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When clouds start rolling in, it often means a storm is brewing. For horses with cloudy eyes, the source of that storm could be one of many. Fortunately, veterinarians are well-versed in the diagnostic and treatment options for cloudy-eyed horses.

Caroline Monk, DVM, an ophthalmology resident at the University of Florida College of Veterinary Medicine, reviewed the diagnostic options and differential diagnoses for cloudy eyes at the 2013 American Association of Equine Practitioners' Convention, held Dec. 7-11 in Nashville, Tenn.

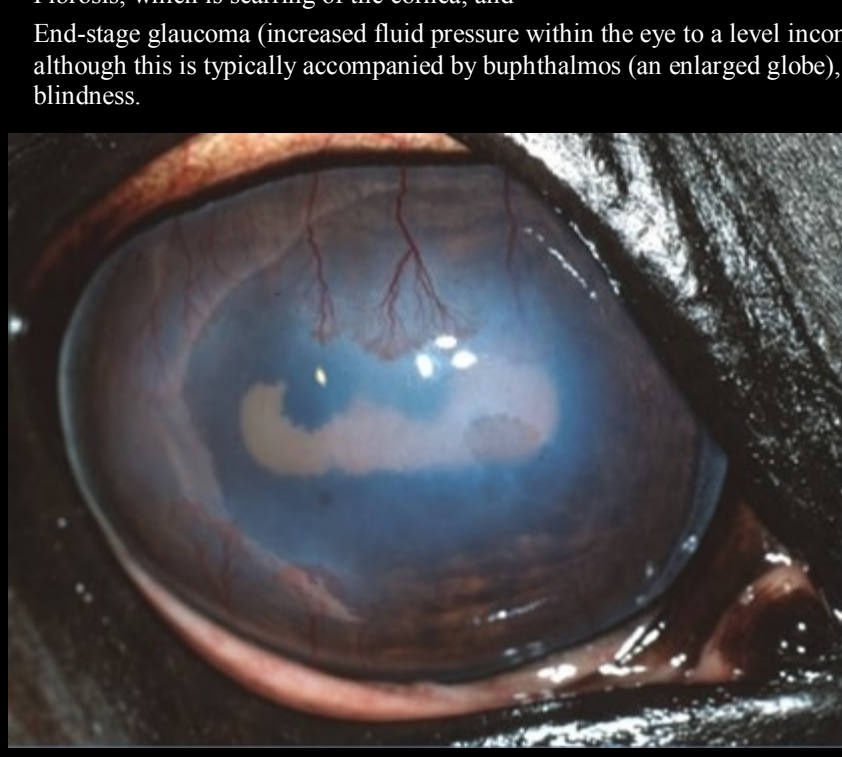
"The nonulcerated cloudy eye is a frequent presenting complaint, and different etiologies have similar manifestations," Monk explained. Because the eye's condition can degenerate rapidly with incorrect or no treatment, a quick, accurate diagnosis is key, she said.

Therefore, a thorough ocular exam is critical. During the initial exam, Monk said veterinarians should ask several important questions whose answers will help achieve a diagnosis:

- Is the eye painful?
- Are the horse's pupils unequal in size (termed anisocoria)?
- Is there miosis (pupillary constriction) or mydriasis (pupillary dilation)?
- Is there an ulcer?

Based on the answer to the first question, in particular, the veterinarian can start to narrow down differential diagnoses before running more advanced diagnostics to confirm the problem. If the horse's eye is minimally or not painful, a few disorders that should come to a veterinarian's mind, Monk said, including:

- Squamous cell carcinoma (SCC), the most common tumor of the eye and surrounding tissues in horses;
- Immune-mediated keratitis (IMK), an inflammation of the cornea;
- Subepithelial keratomycosis, a disease similar to IMK but of infectious origin;
- Fibrosis, which is scarring of the cornea; and
- End-stage glaucoma (increased fluid pressure within the eye to a level incompatible with eye health), although this is typically accompanied by buphthalmos (an enlarged globe), striae (stretch marks), and blindness.



Immune-mediated keratitis is an inflammation of the cornea that can cause a cloudy equine eye.

Photo: Courtesy Dr. Caroline Monk

If the horse's eye is moderately or severely painful, some other conditions should come to mind, including:

- Stromal abscesses, which are very serious and potentially vision-threatening and thought to follow microscopic penetrating trauma to the cornea;
- Eosinophilic keratitis, a condition that occurs when eosinophils (a type of white blood cell that responds to allergic and parasitic stimuli) invade the equine cornea;
- Uveitis, a painful and debilitating condition that is the leading cause of blindness in horses; and - Glaucoma.

Once the initial exam is complete and the veterinarian has an idea of the cloudy eye's cause, he or she can carry out further diagnostics based on what the clinical signs suggest the problem could be. Diagnostic options include:

- Cytology (examination of cells under a microscope);
- Tonometry (measures intraocular pressure);
- Culture (testing of samples for pathogens);
- Biopsy;
- Rose bengal staining (used to evaluate the eye's tear film integrity);
- Keratectomy (surgical removal of a portion of the cornea);
- Treatment trial; and
- Referral to a specialist, if needed.

Once an accurate diagnosis is reached, the veterinarian can prescribe an appropriate treatment protocol to help the horse on its road to recovery.

#### Take-Home Message

"When a systemic and consistent approach is used to examine and diagnose ocular lesions, you are less likely to miss subtle clinical signs and prescribe inappropriate therapy," Monk told veterinary attendees. "Once the correct diagnosis is made, searching for current therapies is simplified."

For horse owners, this means calling your veterinarian at the first sign of cloudy eyes to give your horse the best chance of recovery.