THE GLOBE

Newsletter of the International Society of Veterinary Ophthalmology
Spring 1998, Volume 9

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FROM THE TREASURER
Editorial

Letter from the President

Each time a new president of our association has been elected, probably had, at least once at the beginning of his mandate, to answer the following question: Is the I.S.V.O. necessary? If yes, what is its specificity compared to other organizations and colleges?

The response to this question helps to define the objectives of our work, and the answer is probably and fortunately not the same for all the presidents of the I.S.V.O. depending on their own character, though we have a constitution with clear objectives.

For me, the foundation of the I.S.V.O. in 1982 was a revelation. At the time I had been involved with ophthalmology for more than ten years but I suddenly understood the international dimension of the discipline during the first congress in Barcelona. Through this organization, I met my young European colleagues Kristina Narffstrom, Claudio Peruccio, Frans Stades, Peter Bedford, but also American ophthalmologists, Bill Magrane (of course) but also others who, since this period, have become good friends. Who would have predicted at that time the formation of the European College, E.C.V.O.?

Though it is through the I.S.V.O. and mutual exchanges that relationships have developed and that more structured work was established this then led to the creation of the European College of Ophthalmologists.

The I.S.V.O. was a chance for us and my ambition is to maintain and develop the I.S.V.O. as a place of encounter and training for young people who start in ophthalmology.

In Europe, we are witness of the development of Ophthalmology in countries which are not yet part of the European Community, for example the Czech Republic, Poland, Hungary and Slovakia. These people need support from more advanced countries. We could say the same for North African and South American countries. In these countries, veterinary medicine is growing. They are beginning to develop ophthalmology and according to the first objective of our I.S.V.O. constitution which is to promote the exchange of information and further scientific process in veterinary ophthalmology on an international basis, one of my aims will be to welcome new people from these countries into the I.S.V.O. We must increase the number of new members in order to express the international dimension of the I.S.V.O. The new members should become board members of the I.S.V.O. in a near future. We can also help them to organize short stays in Universities or with practitioners. It was an exceptional opportunity for me to stay for the first time in Philadelphia, more than twenty years ago. And I suggest that a list of the places available for short stays be published in the Globe. I would like to thank Claudio Peruccio for maintaining this publication no matter what happens. It is a lively place of exchanges, though unfortunately it is not used enough and I want to underline his tireless availability for the Globe.

Thank you Claudio.

I will finish by telling you that our next meeting is in Lyon in September 1999 before the World Small Animal Veterinary Association Meeting and I invite all of you to come for what I hope to be a fantastic meeting.

Bernard Clerc
COMING EVENTS

June 18, 1998 - Bologna, Italy

ECVO - ESVO - SOVI Joint Meeting in conjunction with the 4th Fecava-Scivac Meeting Scientific Program

LIDS AND THIRD EYELID
P. Bedford (UK) - A technique of lateral canthoplasty for the correction of macropalpebral fissure in the dog
S.M. Turner (UK) - Ultrasonographic and magnetic resonance imaging appearance of eosinophilic adenitis of the nictitans gland in a dog
P. Boydell (UK) - Prolapse and hyperplasia of the membrana gland of the rabbit

ORBIT
M. Bandini (I) - A case of unilateral eosinophilic myositis in a dog

CORNEA
P. Anfray, C. Bonetti (I) - A case of bilateral symmetric eosinophilic seasonal cortico-responsive ulcer in a small breed rabbit
F. Rapp, B. Nell (A) - Cytoplasmatic virus - like particles detected in the corneas and conjunctivas of dogs with pannus (chronic superficial keratitis - Uberreiter) by transmission electron microscopy
M.T. Pena Gimenez, I. Morales Farinas (E) - Laminar keratoplasty for the corneal sequestrum treatment in cats
A.C. Leber (CH) - The use of cyanoacrylate adhesive on chronic erosions in cats
N. D'Anna, A. Guandalini, G. Rosseti (I) - Clinical applications of tarso-conjunctival isolated grafts (TCIG) in dogs and cats: a report of 40 cases

