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POSTERS - ABSTRACTS

PREPUCIAL URETHROSTOMY PERFORMED USING THE COATING TECHNIQUE

S.E. Acar[1], M. Saroglu[1], D.J. Sadalak[2]

[1]I.Ü. Veterınary Faculty, Avcılar, Istanbul, Turkey; [2]Practitioner Veterinary Medicine Dr., Bath, Bristol, U.K.

Penile urethral obstruction in cats is a commonly seen clinical presentation. In cases where there is no response to catheterisation or medical intervention, surgery is needed to enable urination and correct uremia and hyperkalemia. Several surgical techniques have been described. Great care must be taken to minimize leakage in the anastomosis site and promote healing when performing the pelvic urethra and prepucial mucosa anastomosis. To achieve this, the line of anastomosis has been reinforced by covering the anastomosis with the bilateral bulbourethral tissue, m. ischiourethralis and m. ischiocavernosus using simple mattress sutures. This modification, which varies from the technique performed by Yeh and Saroglu, has been termed the coating technique. Advantages of this new technique over standard perineal urethrostomy have been discussed. This technique was used in the treatment of 49 cats with penile urethra obstruction presented to our clinic. 47 cats showed uncomplicated recovery. Stenosis developed after 1 month in 2 cases in which normal urination was resumed by performing the standard perineal urethrostomy technique. Following anastomosis, a male dog urethral catheter with an outer diameter of 2.6 mm was placed in each patient. The reasons for using a catheter in this technique were explained. In order to avoid infection, the catheter was changed at 7-day intervals, remaining in situ for 2 weeks and was removed after 14 days. All cats with obstruction returned to good health.

THORACOSCOPIC BIOPSY OF LUNG TUMOURS WITH ROEDER LOOP IN DOGS

Z. Adamiak[1], K. Kalinowska[2]

[1]Department of Surgery, Faculty of Veterinary Medicine, ul. Oczapowskiego 14, 10-957 Olsztyn, Poland; [2]Private veterinary Clinic, ul. Wesola 18, 15-232 Bialystok, Poland

Thoracoscopy is a minimal invasive technique for diagnostic and operative procedures on thoracic organs and cavity. The aim of the study was to estimate Roeder loop for biopsy of lung tumour specimens for histopathological evaluation in dogs.

Materials and Methods: Five dogs with lungs neoplasm changes were used in examinations. All dogs before thoracoscopy were clinically and radiologically examined. X-ray examination reviled diffuse neoplasm in four cases, and solitary lung tumour in one case. After general anaesthesia dogs were underwent thoracoscopic procedure to obtain lung tumour biopsy specimens. An endoscope was inserted into the pleural space at the right 5th intercostals space, endoforceps and scissore were placed at right 6th intercostals space, Roeder loop was introduced at the right 8th intercostals space. After visualisation of tumour changes biopsy specimens were obtained using Roeder loop. Tumour tissue was grasped, pulled into Roeder loop. The loop was tightened at the base biopsy specimen, and neoplasm tissue was transacted free. Tumour biopsy specimens were hand down for histopathological examination.

Results and Discussion: Our data demonstrate that Roeder loop allows for acquire adequate biopsy specimens for histopathological evaluation. In all five dogs no Roeder loop failed during transection of the biopsy specimen.

TETRALOGY OF FALLOT IN A DOG

C.F. Agudelo Ramírez[1], P. Scheer[2]

[1]Department of Internal Medicine, Clinic of Dog and Cat Diseases, Faculty of Veterinary Medicine, Veterinary and Pharmaceutical Sciences University Brno, Czech Republic; [2]Veterinary Clinic MaScHEER, Malešovice, Czech Republic

Objective: Tetralogy of Fallot (TF) is a congenital malformation that consists of (1) ventricular septal defect (VSD), (2) obstruction to right ventricular outflow tract (pulmonary stenosis) (PS), (3) right ventricular hypertrophy, and (4) dextroposition of the aorta with septal override. The purpose of this paper was to evaluate and describe the findings from the history, cardiovascular examination and diagnostic tests in one dog diagnosed with TF.

