 Conjunctival and corneal impression cytology in canine keratoconjunctivitis sicca

I. Balicki,* K. Radziejewski† and W. Bielecki‡

Department of Clinic and Animal Surgery, Veterinary Faculty, University of Life Sciences in Lublin, Poland, †Veterinary Clinic ‘Radvet’ in Slupsk, Poland; ‡Department of Clinical Sciences, Faculty of Veterinary Medicine, Division of Pathomorphology, Warsaw University of Life Sciences, Poland

Purpose: Assessment of conjunctival and corneal epithelium with impression cytology technique at different clinical stages of keratoconjunctivitis sicca (KCS) in mixed-breed dogs. Methods: A retrospective study was performed on 18 mixed-breed dogs (11 male and 7 females) aged 2.5–10 years. All the patients were diagnosed with KCS by ophthalmologic examination. The STT was measured using Millipore filters (Millipore VSWP 01300 DA) of 25 μm pore diameter that were applied to the studied area. The study was performed according to the four-grade Nelson and Adams’ scale. Results: The STT in group I was 5 mm, in group II was 6–10 mm and in group III was 11–14 mm. Assessment of ocular conjunctiva and cornea was performed using impression cytology. The cytologic preparation was performed according to the Millipore method. The cytologic smears were stained with Papanicolaou and Giemsa methods. The cytologic criteria were evaluated by an experienced ophthalmologist. Conclusion: Cytologic cytology proves to be a simple method to examine the conjunctiva and cornea epithelium and to monitor the disease course.

Bilateral symblepharon secondary to ophthalmomyiasis in a dog

E. Delgado and J. Sales-Luis

Faculdade de Medicina Veterinária de Lisboa, Av. da Universidade Técnica, 1300-477 Lisbon, Portugal

Purpose: To describe the clinical presentation, ethiology and surgical treatment in a case of bilateral symblepharon secondary to ophthalmomyiasis in a dog. Methods: A 4-month-old cross-bred female dog presented at the Hospital of the Lisbon Veterinary Faculty for ophthalmologic evaluation. The owner reported that the dog was infested with fly larvae. The dog was examined and the ocular condition was characterized by corneal edema and conjunctival inflammation with wireworms identified in the right eye. Diagnostics included modified Kaposi’s and Papanicolaou smears. The right third eyelid was removed and a deep biopsy of the nostril was performed. Results: The postoperative period went without any complications and the dog regained good vision of the OD. Conclusion: The diagnosis of ophthalmomyiasis is important since this disease can lead to adverse ocular sequelae such as corneal edema, symblepharon and infection.

Sticker sarcoma in the nictitating membrane of a dog

E. Delgado and J. Sales-Luis

Faculdade de Medicina Veterinária de Lisboa, Av. da Universidade Técnica, 1300–477 Lisbon, Portugal

Purpose: To describe the clinical presentation and surgical treatment of a case of primary lesions of Sticker sarcoma in the nictitating membrane of a dog. Methods: A 5-year-old cross-bred male dog presented at the Teaching Hospital of the Lisbon Veterinary Faculty for ophthalmic examination. The animal presented with a pink mass in the OD that had been slowly growing for 2 months. The referring vet had already prescribed topical antibiotics in drops and systemic antibiotics and anti-inflammatory medication without any success. At the time of the initial presentation he was presented with a large pink mass, non-ulcerated in the nictitating membrane of the OD that obstructed vision. There was no ocular discharge and the eye showed no abnormalities. Conclusion: The animal presented with a large pink mass in the nictitating membrane of the OD that obstructed vision. There was no ocular discharge and the eye showed no abnormalities.

Metastasis is most commonly seen in the skin, eye, liver, spleen, testicle, and muscle. In this case the dog did not present any lesions in the penis or prepuce. The primary lesions were seen in the third eyelid and in the nostril so probably he infected himself when he licked or sniffed an affected dog. Biopsy was necessary for diagnosis. This case was successfully treated by a combination of surgery and chemotherapy.
The breed, sex, age of the first and opposite (if any) onset of nictitans gland prolapse were recorded. The long-term follow-up of all dogs was performed by phone contact to the owner.