GLAUCOMA
B. Clerc (F) - Cryotherapy for the treatment of glaucoma. Results of treatment with liquid nitrogen
R. Elks (UK) - Glaucoma secondary to multiple ocular defect in a British Shorthair Cat
G. Chaudieu (F) - Dysplasia of the pectinate ligament in the Siberian Husky. A clinical, biometrical and pathological study
G.J. McLellan, R. Elks, M. Gains (UK) - Intraocular hemorrhage and secondary glaucoma associated with multiple iridociliary cysts in a dog

LENS
D. Salgado, R. Forrer, B.M. Spiess (CH) - NADPH-dependent aldose reductase activity in canine and feline lenses

P. Boydell (UK) - Diabetic control status of dogs referred, with diabetic cataract

UVEA
J.S. Sapienza (USA) - Pigmentary Uveitis in Golden Retrievers: 43 cases
V.J. Babo, L. Nakazato (Brasil) - Uveodermatologic syndrome in a dog - A case report
M. Roze (F) - Feline uveitis - serology and clinical observations of 44 cases
L. Mertel, G. Cammarata, C. Kalsow, P. Riccaboni, B. Cozzi, S. Palrinieri, S. Tagliabue, C. Morandi, G. Urbani - Immunohistochemical evaluation of the immune response in a case of equine recurrent uveitis

RETINA
E. Bjerkaas, P. Enger, K. Toubro, T. Devor, P. Sannum, D. Griffiths (N) - The normal retina of the Harbour seal (Phoca vitulina), electoretinographic and morphologic findings
B. Ekestun, K. Naristrom (Sweden) - Electoretinographic features of the d-wave in normal and dystrophic cats

OPTICS, DIAGNOSTIC TECHNIQUES AND IMAGING
W. Neumann (G) - Results of pre- and postoperative Keratometry and Skiascopy in 1000 dogs of different breeds
S. Schoofs, E. Stalmans (B) - Biometrical study of the canine eye with ultrasonography
P. Boydell (UK) - Ultrasonographic examination of the optic nerves of dogs with sudden onset blindness

EXOTICS
T. Grimes (Ireland) - Developmental ocular abnormality in a Bengal Tiger
R. Ofri, I.H. Horowitz, P.H. Kass (Israel) - Tonometry in herbivorous wildlife

HEREDITARY EYE DISEASES
C. Perucco, E. Barbasso - Hereditary eye diseases: the Italian perspective
E. Barbasso, A. Guandalini, S. Pizzirani, C. Perucco - Hereditary eye diseases: preliminary results in some breeds in Italy
F.C. Stades - For presumed to be inherited eye diseases: procedure notes of the ECVO (ECVO Genetics Committee Report)
COMING EVENTS

18-21 June, 1998- Bologna, Italy
4th FECAVA-SCIVAC Congress
General program -Ophthalmology

S.Petersen-Jones (USA) - Recent advances in the understanding of GPPA generalized progressive retinal atrophy
E. Bjerkas (N) - Cataract in dogs: etiology, development and clinical findings
C. Peruccio (I) - Clinical interpretation of ocular hemorrhages
S. Petersen-Jones (UK) - An approach to sudden onset blindness
E. Bjerkas (N) - Ocular signs of systemic diseases in dogs
E. Bjerkas (N) - Ocular signs of systemic diseases in cats
A. Guandalini (I) - Ocular pigmented and non-pigmented masses
S. Pizzirani (I) - Ocular manifestations of eosinophilic complex in the cat
S.Petersen-Jones (UK) - Managing corneal ulceration in small animals
C. Peruccio (I) - The eye in the ageing animals
S. Pizzirani (I) - Lens luxations

Peter Bedford (United Kingdom)
Rodolfo Bruhl Day (Argentina)
Kirk Gelatt (USA)
Daniel Herrera (Argentina)
Roberto Kostlin (Germany)
Jose Luiz Laus (Brazil)
Robert Munger (USA)
Jorge Pereira (Brazil)
Claudio Peruccio (Italy)
Marc Simon (France)
Manuel Villagrana (Spain)