Case presentation: A 17-month-old 9 kg, non

– spayed female Border terrier with history of intermitent exercise intolerance and mild cyanosis during strong activity. The dog was taking at that time enalapril (0.25 mg/kg SID PO). The main findings on the clinical examination were subcyanotic membran mucous and the auscultation revealed a pansystolic murmur degree 3/6, localized at the right side of the thorax over the tricuspid valve area. The X-rays (LL and DV views) revealed enlargement of the right ventricle (VHS: 11.2) with no evidence of pulmonary edema. The ECG showed jagged QRS complexes (leads III, aVL, aVF and V_{10}), enlargement of the left atrium, (P_{II}: 0.26 mV, 44 ms) and the right ventricle (S_I, S_{II}, S_{III} pattern, S wave in lead CV_6LL and CV_6UL greater than 0.8 mV). Echocardiographically (21.10.2005) presented VSD, dextroposition of the aorta (no more than 50%), infundibular PS with minimal flow, hypertrophy and flattening (D-shape) of the interventricular septum (IVS) and right ventricular hypertrophy (right ventricular wall thickness was same as thickness of IVS). Next control (27.1.2006) showed reduction of diastolic (1.5 vs. 1.02 mm) and systolic (1.63 vs. 1.37 mm) thickness of the IVS and extension of left ventricle posterior wall (diastolic 1.05 vs. 1.28 mm, systolic 1.2 vs. 1.77).

Conclusion: Due to financial reasons owners declined surgical correction and the patient was medicated with atenolol 0.5 mg/kg SID PO. During the following months (12 months), clinical condition of the patient has been stable but the echocardiographical values improved and patient's quality of life is satisfactory up to now.

CANINE HERPES VIRUS INFECTION: A SERO-EPIDEMIOLOGICAL SURVEY IN TUNISIA AND ESTIMATION OF VACCINE EFFICIENCY

C. Ahmed[1], F. van Gool[2], M. Rmili[3], F. Kallel[1], F. Landolsi[1], S. Haddad[3]

[1]Veterinary School, Sidi Thabet, Tunis, Tunisia; [2]Merial Laboratory, Lyon, France; [3]Centre Canin, Bizerte, Tunisia

We carried out, in the first part, a canine herpes virus infection sero-epidemiological survey by ELISA test on 49 reproductive bitches aged 2.9 ± 1.7 years and coming from Bizerte and Tunis regions. This survey has revealed a seropositive rate of 37%. No significant differences were found according to the sanitary status or the age of the dogs in the breeding units. In the second part, we carried out a medical prophylaxis against canine herpes virus infection in a canine centre. For that, we have used EURICAN® herpes virus vaccine produced by MERIAL Laboratories, Lyon, France. This study allows us to estimate vaccine efficiency by observing its impact on neonatal mortality. Twenty three reproductive females housed at a canine center were included in this study. These bitches were divided into 3 groups: The First group (control group) was made up of 6 bitches that did not receive any herpes virus vaccine but instead, they received a vaccine against other diseases (Distemper, hepatitis, leptospirosis, parvovirosis and rabies). The second group: contains 10 females that have received a single injection of herpes virus vaccine at the end of pregnancy period according to the protocol proposed by Lanting (2004). The third group: comprises 7 bitches that have received vaccination according to the following protocol (Poulet et al. 2001):

•First injection 10 days after mating

•Second injection 10 days before delivery date.

The result of vaccinations has shown a decrease in neonatal mortality rate. In fact, in the control group (Group1) a neonatal mortality rate was of 43.33%, while in the vaccinated groups it was of 23.4% and 7% respectively in the second and the third group.

INVESTIGATION OF PERIPHERAL AND INTEGRAL PROTEINS IN TYPE II DIABETIC CATS

A. Akdogan Kaymaz[1], I. Albeniz[2], Ş. Tamer[3]

[1]Faculty of Veterinary Medicine, Dept of Internal Medicine, Istanbul University, University Street, İstanbul, Turkey; [2]Istanbul Medical Faculty, Dept of Biophysics, Istanbul University, Sehremini, İstanbul, Turkey; [3]İstanbul Medical Faculty, Dept of Physiology, İstanbul University, Sehremini, İstanbul, Turkey

