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

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OCULAR Outlook

A QUARTERLY PUBLICATION FOR THE VETERINARY COMMUNITY FROM EYE CARE FOR ANIMALS

ENDOSCOPIC CYCLOPHOTOCOAGULATION FOR TREATMENT OF GLAUCOMA

Jennifer Urbanz, DVM, DACVO
Eye Care for Animals

Glaucoma is a tough issue in veterinary medicine. I do not know any veterinary ophthalmologist that does not loathe the conversation that must be had when a beloved pet is diagnosed with glaucoma. There is no one single treatment to combat the problem, and even multiple modalities can be unrewarding, which inevitably leaves the pet blind and painful in the affected eye(s). But newer treatments are becoming available to pet owners that have opened new doors to successful long- term management of primary and secondary glaucoma.

While Endocyclophotocoagulation (ECP) is in its infancy in veterinary medicine, it has been used successfully in human medicine for 15 years. Traditional surgical therapy for glaucoma has been in the form of transcleral cyclophotocoagulation (TSCP), transcleral cyclocryotherapy and valve procedures. These traditional surgical therapies combined with multiple anti-glaucoma medications have had limited long-term success for maintaining functional vision and comfort due to lack of adequate intraocular pressure control (IOP). ECP utilizes a fiber optic camera that allows the ophthalmologist to directly visualize the ciliary processes inside the eye where aqueous humor is produced. With this visualization, a laser beam is directly targeted at the ciliary processes to provide excellent focal destruction of fluid producing cells. TSCP uses similar laser energy, but the beam must penetrate from the outside of the eye through the sclera, and the ciliary processes are not effectively treated. While cyclocryotherapy causes adequate destruction of the ciliary processes, the treated area is so wide spread that other consequences such as severe fibrinous uveitis, cataract formation, retinal detachment, and phthisis bulbi are common. Valve procedures are successful initially, but eventual fibrosis at the filtration site in the subconjunctival tissue occurs as early as 3 months post-operatively leading to early failure.

Endocyclophotocoagulation is not without its challenges and there is little published on the exact specifics of the procedure and success rate in veterinary medicine. But, with this new modality, more effective long-term control of intraocular pressure, functional vision, and comfort are possible. ECP has been successfully utilized in dogs, cats, and horses with primary and secondary glaucoma.
In animals with primary glaucoma, effective lasering of the ciliary processes can only be achieved after the lens has been removed. Therefore, the lens is removed via phacoemulsification (similar technique used in removing cataracts), and then the ECP probe is inserted into the eye to internally laser

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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 or call Julie at (480) 682-6911.

For electronic subscription please visit www.eyecareforanimals.com

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Leesburg, Virginia
Pewaukee, Wisconsin

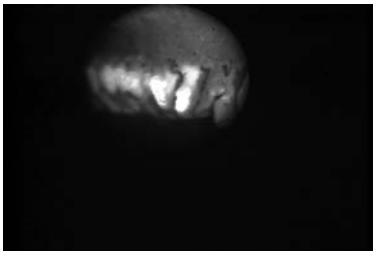
ENDOSCOPIC CYCLOPHOTOCOAGULATION FOR TREATMENT OF GLAUCOMA (CONTINUED FROM PAGE 1)

the ciliary processes. Post-operative treatment is similar to cataract surgery with close monitoring. In primary glaucoma, the drainage angle and outflow of aqueous humor are anatomically compromised. The challenge with these patients lies in that it can take several weeks for the effects of laser to be realized and post-operative pressure problems can occur during this time, which necessitates frequent visits to the ophthalmologist to maintain normal intraocular pressure until the fluid inflow/outflow is balanced. Sometimes a second laser treatment is needed in cases of primary glaucoma to achieve adequate fluid balance.


Endocyclophotocoagulation probe

Secondary glaucoma, specifically post-cataract extraction and post-lentectomy for primary lens luxation, is also treated successfully with ECP. In the past, secondary glaucoma after cataract extraction or luxated lens removal meant an inevitable spiral into a painful and blind eye after utilizing multiple anti-glaucoma medications. But with the introduction of ECP, a single laser treatment can be very effective in long-term control of IOP without the need for multiple anti-glaucoma medications.