Preliminary program: Lectures and roundtables
Cornea: Immunology, Ulcers, Keratoplasties
Cataracts: Extracapsular vs. Phacoemulsification.
Intraocular lenses
Glaucoma: Effects of the Intraocular Pressure.
Diagnosis. Medical and surgical treatment
Electroretinography

Short communications:
Deadline for submitting abstracts: June 30

Venue
Buenos Aires Sheraton Hotel
Buenos Aires, Argentina

More information
Daniel Herrera: Facultad de Ciencias Veterinarias, Hospital Escuela.
Chorroarín 280, 1427 - Buenos Aires, Argentina.
Fax: 54.1.524.8480.
E-mail: hdh@fvet.uba.ar

July 7-8, 1998 Toronto, Canada

In Toronto July 7-8, 1998 will be held the Canadian Association of Veterinary Ophthalmology meeting.
For more information, please contact:
Dr. M. Zigler ph ...905 825-2100 - fax ...905 825-0133
- email eyevet@metrover.com

October 5-6 1998 Buenos Aires, Argentina
XXIII World Congress of W.S.A.V.A.
International Society of Veterinary Ophthalmology (ISVO) Latin American Society of Veterinary Ophthalmology (SOLOVE)
Symposium of Ophthalmology

Speakers
Gustavo Aguirre (USA)
Paulo S.M. Barros (Brazil)

CALL FOR PAPERS
Instructions for authors
1. Abstracts can be submitted in English or Spanish.
COMING EVENTS

2. Use A4 size page leaving a margin of 2,5 cm on each side; the overall extension of the abstract must be no longer than one page.
3. The abstract must be written using Times New Roman 12 font. Center the title of the paper in bold capital letters. Write name of the author(s) centered (last name; name and middle name initials) leaving an additional space from the title. DO NOT include degrees or titles. Write the name of the institution and address including fax number and e-mail. Type the text of the abstract leaving another space from the author's name, using justified style. DO NOT include photographs, tables or graphs.
4. Make a file saved under Word for Windows as text processor and submit it in a 3.5” diskette or by E-mail to:
Daniel Herrera
Callao 1831
(1024) Buenos Aires - Argentina
E-mail: hdh@fvet.uba.ar
DO NOT submit abstracts by fax.
5. Deadline for submitting abstracts is JUNE 30.
6. The papers accepted will be presented in an oral session. Each author will have ten (10) minutes per presentation.

September 22-23 1999 Lyon, France

ISVO-ESVO-ECVO-GEMO combined satellite meeting with 99 WSAVA Congress
For information contact:
Prof. Bernard Clerc

Service d'Ophtalmologie, Ecole Nationale Veterinaire
7, Avenue du gen. DeGaulle
94704 Maisons Alfort, France
fax 33 143758065
or
CNVSPA Mondial Vet.
40 rue de Berri
7508 Paris, France
fax 33 153839169
email mondialvet@aol.com
internet http://www.mondial vet99.org

September 23-26,1999 Lyon France

World Congress WSAVA-WVA-FECAVA-CNVSAP combined meeting
One full day of ophthalmology in the general program on Ocular Inherited Diseases and Eye Surgery, plus Workshop and Specialized Sections.
For information or short communications submission, please, contact:
Dr. Maurice Roze, 99Wsava Congress Scientific Committee President
64 Bd Barry, 13013 Marseille, France
fax: 33 4 91702445
or
CNVSPA Mondial Vet.
40 rue de Berri
7508 Paris, France
fax 33 153839169
email mondialvet@aol.com
internet http://www.mondial vet99.org
NEWS FROM...

JAPAN
We receive from Dr. Fukui many news concerning the Japanese Society of Comparative and Veterinary Ophthalmology and its official Journal, Animal Eye Research. The Journal, published quarterly in principle, is both the official organ of the Japanese Society of Comparative and Veterinary Ophthalmology, and a medium for the publication of original and review articles in the field of comparative and veterinary ophthalmology. They should not be longer than 4 printed pages principally. J.S.C.V.O. has opened for overseas veterinary and comparative ophthalmologists on sending their original reports, brief notes, etc. The Editorial Board has had so called overseas editorial advisory system. In part, the magazine has published several original reports of European and American ophthalmologists.