Endothelial and vascular disorders with the coagulation disorders, altered blood flow and increased permeability, vasoconstriction in diabetic patients and animals were seen. The membrane structures of blood components were affected by the disorders of blood flow and increased blood viscosity. For that reason, the investigation of diabetic effects on changing of peripheral and integral protein structures' in erythrocyte membrane in diabetic cats were aimed in this study. Totally 20 cats which of 10 were diabetic and their ages varied between 1.5 and 10 years old brought to Department of Internal Medicine, Faculty of Veterinary Medicine, İstanbul University were used. Haematologic parameters were determined by Sysmex KX 21 haematology

analyser. Erythrocyte membrane proteins were determined by SDS-PAGE electrophoresis using a 10% gel and a discontinuous buffer system. When compared to controls, SDS-PAGE revealed that the band 5 corresponding to actin was weaker while band 4.5 corresponding to integral membrane proteins (glycophorin A, B and C) had disappeared in diabetic cats. It was also seen that band 4.9, which is composed of dematin (a protein with actin-bundling capacity), was lost. The findings were thought that diabetes mellitus degenerate the structural proteins of the cell and affect the blood flow.

TARTRATE-RESISTANT ACID PHOSPHATASE IN SYNOVIAL FLUID OF NORMAL AND OSTEOARTHRITIS STIFLE SECONDARY

M.R. Alam[1], H.B. Lee[3], S.Y. Park[3], S.Y. Heo[1], K.M. So[1], Y.H. Lee[2], I.S. Kim[1], H.S. Kang[3], N.S. Kim[1]

[1]College of Veterinary Medicine, Chonbuk National University, Jeonju, South Korea; [2]School of Dentistry, Chonbuk National University, Jeonju, South Korea; [3]Center for the Development of Healthcare Technology, Chonbuk National University, Jeonju, South Korea

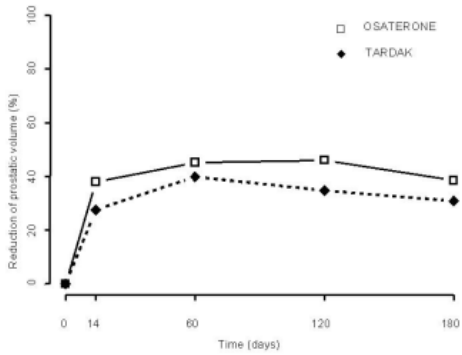
This study investigated the concentration of tartrate resistance acid phosphatase (TRAP) in the stifle synovial fluid of normal and osteoarthritis secondary to experimental medial patellar luxation (MPL). MPL was surgically produced in the left stifle (index) of 20 mixed small breed dogs (age 1 to 10 years, weight 2.8 to 10 kg) by placing purse string sutures around the parapatellar fibrocartilage and anchoring the patella with the fabellar ligament, and by medial imbrication and lateral release. The animals were randomly allocated in 2 groups; sham group (n=10), the right stifle was sham operated and control group (n=10). Radiographs were taken and synovial fluid was aspired from both stifles preoperatively and postoperatively at every 1.5 month intervals. One dog was euthanatized at every 1.5 month and tissue samples from both stifles were collected for histopathology. TRAP assay was performed using a biochemical assay in 96-well plates with p-nitrophenylphosphate (pNPP) as substrate. The clinical signs of osteosrthritis were obvious in the experimental dogs by 12 weeks of the surgical induction of MPL which was also evidenced in histopathology of the tissue samples. The concentration of TRAP in the index stifles significantly increased after 3 months as compared with that of the sham and control stifles. The surgically made MPL can be a tool for experimental induction of osteoarthritis. The TRAP assay can play an important role for the diagnosis and therapy of osteoarthritis in the dog.

