation inside the eye, with periods of quiescence in between “flare-ups.” The frequency and severity of inflammatory episodes is variable between individual horses, but can become progressively worse and more frequent over time. Every episode of inflammation contributes to cumulative damage to the structures inside the eye responsible for vision, as well as cause discomfort for the horse. Signs of pain can be subtle and include tearing, squinting, ocular discharge, rubbing, redness of the whites of the eye, or cloudiness.

Causes

Uveitis means inflammation of the uveal tract inside the eye. The uveal tract includes the iris (colored part of the eye, usually brown or blue) and associated tissues (ciliary body and choroid in the back of the eye) which are all connected and contain many blood vessels. With inflammation, the blood vessels become leaky and allow proteins and cells to move out of the vessels and into the eye, which is one reason the eye may appear cloudy. The cause of the inflammation is not always determined but should always be investigated. Known causes of uveitis in horses can include infection (bacterial, viral, parasitic, protozoal), immune-mediated disease, and trauma. Not all horses with uveitis will develop recurrent episodes, but every horse with uveitis is at risk of recurrence. Determining the cause may require bloodwork and testing the ocular fluid in conjunction with a thorough exam and historical evaluation. Some horses, especially Appaloosas, are predisposed to immune-mediated ERU. Additionally, many horses that develop ERU following an initiating event have a component of immune-mediated disease.

Clinical Signs

The most common signs of early uveitis include tearing and squinting. Some horses are more stoic and signs are very subtle, and other horses are more sensitive with dramatic swelling, squinting and redness. You may also see rubbing the eye on a knee or other object, mucoid discharge from the eye, cloudiness or other color change, elevated third eyelid, or decreased vision.

In addition to vision loss, secondary changes in the eye caused by uveitis can include corneal edema, corneal degeneration, iris pigmentation or depigmentation, synechiae (adhesions) of the iris, cataract, vitreal degeneration

Treatment

Treatment of uveitis depends on the cause, duration and severity of disease. Without treatment, ERU will eventually cause visual deficits and/or blindness due to damage to the cornea, iris, lens, vitreous, retina and optic nerve. Medical therapy is aimed at quieting the immune response in the eye and addressing the underlying cause whenever possible.

In eyes that have established recurrent uveitis and respond well to topical/systemic anti-inflammatory therapy, an implant can be placed to help control future flare-ups.

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The implant is an approximately 1-cm sized disc impregnated with a medication called cyclosporine that is slowly released over about a three year time period. It is surgically placed in the eye under the sclera and immediately adjacent to the uveal tract ("suprachoroidal"). As the surgery is very delicate and sudden movement (i.e. head tossing, shaking, etc.) could cause penetration of the eye, general anesthesia is recommended for optimal implant placement and safety. Risks of general anesthesia in the horse are not taken lightly, however, and must be weighed when determining the most appropriate plan for a particular patient.

Placement of the implant does not cure the disease, as unfortunately there is no cure for ERU and even with the implant there will likely be episodes of uveitis. However, the slow release of cyclosporine helps to decrease the frequency and severity of flare-ups, which helps to maintain vision and comfort. Some horses will show improvement for a limited period of time and benefit from placement of a second implant. Others are well controlled for many years after placement of a single implant.