U.S.A.
The International Society of Veterinary Ophthalmology Biennial Meeting was held in conjunction with the American College of Veterinary Ophthalmologist's meeting in Santa Fe, New Mexico, USA, November 14 to November 19, 1997.
The 134 Veterinarians registered, represented 19 countries from 6 continents. Sixty-two of the registrants were from countries other than the US and, interestingly, Japan was next to the US in number of registrants, with 11 registered, followed by the UK with 9 and Canada with 7.
The Eldorado Hotel was a comfortable place for the meeting, and provided an ambience typical of the region.
A Southwest dinner, the social event of the meeting, was attended by 164 registrants and guests.
At the business meeting, Dr. Bernard Clerc from France was elevated to President;
Dr. Robert Munger, USA was made President-Elect, and Dr. Maurice Roze of France was elected Secretary. Dr. Lloyd Helper (US) will remain as Treasurer. Continuing Executive

Committee members are Dr. Simon Peterson-Jones (UK), Dr. Ellen Bjerkas (Norway), Dr. Masanobu Fukui (Japan), and Dr. Robert Peiffer (USA), Immediate Past President.
The meeting, with about 40 more registrants than anticipated was a great success.
Although the beginning of the meeting was accompanied by a brief but vigorous snow storm that even closed the Interstate to Albuquerque for a few hours, we think those attending really enjoyed the meeting plus Santa Fe and the surrounding area.

At the meeting, it was decided by the ISVO General Assembly to form a group that will work with hereditary eye diseases in animals on a world-wide basis. The group will consist of representatives from different parts of the world. As chairman was appointed Kristina Narfström, Sweden.

The specific aims of the group's work will be
1. To list and define hereditary eye disease in dogs and cats in two categories
   a. those that cause visual disturbance
   b. those that cause chronic irritation
2. Collect information on prevalence and significance of specific hereditary eye disease in various regions of the world
3. To specify methods for control measures of hereditary eye disease
4. To provide information for owners and breeders about hereditary eye disease
5. To provide information to veterinary ophthalmologists and speciality organizations on a world wide basis concerning hereditary eye disease.

Each participant in the group will collect information on diseases, frequencies and regional control programs before the next ISVO meeting in Lyon, France.
FROM THE CONGRESSES

The following summaries provide practical highlights of topics covered at the ACVO Meeting held in Santa Fe, NM, USA, November 16-18, 1997

COMPARISON OF CYCLOPHOTOCOAGULATION AND CYCLOCRYOSURGERY IN THE DOG
Rachel D. Ring - Daniel A. Ward - Dorothy E. Schmidt

Purpose
To directly measure and objectively compare any postoperative IOP changes and degree of postoperative inflammation that develop after performing cyclophotocoagulation (laser) and cyclocryosurgery (cryo) in normal dogs.

Method
Twenty normal dogs (10 male, 10 female) were randomly assigned to two groups. Baseline intraocular pressure (IOP) and aqueous humor fluorophotometry were performed on both eyes of all dogs. One group underwent non-contact Nd: YAG laser on one randomly selected eye (30 applications of 8 J each, 3mm posterior to limbus circumferentially) and the other group underwent nitrous oxide cryo in one randomly selected eye (6 applications, 2 minute freeze duration, 5mm posterior to limbus circumferentially). The opposite eye was used as a control in each dog. Postoperative IOP was measured every 2 hours for 24 hours, at 48 hours and 2 weeks. Postoperative aqueous humor fluorophotometry and pupil diameter measurement were performed at 6, 24 and 48 hours and 2 weeks. Clinical observations (blepharospasm, ocular discharge, hyperemia, chemosis, corneal edema, aqueous flare, corneal neovascularization and anterior chamber fibrin) were made by a masked observer at 6, 24 and 48 hours and 2 weeks. Aqueous humor samples were collected at 2 weeks for total protein determination.

Results
No significant differences were seen between the average baseline IOP and fluourophotometry.

