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THE OCULAR OUTLOOK

Eye Care FOR ANIMALS
Seeing life through your pet's eyes

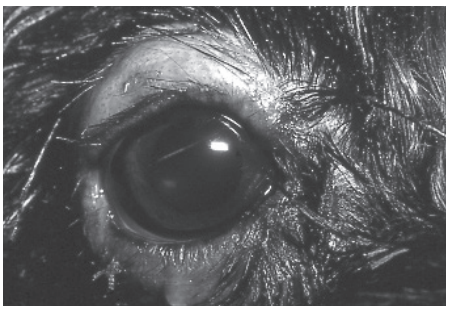
A Quarterly Publication for the Veterinary Community from Eye Care for Animals

Ocular/Adnexal Manifestations of Systemic Disease Part 2. (Dermatologic, Otic, and Dental Disease)

Tiffany Blocker, DVM, DACVO
Eye Care for Animals

Imagine a patient presenting with a primary complaint of ocular irritation consisting of redness and discharge, with or without rubbing. These are non-specific signs with multiple causes. Pertinent historical information should include questioning the client regarding onset of signs, duration of signs, whether the patient has had this problem before and whether treatment, if initiated, was successful. Owners of breeds that are commonly known to be predisposed to eye, ear, and skin problems may not always reveal the "actual" duration of signs, they may only indicate that now things are worse than ever. Other important information to gather will include whether patient has had any prior or current skin or ear problems. It is not uncommon for a client to deny or be unaware of other problems. Therefore, it is extremely important to perform a complete examination of the patient even if the only complaint is an "eye problem". This will avoid overlooking an otitis, dermatitis or other problem that requires treatment. Appropriate treatment for these conditions is often determined via cytologic and/or culture results.

History, patient comfort level, severity of redness, amount and color of discharge, as well as symmetry of signs will help to determine the underlying cause of many ophthalmic diseases. As with any eye exam, evaluation should be methodical and thorough. Careful evaluation of the periocular tissues may reveal swelling, erythema, and/or discharge (purulent, mucoid, epiphora). There may be patchy alopecia or even discoloration of the periocular skin particularly if the patient has been rubbing for any length of time. These signs are consistent with blepharitis.



Blepharitis

The meibomian gland duct openings may be dilated and white/yellow discharge may appear at each orifice along the lid margins giving the appearance of a "string of pearls" consistent with meibomitis or meibomianitis. The palpebral conjunctiva may have varying degrees of hyperemia and/or chemosis. Follicular hyperplasia may be evidenced by multiple raised, glistening follicles on

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the palpebral conjunctiva and sometimes on the bulbar surface of the third eyelid (when this surface is evaluated, it is important to rule out foreign bodies). Hyperemia of the bulbar conjunctiva can also be apparent. Keep in mind that a patient who is rubbing their eyes will often have many of the above signs. An e-collar will help eliminate the effects of self-trauma while treatment is initiated.

These patients should always be evaluated diagnostically using the Schirmer Tear Test 1 (STT1), and flourescein staining. Remember to perform STT1 prior to the instillation of any drops into the eye (such as proparacaine if there is pain). Fluorescein staining of the cornea is performed not only to rule out corneal ulceration but also to further characterize the corneal tear film and it's quality via tear film break up time (TFBUT, which should be about 15-20 seconds.) Patients with blepharitis, conjunctivitis, or meibomitis may have reduced TFBUT. Why? The meibomian glands are responsible for secreting the oily layer of the tear film, which prevents evaporation. The conjunctiva contains goblet cells which also secrete a portion of the tear film, mucin. Therefore, conditions of the eyelids, conjunctiva, and meibobomian glands can lead to temporary abnormalities in tear film, which can lead to more permanent condition if left untreated or if treated inappropriately.

It is important to remember that the eyelids are comprised of skin. Therefore, causes for blepharoconjunctivitis and meibomitis include dermatologic diseases. Allergic, parasitic, fungal, bacterial, and immune-mediated conditions predominate. Neoplastic conditions are less common. Atopic skin disease and concurrent secondary invaders are probably the most common conditions related to blepharoconjunctivitis and proper diagnosis and consistent treatment of concurrent skin disease is paramount to long-term successful treatment of these ocular conditions.

