To kick off this fourth issue of the IEOC newsletter, let’s revisit our organization’s goals:

* To host an international scientific meeting once a year.
* To encourage publication of research and review material on equine ophthalmology
* To bring state of the art information to practitioners

Regarding the first goal, we are excited to announce that the 2nd Dorothy Havemeyer Foundation Equine Ophthalmology Symposium will be held in West Palm Beach, Florida April 1-2, 2011. Details are included in this newsletter, and can also be found in the Symposium brochure. Previous IEOC and DHF Symposia, held in Lexington, KY in 2009 and Vienna, Austria in 2010, were well attended. Abstracts from these past symposia can be found on the IEOC website.

With respect to the second goal, the annual meeting of the American College of Veterinary Ophthalmologists, which was held this year in San Diego, included presentations on a number of topics related to equine ophthalmology.

And finally, related to the third goal, one of our feature articles this month describes confocal microscopy. This advanced imaging technique allows detailed study of the ultrastructure of the cornea and is in regular use in the Department of Ophthalmology at Cornell University. Also, in December, 2010, one of our members will be delivering advanced information about equine ophthalmology to thousands of equine practitioners from around the world. Dr. Dennis Brooks will give the keynote lecture on December 6, 2010 on “Catastrophic Corneal Disease” at the annual meeting of the American Association of Equine Practitioners in Baltimore, MD.

Look for the feature titled “In My Practice...” in this issue, along with our usual case report, and “What’s Your Diagnosis” sections. Please pass along any comments regarding the newsletter, including suggestions for future topics, to Dr. Ann Dwyer at adwyer@rochester.rr.com.

Enjoy the newsletter!

Dr. Mary Lassaline Utter, DVM, PhD, DACVO,
New Bolton Center, University of Pennsylvania
Dr. Tim Cutler, from Equine Ophthalmology PA, West Palm Beach Florida, described the technique and results of intracorneal administration of antifungal drugs in the treatment of resistant fungal keratitis in four horses. Use of either amphoteracin or voriconazole injected intrastromally resulted in rapid improvement and vision was retained in all horses, although mild to moderate scarring resulted from the disease.

Dr. Richard McMullen, from North Carolina State University, presented data from a study to determine if mydriasis affects the refractive state of the equine eye. Streak retinoscopy was performed on eight adult horses after administration of topical tropicamide. As the pupils dilated, no significant differences in refraction were noted compared to control, non-dilated eyes or from pre-mydriasis refraction. Therefore, he concluded that tropicamide-induced mydriasis did not influence results of streak retinoscopy.

To conclude this breakout session, Dr. Lynn Sandmeyer from the University of Saskatchewan, reported on the results of a study to determine if the Leopard Complex spotting locus (LP), previously associated with congenital stationary night blindness (CSNB) in the Appaloosa horse, was similarly associated with CSNB in the miniature horse. Miniature horses (n=3) with the LP/LP phenotype had CSNB and were found to have SNPs associated with CSNB. Therefore, it was concluded that like the Appaloosa horse, CSNB does appear to be associated with LP in the miniature horse.

Be sure to participate in a similar session at the next ACVO Conference in Hilton Head, SC.

Dr. Amber Labelle, from the University of Illinois, presented the results of a study designed to determine if ocular disease, such as ulcerative keratitis or uveitis, affected the systemic inflammatory response of the horse, as evaluated by plasma fibrinogen and serum amyloid levels. She found no significant differences in these parameters in horses with ocular disease compared to normal horses, thus concluding that ocular disease did not result in systemic inflammation in horses.

Dr. Mary Utter, from the University of Pennsylvania, presented results from her retrospective study on the recurrence rates of corneal limbal squamous cell carcinoma that was treated with keratectomy and cryotherapy, with and without 5-fluorourasil. She found a non-recurrence rate of 80% overall and no recurrence in animals treated with 5-flourouracil.

Dr. Elizabeth Giuliano, from the University of Missouri, reported on the successful treatment of 10 periocular squamous cell carcinomas with excision and Visudyne photodynamic therapy (PDT). She also compared these results to surgical excision and cryotherapy of periocular squamous cell carcinoma. Horses receiving PDT had no tumor recurrence (follow-up of 25 to 50 months), while 11/14 of those treated with excision and cryotherapy had recurrence at a mean time of 10 months after treatment.
Orbital Fat Prolapse in a Thoroughbred Mare

Submitted by Heather Gray, DVM, DACVO
Oak Ridge Veterinary Professional Corporation

A 3 year old Thoroughbred Mare presented for evaluation of a corneal ulcer on the right eye (OD). The mare had a 2 ½ year history of a mass associated with the third eyelid OD following known trauma. It had been diagnosed as a prolapsed gland of the third eyelid OD. A Morgan pocket technique had initially been performed by the owner (an equine veterinarian) which failed. The horse was then examined by a veterinary ophthalmologist who agreed with the diagnosis and performed a ‘tacking’ procedure. The mass recurred. Finally, the horse had undergone a third surgery during which a modified Kaswan combined with a modified Morgan pocket technique were performed. These procedures also failed. The horse had a history of chronic epiphora and intermittent rubbing at the eye since the mass first appeared. More recently a corneal ulcer had been noted and a second opinion was sought.