The mean change in IOP from baseline for laser ranged between -8.5 and -10.5 mmHg (max at 48 hrs) and was -9.0 at 2 weeks. The mean change in IOP from baseline for cryo ranged between -3.5 and 9.0 mmHg (max at 48 hrs) and was -3.5 at 2 weeks. A significant increase in aqueous fluorescein concentration in the experimental eyes compared to controls was seen with both surgery groups at most time points, indicating significant blood-aqueous barrier (BAB) disruption. At 48 hours and 2 weeks after surgery, the laser group had significantly more barrier disruption than the cryo group. At two weeks after surgery, the laser group showed a significantly higher aqueous humor protein concentration (mean 1412 mg/dl, control 7mg/dl) than the cryo group (mean 62 mg/dl, control 8 mg/dl). Several differences between surgery groups were seen in the clinical observation categories. The cryo group had significantly greater chemosis at 6 hours. The laser group had significantly greater ocular discharge, aqueous flare and fibrin at 6 hours; blepharospasm, ocular discharge, chemosis, corneal edema, aqueous flare and fibrin at 24 hours; ocular discharge, chemosis, corneal edema, corneal neovascularization, aqueous flare and fibrin at 48 hours; and hyperemia, corneal edema, corneal neovascularization, and aqueous flare at 2 weeks.

Conclusion
Both surgeries caused a decrease in IOP from baseline, and neither produced a significant postoperative IOP spike. The decrease remained constant in the laser group and was returning towards baseline in the cryo group by the conclusion of the study. BAB breakdown, as evidenced by increased fluorescein leakage into the aqueous, was seen with both surgical procedures and was more severe in the laser group. The higher aqueous humor protein concentrations in the laser group corroborated greater BAB disruption in that group. Finally, laser initiated a significantly greater increase in many of the clinically observed indicators of ocular inflammation at all time points. These results indicate that, when standard and previously published protocols are followed, Nd:YAG cyclophotocoagulation induces greater postoperative inflammation than cyclocryosurgery in normal dogs.
FROM THE CONGRESSES

SURVIVAL IN CATS WITH DIFFUSE RIS MELANOMA: A MATCHED OBSERVATIONAL STUDY
Richard R. Dubielzig, Rick J. Chappell, Jennifer B. Kalishman, and Lisa A. Flood
School of Veterinary Medicine, University of Wisconsin

Although individual cases of widespread metastasis have been documented in cats with diffuse iris melanoma, the prognosis at varying stages of the disease is poorly understood.

Clinical decisions about enucleation in the early stages of diffuse iris melanoma are made based on the risk of systemic spread. In order to make accurate judgments, the clinician needs to know the likelihood of distant spread in early disease, as well as late disease.

In this study, we recorded the survival times of 35 cats with enucleation due to histologically confirmed diffuse iris melanoma. Enucleation was performed at least two years prior to the study and, in every case, we were able to discover the current status of the animal. An estimate of the cause of death was obtained in all deceased cases.

Survival times for cats with diffuse iris melanoma were compared to the survival times of 83 age-matched control cats.

Thirty-eight control cats had enucleation for either lymphoplasmacytic uveitis (27 cases), ocular trauma (7 cases), or endophthalmitis (4 cases).

The remainder of the control cases were vaccinated between 2 and 10 years prior to the study at the University of Wisconsin-Madison School of Veterinary Medicine.

The cats with diffuse iris melanoma were subdivided according to the severity of tumor at the time of enucleation. Early cases had tumor only in the iris, with no spread to the iridocorneal angle or trabecular meshwork.

Moderate cases had tumor throughout the iris and with spread to the iridocorneal angle, but not throughout the ciliary body. Advanced cases had tumor throughout the iris and throughout the ciliary body, with spread into the sclera.

Aggressive infiltrative cases had tumor confined to the iris or partially invading the ciliary body, but tumor cells had also broken through the posterior iris epithelium, indicating aggressiveness.

Aggressive and advanced cases showed compromise of the iridal epithelium, as well as spread throughout the ciliary body and into the sclera.

Survival times were measured from dates of vaccination (among vaccination cats) or enucleation (all others). Median follow-up was 5 years in cases and 4.5 years in controls.