Results: One hundred and fourteen dogs representing 155 nictitans glands prolapses are included (51 male-56 female). All breeds were represented; the most common breeds are: French Bulldog, (14/114), Shetland Sheepdog (11/114), American Cocker Spaniel (8/114), Great Dane, English Bulldog (6/114), Boxer, Cane Corso, Cavalier King Charles Spaniel, and Lhasa Apso (5/114). The sex distribution included 72 female dogs, 44 female dogs, 67 intact males and 7 castrated males. Before 1 year of age 75.4% (n = 86) of the prolapses occur. For the other cases, the first prolapse occurs at a mean age of 2.7 ± 0.6 years in 3% (n = 6); from 2 to 3 years of age in 7.9% (n = 9); from 3 to 5 years of age in 4.4% (n = 5); from 5 to 10 years of age in 5.3% (n = 6) and after 10 years of age in 1.7% (n = 2) of cases. In our study, unilateral nictitans gland prolapse is observed in 99.6% of patients. When the condition is bilateral, the second gland prolapse occurs either simultaneously or in most cases within 3 months. Some breeds seem to be overrepresented for bilateral gland prolapse. In these breeds, further studies would be needed to evaluate the interest of a preventive surgery on the opposite eye when a dog is affected in one eye.

ABSTRACT NO.: 19

Vitamin E deficiency retinopathy in a Polish Owczezark Nizinny dog associated with dlortiapide administration

J. A. C. Oliver and D. J. Gould
Davies Veterinary Specialists, Manor Farm Business Park, Highham Copston, Hertfordshire, UK

Purpose: This study describes a case of vitamin E deficiency retinopathy in a Polish Owczezark Nizinny dog (Canis lupus familiaris). The dog had been receiving a diet with adequate vitamin E content. Vitamin E deficiency is also known to cause a significant reduction in plasma vitamin E concentrations. Methods: A 4-year-old PON presented with visual deficits of 12 months’ duration. The dog had been receiving a diet with adequate vitamin E content. Results: Ophthalmological examination revealed blindness and RPE-like changes in the inner and outer retina. Electroretinograms were nonrecordable OU. Conclusion: Vitamin E deficiency retinopathy should be considered in dogs with unexplained blindness.

ABSTRACT NO.: 25

Effects of intravenous administration of dexmedetomidine on intraocular pressure and pupil size in healthy dogs

C. Artigas, A. Mayordomo, I. J. Redondo and M. M. López-Murcia
Animale Medicine and Surgery Department, Cardenal Herrera-CEU University, Monzada, Valencia 46113, Spain

Purpose: To evaluate the effect of a novel α₂-agonist, dexmedetomidine (Dormitor®, Pfizer Animal Health) on the OIP and pupil size (PS) in healthy dogs, also known to cause a significant reduction in plasma vitamin E concentrations. Methods: A 4-year-old PON presented with visual deficits of 12 months’ duration. The dog had been receiving a diet with adequate vitamin E content. Results: Ophthalmological examination revealed blindness and RPE-like changes in the inner and outer retina. Electroretinograms were nonrecordable OU. Conclusion: Vitamin E deficiency retinopathy should be considered in dogs with unexplained blindness.

ABSTRACT NO.: 39

Use of Botox for the correction of strabismus in dogs: clinical study of three cases

J. A. Oliva, J. M. Martinez, J. M. Mediavilla and J. M. Ramírez
Department of Animal Pathology, Veterinary Faculty, University of Las Palmas de Gran Canaria, Transamanía s/n, 35416–Arucas, Las Palmas 928451120, Spain; JOMtvet, Veterinary Ophthalmology, C/ Pi y Margaill, 42, 35006 Las Palmas G.C, Spain