Patients with chronic ear disease, with or without dermatologic disease, can present with similar signs of blepharoconjunctivitis and keratitis if concurrent tear film abnormalities are present or the patient has been rubbing. These patients can also develop more severe ocular manifestations including signs of Horner's Syndrome or ptosis and lagophthalmos due to facial nerve palsy or paralysis. Even keratoconjunctivitis sicca can occur as a consequence of CNVII de-nervation if the middle ear becomes affected in cases of chronically inflamed/infected ears. These patients may or may not respond to lacrimomimetics. If there is a complete absence of tear production, then a direct-acting parasympathomomimetic (oral pilocarpine, using a careful titration protocol) may be instituted in an attempt to stimulate lacrimation. Facial nerve paralysis leading to an incomplete or absent blink reflex may warrant placement of topical lubricants in order to protect the corneal surface. Fortunately, the third eyelid is not often affected and if present will provide a source of protection. Keratitis may be present in these patients leading to scarring, vascularization, and pigmentation of the corneal surface and resultant visual

Editor's box

Ocular Outlook

Editor: Sara Calvarese, DVM, DACVO
Managing Editor: Julie Gamarano

Eye Care for Animals welcomes your comments on the Ocular Outlook.
Please e-mail your feedback to jgamarano@eyecareforanimals.com
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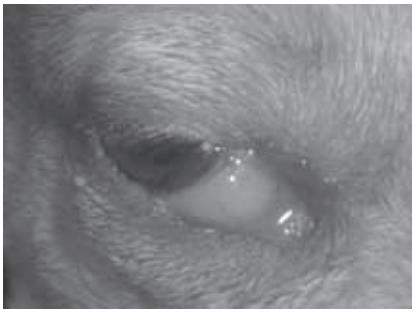
deficits due to opacification.

Similarly, patients with oral cavity diseases can have associated periocular, ocular, or even orbital signs. Oral examination should be included whenever a patient presents for persistent blepharitis or conjunctivitis, with or without discharge. These patients are often older patients and the small and toy breeds seem to be predisposed. Of course, primary ocular disease should be ruled out first via thorough examination and diagnostics, including STT, Fluorescein staining, and evaluation of intraocular pressures. Treatment for a non-specific blepharoconjunctivitis with topical antibiotic/steroid preparation and systemic antibiotics and anti-inflammatories often leads to improvement or resolution of clinical signs only to have them return once therapy is discontinued.



Exophthalmos associated with orbital abscess

Severe ocular manifestations of dental disease include painful exophthalmos, periocular swelling, or even draining tracts, usually with associated conjunctival hyperemia and discharge. Periodontal disease with an

Foreign body in the mouth of a dog with an orbital abscess

associated periapical tooth root abscess is usually the culprit. Occasionally, periocular or orbital cellulitis, with or without associated globe involvement (endophthalmitis) occurs following traumatic dental extractions if the extraction probe penetrates the orbit (remember there is no bony coverage of the orbital floor, it's all soft tissue!). Treatment is aimed at reducing swelling of periocular orbital tissues with systemic anti-inflammatories (the author prefers steroids if patient can tolerate) and reducing infection with broad-spectrum antimicrobials (the author prefers broad-spectrum anaerobic coverage ie. Amoxicillin-clavulanate.) Treatment of associated exposure keratitis and intraocular inflammation is crucial as well.

In summary, there is strong correlation between the eyes, ears, nose, and throat. Therefore, when evaluating the eye for non-specific signs of conjunctivitis and/or blepharitis consider that these ocular signs may be associated with otic, dermatologic, or oral cavity diseases. Similarly, systemic evaluation for other signs of infection or inflammation and the use of straightforward diagnostics such as a CBC, chemistry profile, urinalysis, and cytology and culture of appropriate tissues will help find sources of inflammation and infection that can manifest as ocular signs. Remember to treat the ocular inflammation symptomatically while treating the underlying concurrent ear, skin, or oral cavity disease and follow up with more permanent treatment promptly, whether it be dental extractions, systemic and topical therapy for deep ear infection or therapy for allergies or immune-mediated dermatologic conditions. Prompt, pro-active treatment and collaboration with other specialists (ophthalmologists, dentists, dermatologists) during the process will help ensure a successful outcome. Of course, client compliance plays an important role in your ability to provide the best short and long-term treatment for patients with these often chronic conditions.

EYE CARE FOR ANIMALS HELPS TO PRESERVE SIGHT FOR WORKING CANINES

May 2010

Eye Care for Animals is teaming up with The American College of Veterinary Ophthalmologists® (ACVO®) to get the word out to service dog handlers and take part in the 3rd Annual ACVO® National Service Dog Eye Exam event.

Service Dog groups include: guide dogs, handicapped assistance dogs, detection dogs, and search and rescue dogs. Dogs must be 'working dogs' which were certified through a formal training program or organization to qualify. The goal of this event is to make a large impact and to help preserve the sight of these animals whose partners depend upon them.

Participants who qualify must first register online for the event at www.acvoeyeexam.org. Click on Dog owners/participants at the top of the page and follow the instructions. Once a participant is registered, they can contact a local participating Eye Care for Animals and let them know they are registered for the ACVO® Service Dog Event and need to make an appointment.