I am not saying that ECP is the final answer for glaucoma. We have much to learn about the procedure, what patients are good candidates, post-operative management, and success rates. Those veterinary ophthalmologists that have ECP capabilities have gone through much trial and error to understand the limitations of the procedure. The procedure is not without complications and surgical therapy is more successful in the early phases of glaucoma when the eye has had minimal damage. As a general practitioner, education of clients with at-risk breeds is essential. This pertains to breeds predisposed to primary glaucoma such as the Cocker Spaniel and Bassett Hound, among many others (see below), as well as terrier breeds that are at risk of primary lens luxation. Tonometry should be a part of any ocular exam and should be utilized during wellness exams on those at risk breeds. This will heighten the pet owner's awareness and urgency if an ocular problem should arise. Early referral is essential as any rise in IOP is vision threatening within the first 12 hours. Pet owners, unless educated on the urgency, often do not seek a veterinarian's help until it is too late to save vision.


View of the ciliary processes via endocyclophotocoagulation probe

There are many breeds at risk for primary glaucoma. The main breeds that carry a 5% risk in their population include the Cocker Spaniel, Basset Hound, and Chow Chow. The Boston Terrier also carries a 3% risk of primary glaucoma. Other breeds at a lesser risk of primary glaucoma include: Akita, Australian Cattle Dog, Beagle,

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ENDOSCOPIC CYCLOPHOTOCOAGULATION FOR TREATMENT OF GLAUCOMA (CONTINUED FROM PAGE 2)

Bichon Frise, Bouvier de Flandes, Bulldog, Bull Mastiff, Cairn Terrier, Dachshund, English Cocker, Lhasa Apso, Great Dane, Maltese, Miniature and Standard Poodle, Miniature Schnauzer, Norwegian Elkhound, Pekingese, Retriever breeds, Terrier breeds, Samoyed, Shi Tzu, Siberian Husky, Springer Spaniel, Shar Pei, Shibu Inu, and Weimaraner (including mixes of these breeds). Terrier breeds have been documented with lens luxation due to a hereditary malformation of lens zonules. If a pet owner is overly concerned that their pet is at risk for primary glaucoma, gonioscopy can be performed by an ophthalmologist to determine the status of the drainage angle; the closure of which is a positive predictor of disease. Also, a slit lamp examination can determine if a terrier is at risk for primary lens luxation. Early identification of at-risk patients is key to maintaining vision for life.

BETTY WHITE AND JACQUELINE BISSET SUPPORT EYE CARE FOR ANIMALS

Celebrities Endorse Free Eye Exams for Service Animals in May

Using their position in the public eye to shine a spotlight on a vision of a brighter future for guide dogs, entertainment icons Betty White and Jacqueline Bisset have offered their support for Eye Care for Animals (ECFA). ECFA offered screening exams for service animals free of charge as part of the ACVO/Merial NationalService Dog Eye Exam event in May.

“These animals open our eyes to many things in life. The doctors give them a little pay back,” Jacqueline Bisset stated on behalf of Eye Care for Animals, while animal-loving luminary Betty White offered her praise for vets saving the vision of all creatures great and small, giving “my congratulations and deep appreciation for the good work done by Eye Care for Animals.”

Eye Care for Animals offered the free screening ocular exams to Service Animals throughout May as part of the ACVO/Merial National Service Dog Eye Exam event. Ophthalmologists at over 30 ECFA locations nationwide donated their time for active working dogs, cats or horses who are certified in order to give back to those who serve people in need.

Spotlight on NEW LOCATIONS

Towson
(Beginning July 21, 2011)

1209 Cromwell Bridge Road
Towson, MD 21286
Phone: (877) 409-3937

1st & 3rd Thursday of each month,
9:00 a.m. - 3:00 p.m.
By appointment only - please call first

Lee’s Summit
(Beginning August 3, 2011)

3495 N.E. Ralph Powell Road
Lee’s Summit, MO 64064
Phone: (800) 776-3937

Monday-Wednesday-Friday
9:00 a.m. - 5:00 p.m.