Univariate comparisons were conducted via the log-rank test or its generalization to more than 2 groups.

The proportional hazards model (IBID) was used to adjust for age, using linear and quadratic terms. Survival was not associated with sex or neutering.

Cats with diffuse iris melanoma had significantly shorter survival times than the control cats. When the affected cats were broken up into categories, cats with tumor confined to the iris (early cases) had survival times slightly longer than the control rate, indicating that there was no risk of systemic spread and life-threatening potential when the tumor was confined to the iris. Surprisingly, tumors with moderate spread involving the iris diffusely and spread into the iridocorneal angle, with or without glaucoma, had survival times which were not significantly different than the control cats.

On the other hand, cats with advanced disease, with or without aggressive infiltration, had an extremely poor prognosis, with dramatically shortened survival times. Estimates of the cause of death in these cats almost always suggest metastatic disease.

This data suggests that cats with advanced diffuse iris melanoma are at high risk of life-threatening systemic metastasis. Cats with early disease would appear to have no risk at all of systemic metastasis and it seems clear that enucleation should be performed before the tumor shows advance spread deeply into the ciliary body and sclera. We recommend a regime of careful follow-up evaluations closely monitoring the size of pigmented spots, the thickness of the iris, the presence of tumor cells in the iridocorneal angle, the intraocular pressure, and the scleral contour. Features favoring enucleation would be changes in the contour of the iris, the presence of pigmented nodules in the iridocorneal angle, or elevations in intraocular pressure.
FROM THE CONGRESSES

NITRIC OXIDE SYNTHASE IN CANINE GLAUCOMA
Rebecca E. Franco-Bourlard1, Gabriel Guizar-Sahagún2, Gustavo A. García1, Agustín Álvarez1, Franklin Esquivel1, Sergio Rodríguez2
1Department of Biochemistry, Instituto Nacional de la Nutrición Salvador Zubirán;
2Instituto Mexicano del Seguro Social/Centro de Investigación Proyecto CAMINA;
3Facultad de Veterinaria y Zootecnia, UNAM, México, D.F., México

Introduction
Current glaucoma therapy cannot prevent the relentlessly progressing neurodegeneration that occurs in this disease, regardless of intraocular pressure control. With the aim of identifying biochemical markers that might be involved in glaucomatous neurodegeneration, that eventually could encourage the development of new therapeutic procedures targeted at protecting glaucoma patients from optic nerve degeneration, we have initiated studies in an animal model of glaucoma, namely the dog. The spontaneous development of glaucoma in dogs make them especially suitable for acquiring an insight into the biochemical events that might be occurring in the human form of the disease. Recently, we have shown increased levels of glutamate in the vitreous humor of glaucomatous dogs compared to control animals (Brooks et al., 1997). The levels of glutamate found (approximately 30 mM), were similar to those measured in the vitreous humor of glaucomatous humans (Dreyer et al., 1996). Moreover, these levels of glutamate injected chronically into the vitreous of rats, were shown to be excitotoxic to retinal ganglion cells, via a N-methyl-D-aspartate-receptor activated, memantine-inhibited mechanism (Vorwerk et al., 1996).
Taken together, these observations suggest that the levels of glutamate found in glaucomatous subjects could, in fact, contribute to the neurodegeneration seen in this disease. If relevant to neuronal death in glaucoma, glutamate-mediated toxicity would involve, among other events, changes in the activity of nitric oxide synthase (NOS).
We have now assessed, and report here the levels of immunoreactive inducible NOS (iNOS) in ganglion cells of retina from early glaucomatous dogs.

Animals and Methods
Eyes from one control (9-month old labrador retriever), and two early glaucomatous dogs (4-year old poodle; 4-year old mixed breed) were obtained after perfusion with 4% paraformaldehyde.
Ten mm thick paraffin-embedded retinal sections were immunostained with anti-iNOS/avidin peroxidase.

Results
The results reveal a marked iNOS immunostain in the retinal ganglion cells of glaucomatous dogs compared to the control animal, whose retinal ganglion cells barely, if at all, show iNOS immunostaining.