Purpose: To evaluate the effect of Botulinum toxin A (Botox®), a neurotoxin produced by Clostridium botulinum to correct strabismus in dogs. To establish the number and position of injections and the correction of strabismus in dogs. Methods: This study included three pugs, aged between 2 months and 4 years, which after receiving an ophthalmologic examination were diagnosed with unilateral vertical strabismus secundum ab initio in one eye. Preoperative position analysis was performed with TonoVet® (Iolomed, Berlin, Germany). Ophthalmological examination revealed bilateral nasoconvergent strabismus. In one case, the deviation was constant bilateral in one case. Patients were prepared with anesthetic eye drops, sedation with Midazolam (10 mg/kg) and Butorphanol (0.5 mg/kg) and local subconjunctival anesthesia using lidocaine 2%. An injection of 0.5 IU of Botox® was performed directly into the muscles (pleate specific which muscles were injected) involved in the three cases. Animals were evaluated after 24 and 48 h, 1 and 2 weeks, 1 month and 1 year after the injection of Botox®. Results: In all three cases, at 24 and 48 h after injection of Botox® the dogs showed a local conjunctival congestion but the strabismus still remained. One week after the injection the three cases showed a correct position of the globe, getting a adequate visual axis. The correction was completed at second week after injection and remains actually. Conclusion: Following the results of this study we concluded that the injection of Botox® is an effective and non-aggressive method for correction of strabismus in dogs that avoids the techniques described classically.
ABSTRACT NO.: 40
A case of nictians lacrimal gland leukocytoelastic vascularitis in a Yorkshire terrier
A. S. Augsburger
Centre d’Ophtalmologie, Boîte-Guillaume, France
Purpose: To describe a case of course from the corneal perforation from the corneal perforation from the corneal perforation of a nictians lacrimal gland leukocytoelastic vascularitis. Methods: The dog was treated with intrastromal injection of bevacizumab (Group B) achieved less vascularization at 1 week after the OS than in the right one (control). Comparing the results of the OS in both groups, animals presented for a sudden unilateral third eyelid prolaps. There was significant inflammation (hyperemia, conjunctival congestion, T yndall 1+, slightly low IOP and only in one case fibrine exudation). Purpose: To describe a clinical case of third eyelid inflammation and third eyelid gland cyst. Methods: To describe a case of an unusual localization of a leucoclastic vascularitis which located in the third eyelid and third eyelid gland. Conclusion: This seems to be the first case of fungal keratitis to be documented in a black rhinoceros.

ABSTRACT NO.: 46
Keratometry in a black rhinoceros (Diceros bicornis)
A. D. Goodale, P. J. A. Jansen van Rensburg and E. C. Du Plessis
Department of Companion Animal Studies, Ophthalmology Section, University of Pretoria, Onderstepoort, South Africa and Johannesburg Animal Eye Hospital, South Africa; Böhmofentien Veterinary Hospital, South Africa; Golden VetPath Idexx Laboratories (Pty) Ltd., Gallo Manor, South Africa
Purpose: To describe an unusual corneal lesion found in a black rhinoceros. Methods: A wild, 4-year-old male, black rhinoceros was being treated in a capture boma for a severe leg wound when it was observed that there was a corneal wound. There was a central corneal lesion that had a yellow appearance, with a number of deep stromal blood vessels entering the central stroma. A separately treated corneal perforation was apparent over a 3 separate subepithelial hemorrhages. Following examination by a veterinary ophthalmologist it was decided to remove the lesion by superficial keratectomy and submit for histopathology. Results: Histopathology of tissue submitted confirmed the presence of dichotomous branching fungal hyphae within the central stroma. Nonsurgical treatment was submitted and the eye was treated with a topical fluconazole, antifungal and antibiotics, and healing proceeded well. Conclusion: This case demonstrates the efficacy of surgical treatment for fungal keratitis in a black rhinoceros.