UPCOMING EYE CARE FOR ANIMALS CONTINUING EDUCATION LECTURES

Las Vegas, Nevada
April 21, 2010

Ocular Pharmacology

Eye Care for Animals
5231 W. Charleston, Suite 150
Las Vegas, NV 89146

Newport Beach, California
May 1 & 2, 2010

2nd Annual Weekend with the Specialists

Newport Beach Marriott Spa & Hotel
900 Newport Drive Center
Newport Beach, CA 92660

Avondale, Arizona
May 8, 2010

A Day with the Specialists

13034 W Rancho Santa Fe Blvd. #102
Avondale, AZ 85392

Houston, TX
May 13, 2010

Ocular Emergencies

Eye Care for Animals
17395 Tomball Parkway #3-H
Houston, TX 77064

San Diego, CA
May 26, 2010

Ocular Emergencies

Eye Care for Animals
5040 Convoy Street, Suite B
San Diego, CA 92111

Tempe, Arizona
June 26, 2010

A Day with the Specialists

Fiesta Resort Conference Center
2100 South Priest Drive
Tempe, AZ 85282

Albuquerque, New Mexico
August 21 & 22, 2010

4th Annual Weekend with the Specialists

Embassy Suites Hotel & Spa
1000 Woodward Place North East
Albuquerque, New Mexico 87102

Tempe, Arizona
November 13, 2010

A Day with the Specialists

Fiesta Resort Conference Center
2100 South Priest Drive
Tempe, AZ 85282

Please contact Julie Gamarano for further information at 480-682-6911
jgamarano@eyecareforanimals.com

CERF CORNER

Mark Bobofchak
DVM, DACVO
Eye Care for Animals

Corneal Endothelial Dystrophy

Corneal endothelial dystrophy is a hereditary condition characterized by progressive corneal edema. The corneal endothelium is a single layer of cells responsible for maintaining the relatively dehydrated state of the cornea by actively pumping water into the anterior chamber. This allows the cornea to remain transparent. These cells do not regenerate well in the dog and as they are lost, neighboring cells spread out to fill in the gaps. When the number of functional endothelial cells falls below a critical threshold number, they are unable to adequately maintain corneal transparency and corneal edema develops.

Clinically, this condition is seen most commonly in the Boston terrier, Chihuahua, and Dachshund as a hereditary condition. Progressive corneal edema starting in the lateral cornea and not associated with ocular inflammation, pain, or vision changes is typical. Most dogs are middle aged or older at the time of onset. A similar condition, termed endothelial degeneration, can occur in any breed as a consequence of endothelial damage from uveitis, trauma, anterior lens luxations, or advancing age.

Treatment is minimal in the early stages. No medication is able to reverse the edema at this time. Topical steroids have been advocated, but appear to be of little benefit in preventing advancement of the condition. With progression of the edema, corneal bullae and subsequent ulcers can develop. These ulcers are treated with topical antibiotics and 5% sodium chloride but can often be slow to heal. A thermokeratoplasty can be performed to help decrease the incidence of recurrent corneal ulcers and improve comfort in severely edematous corneas. This procedure creates a layer of scar tissue under the epithelium and limits the formation of corneal bullae, but is not expected to improve the transparency of the cornea. A similar condition in people (Fuch's Dystrophy) is successfully treated with a corneal transplant, but this rarely done in dogs due to the difficulty in maintaining a clear graft. Fortunately, most dogs remain functionally visual even with diffuse corneal edema and only rarely does this condition progress to the point of impacting the quality of life.

Check us out at www.eyecareforanimals.com

MEMO TO MANAGERS

What Motivates Employees To Work?!

Karen Webster, MBA
Chief Operations Officer
Eye Care for Animals

The term motivation means “to move”. Motivation can easily evolve around three things:

1) what energizes employee behavior,
2) what directs or channels that behavior, and
3) how the employee sustains or maintains that behavior.

In the workplace have you ever wondered why some employees strive harder than others, or why some employees seek out higher levels of responsibilities and others do not, or why wage incentives or bonuses stimulate some employees and not others? The complex nature of trying to figure out what motivates employees is not always clear cut.

When thinking about what drives certain types of behaviors some experts say it is environmental forces. For example, for employees working in the veterinary field the human and animal bond is a force that can drive certain motivational behaviors. Employees are energized by simply working with animals.

Goal orientation can also help direct or channel employee behaviors. Set goals and get employee buy-in. Goals can be related to satisfaction surveys, meeting or exceeding established benchmarks, or simply making sure that every client and patient who walks out the door is 100% satisfied with how they were treated and cared for.

Forces within the employee and within the work environment reinforce how employees sustain or maintain their behavior. Thus, when trying to determine what motivates the team give consideration to employees required job tasks (i.e. autonomy, variety) and their work environment (i.e. supervision, rewards, recognition and praise). It helps if the employee is a good fit for the position—a round peg in a round hole, that they have goals to meet, and are rewarded with praise and recognition for a job well done.

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