Conclusion
In glaucomatous dogs, the presence of toxic levels of vitreal glutamate (Brooks et al., 1997), simultaneously with the increased iNOS immunostain in retinal ganglion cells reported here, make these cells particularly vulnerable to glutamate-mediated neurotoxicity, and further support a role for glutamate in glaucoma neurodegeneration.

References
Vorwerk CK, Lipton SA, Zurakowski D, Hyman BT, Sabel BA, Dreyer EB. Chronic low-dose glutamate is toxic to retinal ganglion cells. Toxicity blocked by memantine. Invest Ophthalmol Vis Sci 37 (1996) 1618-1624
FROM THE CONGRESSES

THE EFFECT OF THIRD EYELID REMOVAL ON THE PREOCULAR TEAR FILM IN THE DOG
Saito A.¹, Ito H.², Kotani T.³, Izumisawa Y.², Yamashita K.³
¹Triangle Animal Hospital, Tokyo, Japan
²Koken CO. Ltd, Tokyo, Japan
³Rudono Gakuen University, School of Vet. Med., Hokkaido, Japan

Previously, we obtained results which indicated the correlation between the basic lacrimal secretion and the corneal injury/epiphora from the quantitative investigation on the clinical cases of 209 dog eyes. By considering these results, the effect of the decrease of basic lacrimal secretion on the preocular tear film conditions was investigated. To evaluate these effects, 10 eyes of 5 beagles had third eyelid removal experimentally, and the fluctuations of tear film conditions were observed for 7 months. Phenol red thread tear test (PRT), Schirmer tear test (STT-1), modified Schirmer tear test (STT-2), the tear break up time (BUT), tear turnover rate (TOR), and tear pH were measured. In addition, the tear drainage was evaluated by the observation of fluorescein appearance at the nostril. After 30 days from third eyelid removal, the STT-2 mean showed a significant decrease and the pH mean showed an increase. After this period, no significant fluctuations were observed.

On the other hand, the BUT and STT-1 means initiated their decrease from 90 days and 150 days after the third eyelid removal, respectively. These values were slowly decreased after that. The TOR mean showed a decrease in a similar manner as that of the STT-1. Five eyes with faulty tear drainage were also identified 150 days after the third eyelid removal and the difference in feature of fluctuation of each value was found between the group with and without the faulty tear drainage.

On the basis of these results, subjects were divided into two groups for the comparative examination; Group 1: possible lacrimal punctum or canaliculus obstruction group (five eyes of 3 dogs) - no outflow of fluorescein to the nostril - Group 2: no lacrimal punctum or canaliculus obstruction group (five eyes of 3 dogs) - identified outflow of fluorescein to the nostril. Significantly lower values of TOR, STT-1, and BUT were consequently found on the obstruction group. These results indicated that the effects of third eyelid removal on the preocular tear film in dogs were the causes of the decrease of basic lacrimal secretion and rise of pH. Subsequently, the shortening of BUT, that is, the break up of normal tear film and the decreased reflex secretion of tears were affected. In addition, it was suggested that the decreases of BUT and STT-1 resulted change which caused the obstruction of the lacrimal punctum and/or canaliculus.
Note From the Treasurer

"Please not the date on the address label. A date of '98 or earlier means your dues are due. Make any corrections to your name and address on the form printed herein and send it with a check or money order drawn on a US bank to Dr. Helper. Some have found it more convenient to purchase a 20 $ bill in US currency and enclose it instead of a check. Most members have been quite good at sending dues based on the label dates. It has saved us time and money. We appreciate your attention to keeping your dues current."

Don’t forget to renew your ISVO Membership!

To renew your membership, or to become a member of the ISVO, simply fill out the form below (or initial the address label on the reverse side to indicate it is current) and send it, along with a money order for $10 for 1 year, or $20 for 2 years, to:

Dr. Lloyd Helper
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THE GLOBE

Newsletter of the International Society of Veterinary Ophthalmology
c/o Dipartimento di PatologiaAnimale
Via Nizza, 52
10126 Torino - Italy
Prof. Claudio Peruccio