ABSTRACT NO.: 52
Funduscopy abnormalities in a colony of Czechoslovakian wolf dogs: a preliminary study
G. Payen,* M. Aribol, S. Mazzucchelli,* B. Clerc* and S. Cahory*
*Unité d’Ophthalmologie, Ecole Nationale Vétérinaire d’Alfort; ‡UMR 955 de Génétique Moléculaire et Cellulaire, Ecole Nationale Vétérinaire d’Alfort
Purpose: The objective of this study is to describe a form of retinopathy in the Czechoslovakian Wolfdog in a large breeding in France. Methods: Until now, 19 related dogs (6 males, 13 females), between 4 months and 11 years of age were examined. Serial ophthalmic examinations, including menace responses, papillary light reflexes (PLR), tonometric measurement, biomicroscopy and indirect ophthalmoscopy were performed. A pedigree analysis was completed. Results: 11 dogs (6 males, 5 females) have abnormal fundi. Lesions are bilateral, though not always symmetrical. Three male dogs between 2 and 4 years of age are blind with no funduscopic abnormalities. Shows diffuse hyper-reflectivity and temporal, focal or multifocal, small to large, hyper-reflective and pigmented areas consistent with focal hyperpigmentation and RPE pigmentation are identified in seven other dogs (10 fundi), between 2 and 8 years of age. Diffuse griseous punctuations are seen in the peripapillary tapetal fundus of 7 eyes in 5 dogs, and are more prevalent in the temporal area. Conclusion: Severity of lesions is correlated with the age of animals. Examination of related animals, electroretinographic procedures and histological examinations will be performed in the incoming months, in order to specify the disease and its transmission mode.

ABSTRACT NO.: 53
Lipemia retinalis, an ophthalmic sign of hyperlipeimia: an original case report
T. Azoulay
Clinique Veterinaire des Halles, 28 rue du faubourg de Savernac, 67000 Strasbourg, France
Purpose: Lipemia retinalis or retinal lipemia is rarely seen: in that case, the retinal vessels seem to be washed out which is a sign of severe hyperlipeimia. Looking at the fundus is then an easy way to an easy way. Methods: A 19 month old cat was presented to our clinic because of visual delay, chronic, chorioretinal retinal lipemia and hypothyroidism. Catarrheus xanthoma and retinal lipemia were recorded during the clinical examination. Hypothyriemia was then suspected and ruled out as well as the PUPD syndrome. The different blood tests showed a severe hyperlipeimia as well as a hypercholesterolemia and a hypertriglyceridemia. The latter was marked increased VLDL. Results: The level of Thyroxine, IGF-1 and Insulin were low leading to a diagnosis of hypothyroidism. Conclusions: One eye glyceryl trinitrate is a safe and satisfactory technique to preserve ocular structures and vision in dogs with corneal perforation.

ABSTRACT NO.: 55
Histopathology of the canine meibomian gland
A. Schleicher-Przytarski, E. van der Grinten† and C. Eule†
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Purpose: Little information is available about the general health of the meibomian gland in animals. Therefore, one aim was to establish a routine procedure that enables the investigator to judge eyelid tissues. The second intention was to evaluate whether there are changes with age and hints for a meibomian gland dysfunction (MDG) in the dog. Methods: A total of 224 eyelids of 56 dogs without obvious ocular diseases were examined postmortem. The eyelids were processed and embedded both, parallel to the conjunctiva and vertical to the eyelid margin. After staining with H&E or PAS the samples were evaluated under the light microscope. Based on criteria described within human literature and additional scores a specific grading system was established and applied twice on every sample. First to establish the criteria; and second, randomly and blinded, to score every sample. Results: Embedding the eyelids parallel to the conjunctiva is the best way to examine the alterations of the glands. Various histological findings were observed: e.g. inflammation, dilatation, lipid retention, atrophy and melanosis of the acini; fibrosis and inflammation around and within the glands; dilatation; hyperkeratinization and retention of secretion within the ducts; blepharitis, folliculitis and perifolliculitis; conjunctivitis; and various eyelid tumors. Variations were obvious between the different areas of the eyelids, with the medial part being the most representative area. Conclusion: Positioning and preparation the medial part of the eyelid margin parallel to the conjunctiva is best suitable for the histological evaluation of the meibomian glands.