TREATMENT OF BENIGN PROSTATE HYPERPLASIA WITH OSATERONE ACETATE TABLETS

M. Albouy, A. Sanquer

VIRBAC, 13e rue LID, Carros, France

Benign Prostatic Hyperplasia (BPH) is a common disease of non-castrated dogs, with a high prevalence (>80%) in dogs over 5 years. The use of anti-androgens represents an interesting alternative to surgery. A multicentric, controlled and randomised clinical field trial was conducted in 4 European countries to evaluate the efficacy of Osaterone acetate (OSA) tablets on dogs presenting with clinical signs of BPH. OSA tablets administered at a dose of 0.25 mg/kg bw once daily for 7 days were compared to delmadinone acetate (Tardak®, Pfizer) administered once IM or SC at a dose of 3 mg/kg bw. Over a 6-month follow-up period, the dogs were examined on 5 different time points: D0, D14, D60, D120 and D180. At each visit, a clinical examination was performed and the size of the prostate was determined by ultrasonography. Efficacy of the products was assessed by the percent reduction of the prostate size and the clinical recovery rate (complete resolution of clinical signs) on D14. Product persistence of activity was estimated from the average time to requirement of a second course of treatment. One-hundred forty-two dogs of various breeds were included in the study: 73 were treated with OSA and 69 with Tardak. On D14, the prostate volume was reduced by 38% with OSA and 27.6% with Tardak (p=0.002). Clinical recovery was reported in 36 dogs (49.3%) in the OSA group and 33 (47.8%) in the Tardak group (p=0.8592). Over the whole 6-month period, a clinical score of 0 was achieved in 92% of dogs treated with OSA. OSA persistence of activity was at least 161 days, an intermediate estimation to be re-evaluated after additional long term follow-up of the dogs. Tolerance to OSA was good, a slight increase in appetite was sometimes recorded and managed with appropriate food intake monitoring. A short 7-day course of Osaterone acetate tablets proved an efficient, long-lasting and safe therapeutic regimen for Benign Prostatic Hyperplasia in dogs.



Time course of the percentage of reduction of the prostate volume

COMPARATIVE STUDY ON IRON DEFICIENCY ANEMIA IN PUPPIES FED WITH MATERNAL AND NON MATERNAL MILK

S.J. Aldavood[1], P. Keyhani[2], A.R. Karegar[3], A. Moghadami[4], H. Salari Seddigh[5]

[1]Azad University, Science and research center Campus, Sarv Sq., Tehran, Iran; [2]Shahre kord Azad University, Veterinary faculty, Daghighi st., Isfehan, Iran; [3]Shahre kord Azad University, Veterinary faculty, Daghighi st., Isfehan, Iran;[4]Veterinary Organization, N osrat St., Tehran, Iran; [5]Veterinary faculty of Kerman University, University, Kerman, Iran

Anemia and particularly iron deficiency anemia is one of the most important factors in growing problems in puppies. It can make a lot of negative effects in growing process. Iron deficiency anemia is produced by depletion of iron reserves. Due to this depletion, no iron is available for haemoglubin (Hb) synthesis. Iron reserves depletion happens when the iron consumption or iron loss be considerably, more than synthesis. In this study two groups of puppies (25 puppies in each group) with 3 months old in average, were selected randomly. The first group was considered as the control group and the puppies of this group were fed with maternal milk. The second group was the test group and the puppies of this group were separated from their mother maximum at two weeks old. These puppies were fed manually with the cow's milk. One ml of blood was collected from each puppy and haematological factors such as red blood cells count (RBCC), Haemoglubin concentration (Hb), Hematocrit (PCV) and cellular indexes of MCHC, MCH and MCV were measured. The result showed that there is significant difference in "mean red blood cells count" between control and test groups. ($P \leq 0.05$) Differences of "MCHC" between these two groups were also significant ($P \leq 0.05$). More ever all of these parameters were compared statistically with their corresponding standard values and all differences were significant except for "MCHC" and "MCV" between control group and relevant standard values. It means that the RBCC in puppies fed with maternal milk are normocytic-microchromic and somehow iron deficiency in this group of puppies can be neglected. In other hand, "MCV" in test group had significant difference with normal values, so in this group the RBCC are microcytic-normochromic and this issue can be early stage of iron deficiency anemia.

ABDOMINAL DEEP PYODERMA DUE TO PSEUDOMONAS AERUGINOSA IN A DOG

S.J. Aldavood, S. Mokaram, M. Saberi, M. Abdi

Veterinary faculty of University of Tehran, Azadi St., Tehran, Iran

A male spayed 4 years old terrier dog weighting 4900 gr was presented to the small animal hospital of Tehran university with the history of abdominal skin pruritis, anorexia treated for ectoparasites one week before referring to the hospital. In primary physical examination severe abdominal erythema with yellowish to green skin discharge, pustules, abdominal skin slough, superficial skin necrosis, tachypnea, tachycardia, pyrexia (39.8 centigrade degree) was revealed. Hemogram result was: PCV: 36%, WBC: 3500, neutrophil: 60%, band: 2%, lymphocyte: 31%,

