



Equine Recurrent Uveitis (“Moon Blindness”)

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What is Equine Recurrent Uveitis?

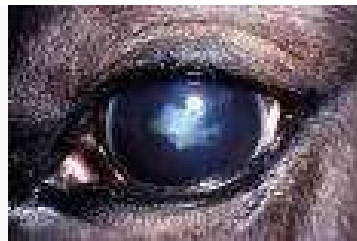
Equine recurrent uveitis (ERU), also known as “moon blindness” or periodic ophthalmia, is a common disease affecting the equine eye and is *the* most common cause of blindness in horses. Interestingly, due to the recurrent nature of the disease, the term “moon blindness” dates back to the 1600s when Egyptians believed the ailment was associated with phases of the moon. Today, however, ERU is recognized as an immune-mediated disease, meaning it is caused by an unspecified immune reaction. There are several causes that have been implicated such as bacteria (namely *Leptospira*), viruses, parasites (namely *Onchocerca*) and trauma. ERU, however, is most often considered to be an idiopathic disease, meaning no specific cause can be identified. ERU is strongly over-represented in Appaloosas, however it has been identified in other breeds.

How do I know if my horse may have ERU?

The first step in identifying ERU in your horse is to recognize the signs of ocular discomfort. These signs include squinting, tearing, redness, rubbing, discoloration of the iris, constriction of the pupil and clouding of the cornea. If you find that your horse has signs of ocular discomfort, it is important that you contact your veterinarian immediately. While these signs are seen with ERU, it is important to keep in mind that some of these are also seen with other ocular conditions such as corneal ulcers, conjunctivitis, glaucoma, foreign bodies and trauma. Your veterinarian must thoroughly assess the eye in order to determine whether the problem truly is ERU.



Tearing, squinting,
corneal clouding



Corneal scarring
from chronic ERU

How does my veterinarian diagnose ERU?

The diagnosis of ERU begins with a thorough physical and ocular examination. The eye is examined with an ophthalmoscope to look for signs of uveitis such as “aqueous flare” which is the cardinal sign of the disease. Aqueous flare shows up as a hazy line over the cornea when using a slit beam light. This finding is seen as a result of proteins leaking into the aqueous humor due to inflammation. Additionally, the cornea should be stained with a fluorescein dye to determine if an ulcer is present. A tonometer, which is a device used to measure intraocular pressure (IOP), may also be used to aid in the diagnosis. Often, the IOP may be decreased in cases of uveitis. However, if your horse has concurrent glaucoma, the IOP will most likely be elevated. Your veterinarian may also elect to run routine bloodwork to rule out an underlying disease process. More advanced diagnostic techniques include ocular ultrasound to access all the structures in the eye.

Once a diagnosis has been made, there are several tests that can be done to try to determine the cause, however they are sometimes unrewarding given that most cases are idiopathic. These tests may involve blood samples to look for bacterial or parasitic antigens or a biopsy of the surrounding ocular tissues to evaluate for the presence of parasites.

What is the treatment of ERU?

If a cause of ERU can be identified, then one goal of treatment is to eliminate the cause (such as deworming or starting a course of antibiotics). Another extremely important goal of treatment is aimed at decreasing the ongoing damage that is associated with inflammation. There are several medications commonly used to treat ERU:

- Topical steroid ointments: To help decrease inflammation and minimize the immune-mediated response. *It is essential that your veterinarian rule out corneal ulcers **before** starting steroid therapy.*
- Topical NSAIDs: Also help decrease inflammation.
- Topical atropine ointment: To dilate the pupil which decreases pain.
- Systemic NSAIDs: To help decrease inflammation.
- Systemic corticosteroids: A more potent method of calming the inflammatory response, however these drugs must be used with extreme caution in horses due to the risk of laminitis.

Placing a fly mask over the eyes may also provide comfort during an acute episode.

Severe cases may be treated by injecting a steroid directly under the conjunctiva. This may also be a good treatment option for horses that are very difficult to medicate.



A recent advancement in treatment is the surgical placement of a sustained release Cyclosporin implant into the eye. This is an immunosuppressant agent that has been reported to decrease the frequency and severity of recurrent uveitis episodes in some cases. Cyclosporin can also be applied topically for management of ongoing cases, however, it is not absorbed very well into the eye.

Note that failure to treat ERU can result in severe secondary complications such as cataracts, glaucoma, retinal detachment, scarring/shrinking of the eye and blindness.

The recurrent nature of ERU

One of the defining characteristics of ERU is its recurring nature. The frequency and severity of the disease vary greatly between affected horses, which is simply a matter of individual variation. With each active episode, additional damage to the eye occurs. During periods of quiescence, the eye typically does not show any clinical signs of discomfort, however, inflammation is believed to be ongoing, thus causing continual damage to the eye.

What is the prognosis of ERU?

Unfortunately, horses with chronic ERU have a guarded to poor prognosis for return to normal vision due to the ongoing damage. Vision tends to progressively worsen and blindness is often an end result. It is important to recognize that after a horse has an isolated acute episode of uveitis it is at risk for developing chronic recurrent uveitis. If blindness occurs, the eye may either remain comfortable or it may continue to cause severe discomfort. In the latter case, it is often necessary to remove the eye in order to alleviate the chronic pain if the inflammation cannot be kept at bay with medical management.

If your horse has been diagnosed with ERU it is recommended that your horse have regular eye exams to ensure that the eye is comfortable and not beginning another flare up. Always remember to contact your veterinarian at the first signs of ocular disease so that the problem can be managed quickly in order to minimize pain and continual damage to the eye.



References

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