ABSTRACT NO.: 56

Measurements of eye blink frequency, corneal sensitivity, Schirmer's tear test I and II, tear film break-up time, and intraocular pressure in newborn foals and calves

U. Plattner and B. Nell

Department of Small animals and horses, Clinic for surgery and Ophthalmology, University of Veterinary Medicine, Vienna, Austria

Purpose: As premature foals often show slow healing corneal lesions data for corneal sensitivity and tear film were collected and compared to adult animals. The same was done for calves as they are born with open lids as well. Methods: Fifteen newborn foals and fifteen newborn calves were examined with regard to the development of eye blink frequency, STT I and II, tear film break-up time, corneal sensitivity and IOP 10 days postpartum. The influence of the animal species, the age (0–10 days after birth), the side of the body and the sex on the particular parameter was examined. Results: The sex had no influence on the results in any of the examinations. Foals had a significant higher eye blink frequency (mean EBF 118.1/5 min.) and a significant higher IOP (mean 27.1 mmHg) than calves (mean EBF 85.8/5 min., mean IOP 17.7 mmHg). Although calves showed greater differences between STT I (22.2 mm) and STT II (17.5 mm) compared to foals (STT I 24.1 mm; STT II 21.4 mm), there was no significant species difference. The STT II results were only weakly influenced by the animal species. The age of the animals had a significant influence on the EBF (Eubeosimeter did not show a specially sensitive area or insensitive region of the cornea neither in the foals nor in calves. Calves most often showed a corneal reflex at a length of 60 mm (0.4 g/mm²) of the filament; foals at a length of 55 mm (0.5 g/mm²). Tear film BUT of 11 foals were between 2–3 s. In calves measurements were not possible. Conclusion: Eye blink frequency of newborn foals and calves can be compared with results of adult animals. Corneal sensitivity of foals is higher than the corneal sensitivity of adult animals (no comparable literature on cattle). STT I/STT II of foals can be compared to adult horses (no comparable literature on cattle). Tear film BUT in this study was shorter than the one described in the literature for adult horses or foals. IOP results of foals and calves can be compared to adult animals.

ABSTRACT NO.: 61

Bilateral periocular swelling due to nutritional vitamin imbalance in a Veiled Chameleon (Chameleo calyptratus)

I. Bühler,* S. Reese† and I. Hoffmann‡

*Institute for Zoology, Fish Biology & Fish Diseases, Kaulbachstr. 37, 80539 Munich, Germany; †Department of Veterinary Anatomy, Ludwig-Maximilians University, Veterinärstraße 13, Munich, Germany; ‡Animal Eye Practice, Breslarer Str. 366, 90471 Nuremberg, Germany

Purpose: A 9-week-old male Veiled Chameleon was presented because of an enlarging periocular swelling. Methods: No ocular abnormalities were found in the clinically normal animal which was eating well at the time of admittance. Paraclinical examination of the feces yielded a low count of otoacarids and a high count of flagellates. A conjunctival smear showed low counts of staphylococci, Pasteur sp. and gram positive rods. No fungal growth was detected. The periocular swelling continued to grow. High frequency ultrasound showed a mass of bullbar size OU with anechogetic content which partly displaced the globe. Aspiration of the content revealed a red fluid which contained erythrocytes, leucocytes and epithelial cells. The animal’s condition deteriorated quickly and it died within a week. Results: Necropsy showed unaffected eyes but a poor mineralization of the scull bone and calcified, dystrophic foci in the heart. Also enteritis with many nematodes as well a mildly dystrophic liver was found. Conclusion: The fore mentioned disease is probably due to a nutritional imbalance of vitamins. In reptiles which are not fed a vitamin-balanced diet (hypervitaminosis D), metaplastic calcification is a common disease which leads to arteriosclerosis, high blood pressure and finally, to death. In this case the overdose of vitamin D led to calcification of the myocardium and possibly heart failure. Additionally, the retrobulbar venous sinus overloaded and caused the periocular swelling due to venous congestion from the heart. An infestation with parasites of the gastrointestinal tract further exacerbated the problem through mal-digestion. In reptiles, it is essentially to feed a vitamin-balanced diet, especially in small species or juveniles. Vitamin powders should be calculated and weighed before given unto food items. Generally examination of the feces should be part of the clinical routine in ophthalmologic reptile patients with suspected systemic disease.