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Managing Equine Eosinophilic Keratoconjunctivitis

Equine eye problems can be challenging for practitioners and owners to manage. They can be particularly difficult to treat when veterinarians are still just trying to determine problem's root cause. One such issue is eosinophilic keratoconjunctivitis (EK).

At the 2013 American Association of Equine Practitioners' Convention, held Dec. 7-11 in Nashville, Tenn., Chelsey Miller, DVM, of Iron Will Mobile Veterinary Service, in Chapel Hill, N.C., described what veterinarians know about EK and how to currently best manage the condition medically.

Eosinophils are a type of white blood cell that respond to allergic and/or parasitic stimuli. Miller said that while exact etiology remains unknown, EK (also referred to as equine eosinophilic keratitis) occurs when eosinophils invade the horse's cornea. Miller said the disease typically occurs seasonally (92% of cases are reported from June to October, she said) in well-managed horses and seems to be prevalent in the mid-Atlantic and midwestern states.

Miller said that many affected horses (44%) have a history of conjunctivitis (inflammation of the conjunctiva that lines the inner eyelids) or keratitis (corneal inflammation) in the past one to five years with a poor response to treatment for these conditions.

This very painful disease can occur in one or both eyes, Miller said. While she cautioned that lesions can be easy to miss, clinical signs include conjunctivitis, corneal ulceration or edema (fluid swelling), mucoid (resembling mucus) discharge, and white corneal plaques.

Veterinarians diagnose EK using a combination of clinical signs identified on ophthalmic exam and characteristic cytology (examination of cells under a microscope), Miller said.

Unfortunately, EK generally doesn't respond to treatment quickly. Treatment revolves around topical antifungal and antimicrobial medications in addition to a topical mydriatic (a drug that dilates the pupil), Miller said. Additionally, she said, systemic corticosteroids could shorten the treatment duration, and oral cetirizine (marketed for humans as Zyrtek) administration appears to help affected horses.

"At this point we have good evidence from the retrospective that Dr. Mary Utter (DVM, PhD, Dipl. ACVO) and I published that treating with cetirizine in the highest 'at-risk' months (June-August) will decrease recurrence of the disease," Miller explained. "From anecdotal experience, I feel that treating during an active bout is helpful, in conjunction with other therapies."

Miller recommended veterinarians evaluate affected horses every two to three days for the first 10 days to ensure the horse is responding appropriately. "Then," she said, "once weekly until all clinical signs have resolved, and most importantly until the corneal ulcers have completely healed—which is the part of the disease that takes the longest to resolve, likely due to inhibition of normal wound healing resulting from eosinophilic major basic protein."

One difficulty of treating EK—and any equine eye problem, for that matter—is administering topical medication.

"Is the horse actually getting the medication they're supposed to be getting?" she asked.

While horses might tolerate short-term ocular medication administration, the longer treatment duration associated with EK could pose problematic. Horses might stop tolerating medication administration, which could negatively impact treatment.

To ensure horses receive the medication they need to recover, Miller said veterinarians might need to insert a subpalpebral lavage system. Using this system, the veterinarian passes flexible tubing through the upper or lower eyelid and stitches it into place, allowing medication to be administered via the other end of the tube.

Take-Home Message

"Eosinophilic keratoconjunctivitis in horses is a disease that can be frustrating for veterinarians, owners, and horses alike because of the severity of clinical signs and prolonged treatment often required to achieve resolution," Miller concluded. Veterinarians should closely monitor treatment. While some horses recover well, many horses' disease recurs.