On presentation, the mare had moderate blepharospasm, epiphora and enophthalmos OD. The Schirmer tear test values were 30+ mm/min OU. The cornea stained fluorescein positive OD. The intraocular pressure readings were 27 mmHg OD and 24 mmHg OS. A 1 ½-2cm in diameter mobile, smooth, pale pink soft tissue mass was noted arising from the bulbar aspect of the third eyelid and extending dorsal to the free margin of the third eyelid OD, causing elevation of the third eyelid and displacing the third eyelid forward. The third eyelid did not move freely over the cornea. Conjunctival hyperemia was present. A 4mm x 7mm superficial corneal ulcer, with associated corneal edema, was noted paraxially just dorsal to the leading edge of the third eyelid. Iris-to-iris persistent pupillary membranes were noted OU. The rest of the ophthalmic examination was normal.

The mare was diagnosed with a probable orbital fat prolapse and a superficial corneal ulcer. The lack of normal third eyelid movement was believed to be a result of the mass and secondary to scarring from the previous surgeries. Surgical correction of the orbital fat prolapsed was recommended. Topical triple antibiotic solution OD QID and topical atropine OD BID were initiated pending surgery.

The horse was anaesthetized and placed in left lateral recumbency. The conjunctiva overlying the mass was incised and the underlying tissue carefully dissected ventromedial to the globe as far caudally as possible, clamped with a haemostat and then transected. A cytology sample of this yellow-white, friable tissue was obtained. The tissue was determined to be adipose tissue. The deeper fascial layer was closed using 6-0 Vicryl in a simple continuous suture pattern. The conjunctiva was then closed using 6-0 Vicryl in a simple continuous suture pattern. The horse recovered well from anesthesia and the topical medications were continued in addition to systemic Banamine.

Two weeks later the corneal ulcer had healed and the epiphora, enophthalmos and blepharospasm had resolved. The third eyelid appeared normal with no associated mass noted. The medications were discontinued. Five years post-operatively the mare continues to do well with no signs of orbital fat reprolapse or other ocular problems.

Orbital fat prolapse can occur due to weakened episcleral fascia, secondary to trauma (as in this case), or iatrogenically following excision of the nictitating membrane. 1-4 If necessary, a fine needle aspirate with cytology or biopsy can be performed in cases to confirm the diagnosis prior to surgery. Treatment involves surgical resection of the prolapsed fat and closure of the deeper fascial layer followed by closure of the conjunctiva.1-5

References:
The 2011 DHF Equine Ophthalmology Symposium will provide the latest knowledge in equine ophthalmology. This intimate meeting will allow much personal interaction, sharing of information, and foster collaboration. Held in the heart of the Florida equine circuit, it also allows the attendee to visit local equine facilities or soak up the sun on the beach. Dr. Tim Cutler will be our local host in West Palm Beach. Attendance will be limited to the first 100 registrants.

This symposium will consist of submitted scientific abstracts and case discussions, with two “state of the art” invited lecturers from members of the International Equine Ophthalmology Consortium (IEOC). Additionally, we will have Dr. Ernest Bailey from the Gluck Equine Research Center provide an in-depth lecture on Saturday. This conference format will provide both practical and theoretical advancements in equine ophthalmology. Because a major goal of the IEOC is to foster clinical and research collaboration, this symposium format is designed to allow much attendee interaction and discussion! Attendees are encouraged submit an abstract and/or case presentation and share their experiences with others. Furthermore, we will submit for RACE approval for continuing education this year.

The meeting will begin with a welcome reception at the West Palm Beach Marriott on the evening of Thursday, March 31st, 2011. On Friday, April 1st we will have scientific abstracts on adnexa and corneal disorders, followed by a state of the art lecture. In the afternoon, we will participate in case presentations and discussions on adnexa and cornea. On Saturday, April 2nd, we will hear scientific abstracts on uvea, glaucoma, and posterior segment disease followed by an in-depth research lecture. In the afternoon, we will participate in additional case presentations, discussions, and a state of the art lecture.

Dr. Cutler has planned an excellent social program for DHF Equine Ophthalmology Symposium attendees and guests. Registration includes the welcome reception, all breaks and lunches on Friday and Saturday, and our group dinner at the West Palm Beach Marriott on Friday evening. We are planning a dinner on Saturday at a local equine facility for an additional fee. Guests are invited to register for all of these events, however attendance may be limited. Please refer to Symposium brochure for further information.