Upcoming EVENTS

July 11, 2011 - Santa Rosa, CA
Ophthalmology / Dermatology CE

August 20-21, 2011 - Albuquerque, NM
Weekend with the Specialists

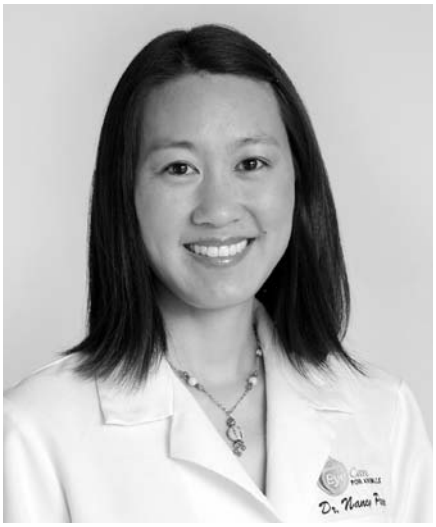
August 31, 2011 - Gilbert, AZ
Ophthalmology CE

September 24, 2011 - Tempe, AZ
A Day with the Specialists

For more information please contact Julie Gamarano at jgamarano@eyecareforanimals.com

DIAGNOSTIC CHALLENGE

Third eyelid mass in a dog



Nancy Park, VMD
Practice Limited to Diseases of the Eye

Signalment:
Twelve year-old male neutered Jack Russell Terrier

History:
Four month history of intermittent epiphora OD followed by an acute presentation of a red mass in the corner of the eye. No signs of irritation were reported.

Figure 1: Pre-operative appearance of the third eyelid mass OD

Initial Exam Findings and Diagnostics:
Initial diagnostics including intraocular pressures, Schirmer Tear Test values, fluorescein staining and the tear film break-up time were within normal limits OU. Neuro-ophthalmic examination was unremarkable. Retropulsion was normal and no pain was elicited upon orbital palpation. The bulbar aspect of the third eyelid OD contained a 5 x 5 x 3 mm oblong hyperemic stalk of tissue protruding from the bulbar conjunctiva **(Figures 1, 2).** Conjunctival hyperemia was limited to the bulbar aspect of the third eyelid as well as the ventro-lateral bulbar conjunctiva.

Figure 2: Evaluation of the bulbar surface of the third eyelid OD

Differential Considerations:
Based on the appearance of the lesion, presence on the TEL and age of the patient, hemangiosarcoma, amelanotic melanoma, and adenocarcinoma were the primary differentials.

Laboratory and Ancillary Diagnostic Tests:
A biopsy was taken with the aid of topical anesthesia. Bloodwork and three view chest radiographs were unremarkable.

Diagnosis:
Histopathologic evaluation revealed a 'Complex Carcinoma', a blend of cells of both epithelial and mesenchymal origins. Melanoma was ruled out as immunohistochemical analysis was negative for Melan A.

Figure 3: Normal bulbar aspect of the third eyelid OS

Figure 4: Intra-operative appearance of the bulbar aspect of the third eyelid OD

Treatment:
Compared to the fellow eye (Figure 3) the bulbar surface of the third eyelid OD appeared irregular and hyperemic (Figure 4), indicating likely neoplastic infiltrate. Although these changes may have been due to inflammation, the risk of leaving neoplastic tissue behind after a partial excision was greater than pursuing a more aggressive wide excision and risking secondary dry

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THIRD EYELID MASS IN A DOG
(CONTINUED FROM PAGE 4)

eye. Based on visible abnormalities on the surface of the third eyelid at the base of the mass and a good prognosis following complete excision a complete third eyelid excision was performed. Adjunctive CO2 laser was used to control the minimal hemorrhage that resulted from excision as well as to address any remaining neoplastic cells not grossly visible.

Follow-up:
Neomycin/Polymyxin B/ Dexamethasone ophthalmic suspension was used for 2 weeks following surgery. STT values remained in the normal range (17 mm/minute OD, 26 mm/minute OS) up to 16 weeks post-operatively even after tacrolimus was discontinued (Figure 5).

Summary:
Third eyelid neoplasia is always immediately concerning due to the frequency with which local recurrence and metastasis is reported in dogs with conjunctival melanoma. Although this mass was not obviously pigmented, some melanomas may be amelanotic. Conjunctival SCC is less common in dogs compared to bovine, equine and feline species, but may also demonstrate metastasis in addition to being locally aggressive. Malignant conjunctival vascular tumors are also rare in dogs so the prognosis for these is not strongly established. The high frequency of local recurrence and metastases seen with cutaneous hemangiosarcoma behooves similar aggressive surgical excision and adjunctive therapy for conjunctival cases. One recent case report of hemangiosarcoma of the third eyelid of a dog, however, reported a good prognosis despite dirty surgical margins. Adenocarcinomas may also exhibit aggressive local recurrence as well as metastasis. Fortunately, this particular type of neoplasia, a 'complex carcinoma' displays characteristics that are more benign than the aforementioned and more common differentials. Complex carcinomas belong to a category of apocrine gland tumors that display both epithelial and mesenchymal characteristics, thus 'complex'. These origins were confirmed with positive cytokeratin and smooth muscle actin stains, respectively. Melan A staining was negative, ruling out melanoma. Complex third eyelid gland carcinomas tend to behave in a benign manner and so excision is generally curative.

Figure 5: Appearance of OD 16 weeks post-op

Although not all patients develop Keratoconjunctivitis Sicca (KCS) upon excision of the third eyelid and gland, it is difficult to predict which patients might. After confirming several normal STT values post-operatively we discontinued use of a tear stimulant, then recommended monitoring for evidence of KCS at home. Symptoms may include, but are not limited to, a lack luster appearance to the cornea, yellow/green mucoid to crusting ocular discharge, as well as obvious signs of discomfort including blepharospasm or rubbing of the eye.

COMPLETION OF RESIDENCY CONGRATULATIONS! JUNE 30, 2011

Anna Michelle Armour, VMD
Paige Evans, DVM
Emily Moeller, DVM
Kirsten Steele, VMD
Neal Wasserman, DVM

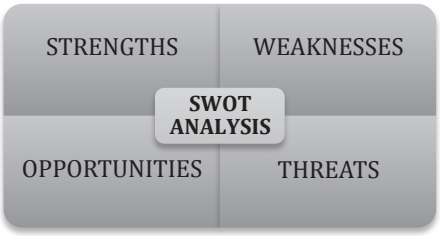
COMPLETION OF RESIDENCY CONGRATULATIONS! JULY 15, 2011

Kricket Konrade, DVM

WELCOME NEW RESIDENTS! EFFECTIVE JULY 1, 2011

Rosalie Atkins, DVM
Penelope Wooff, DVM

USING A SWOT ANALYSIS TO DEVELOP YOUR STRATEGIC PLAN



Are you controlling the direction of your Practice? What would your employee team say if they were asked to identify the 2 most significant challenges your Practice will face in the next 2 to 3 years? Have you mapped out long-term goals to meet those challenges? Answers to these questions are very important as you develop your strategic plan.

A strategic planning session should be held annually in order to identify the focus of your Practice in terms of its operations, marketing, staffing, financial position and so on. A management tool to use that will help facilitate the strategic process is called a SWOT analysis. The SWOT analysis template is comprised of four sections—Strengths, Weaknesses, Opportunities & Threats. Strengths and weaknesses are the "internal" factors of your Practice, and opportunities and threats are the "external" factors. The SWOT process does not provide the answers, but is a way to identify and organize information (both good and bad) as the basis for developing your strategic plan.

When conducting the SWOT analysis process you will want to invite all employees to participate. Collectively you will brainstorm the internal and external factors that impact the Practice. Ask each participant to list what he or she feels are the top 3 to 5 strengths of the Practice—things that are good now. Then discuss how to maintain and build upon those strengths and use them as leverage. Next, ask each to list what he or she feels are the top 3 to 5 weaknesses of the Practice—things that are bad now. Then discuss what can be done to remedy or change those weaknesses. Proceed with the brainstorming session and ask participants to identify the top 3 to 5 opportunities for the Practice, things that are good for the future. Then prioritize those opportunities and discuss what can be done to build upon them. Last, ask each participant to list what he or she feels are the top 3 to 5 threats the Practice may be faced with, things that are bad for the future. And discuss putting plans in place to manage or counter those threats.

Strengths and opportunities are always "positives" so discuss how your team can best take advantage of them. Weaknesses and threats are always "negatives", so ask your team how those can be minimized or dealt with. The SWOT analysis is a tool that allows all participants to be part of the strategic planning process.

Karen Webster, MBA
President & CEO, Eye Care for Animals

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OCULAR Outlook

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

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