Please register early and secure your space in this special symposium!

Dr. Brian C. Gilger
Raleigh, North Carolina

2011 Dorothy Havemeyer Foundation
Equine Ophthalmology Symposium

West Palm Beach, FL
April 1-2, 2011
West Palm Beach Marriott
West Palm Beach, Florida
In vivo Corneal Confocal Microscopy

Submitted by Eric C. Ledbetter, DVM, DACVO
Robert Hovey Udall Assistant Professor of Ophthalmology, Cornell University, Hospital for Animals

In vivo corneal confocal microscopes contain an illumination and observation system with a common focal point, so that only reflected light from the field of observation contributes to image formation. This system permits the generation of high resolution microscopic images of the cornea in a non-invasive format and without requiring fixation or staining of the tissue. Real-time viewing of the images can be performed while scanning and the focal plane of the confocal microscope is adjustable to allow examination at all depths of the equine cornea.

At the Cornell University Hospital for Animals, we have modified an in vivo corneal confocal microscope system originally designed for use in humans (Heidelberg Retina Tomograph II and Rostock Corneal Module) and have been using this instrument to examine horses. Slight contact with a layer of gel placed on the corneal surface is required, so examinations are typically performed with standing sedation and topical anesthetic. Indications for in vivo corneal confocal microscopy in horses include a variety of corneal diseases and are similar to the indications for corneal biopsy; however, in vivo confocal microscopy provides several advantages over conventional biopsy procedures. The examination is non-invasive, safe, and results are obtained immediately. Sequential examinations may be performed without damaging the cornea and corneal tissues are observed without fixation, staining, or biopsy collection artifacts.

Examples of clinical scenarios where in vivo corneal confocal microscopy has been particularly useful in horses include confirming the presence of fungi within corneal lesions (including corneal ulcers and abscesses), distinguishing neoplastic and inflammatory corneal lesions, and localizing small foreign bodies within the cornea that are too small to be observed by slit-lamp biomicroscopy or that are obscured by corneal opacities (e.g., vascularization, edema, leukocyte infiltrates). Horses may be referred for confocal microscopic evaluation by calling the Cornell University College of Veterinary Medicine Equine Hospital at 607-253-3100.
News from IEOC Members

The members of the IEOC have been busy since the last newsletter, both personally and professionally!

Congratulations to…

Anne Gemensky-Metzler and Amy Rankin for completing 26 mile marathon runs!

Jay Harrington, Richard McMullen and Brian Gilger for being awarded a $5,000 Vision for Animals Foundation Grant for the project “Correlation of clinical and histologic effects of diode laser endoscopic cyclophotocoagulation on the normal equine eye.”

Amber Labelle and Catherine Nunnery for becoming Diplomates of the American College of Veterinary Ophthalmologists.

Ann Dwyer for being nominated Vice-President of the American Association of Equine Practitioners and furthering ophthalmology education for all equine practitioners.

Introducing the IEOC’s new Committee Members:

Executive Committee:
Brian Gilger
Dennis Brooks
Andy Matthews
Noelle La Croix

Planning Committee:
Tim Cutler, Chair
Robert Lowe
Rachel Allbaugh
Tammy Michau-Miller
Caryn Plummer

Public Relations Committee:
Ann Dwyer, Chair
Amber Labelle
Richard McMullen
Mary Utter
Heather Gray
William Miller

Thank you for serving!

Membership Reminder

Renew your membership dues before December 1st in order to be eligible for everything IEOC membership offers including:

1) Access to the member section of the IEOC web site;
2) Contact information listed on the IEOC web site for referrals;
3) Reduced rates and priority registration for the annual symposium;
4) Newsletters and other printed or digital materials from the IEOC.

Don’t miss out, renew today!

Future Newsletter Submissions

We would love to hear about your experiential equine ophthalmology anecdotes, whether educational, harrowing, or humorous. Send stories or excerpts to be run in the quarterly newsletter to office@equineophtho.com.

Renew your IEOC member dues before December 1st to retain member benefits.
A 9 year old Quarter horse gelding presented for evaluation of a painful right eye of 48 hours duration. The horse had been noted to have a moderate degree of blepharospasm and serous ocular discharge the day prior to presentation. It had been administered three doses of topical triple antibiotic/dexamethasone ointment and three doses of topical atropine ointment prior to presentation to a veterinary ophthalmologist for evaluation. The owner reports no previous history of ocular disease and no systemic clinical signs.

WHAT IS YOUR DIAGNOSIS? (The answer, and related information on the history, treatment and outcome of the case, can be found on the IEOC website in the member area. You must be logged in to the member area to access this page.)