eosinophil: 5%, monocyte: 2%, total protein: 7gr/dl. In biochemistry profile, hepatic and renal factors were in normal range. The dog suffers from leucopenia and regenerative anemia. Numerous white blood cells, RBC and cocci shape bacteria were seen in microscopic evaluation of the stump skin sample. Fungal culture was negative and pseudomonas aeruginosa detected as the dominant infective agent in the bacterial culture. Medical therapy with parentral and topical gentamicin, diluted white vinegar (10%), and levamisole by the immunostimulatory dosage (2.2 mg/kg po q 48 h for 3 weeks) was prescribed. There were significant improvement after one week and the leukogram was normal after 2 weeks.

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A CASE REPORT OF GLUMERONEPHRITIS AND RENAL INFARCTION IN A CAT

S.J. Aldavood, M. Saberi, S. Hesaraki, S. Mokaram

Veterinary faculty of University of Tehran, Azadi St., Tehran, Iran

A 4 years old domestic short hair cat was presented in the small animal hospital of the University of Tehran with signs of vomiting, lethargy, anorexia, diarrhea, stomatitis, lingual erosions, oliguria and haematuria. Physical examination revealed pale mucus membrane, 8% dehydration and normal respiratory sounds. In abdominal palpation unilateral renomegaly was detected. CBC results included: total WBC: 14000, segmented neutrophils 70%, Lymphocytes 18%, Monocytes 1%, Eosinophils 2%, PCV 41%, NRBC 2%, Polychromasia and anisocytosis. Hypoglycemia (60 mg/dl), BUN 90 mg/dl, Creatinine 175 µmol/l, Urea 192 mg/dl were detected in serologic examination. Urinalysis findings included: Specific gravity 1025, pH 5, protein 4+, RBC 3+, WBC 4+, Epithelial cell 1, Bacteria positive and Amorphus uric acid crystals. Ultrasonographic findings were increased echogenisity of renal cortex, poor definition between cortex and medulla and spot like echogenicities in urinary bladder. The case was suspected to glumeronephritis and supportive therapy was performed for 2 weeks. The cat died after 2 weeks and in necropsy glumeronephritis and renal infarction in both kidneys were confirmed.

PRIMARY CUTANEOUS EXTRAGENITAL CANINE TVT IN A DOG

S.J. Aldavood, M. Saberi, S. Hesaraki, S. Mokaram

Veterinary faculty of University of Tehran, Azadi St., Tehran, Iran

The clinical signs and histopathological features of a primary extragenital canine transmissible venereal tumour (TVT) are described in a 5 months old spayed male spitz dog. subcutaneous 4×2.7 cm oval shape alopecic nodule was located on the caudoventral region of the right flank. The prefemoral and inguinal lymph nodes were not involved (FNA procedure). Cytologically, tumour cells were intermediate in size with a moderate amount of cytoplasm, and the nuclei were immature with finely reticular chromatin. The nucleus to cytoplasmic ratio was large. The cytoplasm was lightly to heavily basophilic and contained distinct small vacuoles at the periphery. On the basis of these characteristics, a diagnosis of TVT was made and confirmed by histological investigations. The skin bump was surgically excised and in his annual check up there were no skin bump or other forms of TVT.

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2- Vermooten MI. Canine transmissible venereal tumor (TVT): a review. J S Afr Vet Assoc 1987; 58(3):147-150.
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STEROID-RESPONSIVE MENINGITIS IN A MALE SPITZ DOG

S.J. Aldavood, M. Saberi, D. Shirani, N. Khorami, S. Mokaram

Veterinary faculty of University of Tehran, Azadi St., Tehran, Iran

Steroid-responsive meningitis-arthritis is an immunopathological disease in dogs. Typically are characterized by neutrophilic pleocytosis and an elevated protein concentration of the cerebrospinal fluid. A 5-year old male spitz dog presented because of neck pain and cervical rigidity. There was no significant clinical response when referring veterinary surgeon

prescribed systemic antibiotic therapy and aspirin as a first clinical approach. CSF Analysis showed increased protein concentration and neutrophilic pleocytosis. Cultures of the CSF remained sterile. These findings, in combination with declining markers of CSF infection, are consistent with sterile meningitis. Corticosteroid therapy improved clinical signs but Recurrence developed with steroid stopping. Longer term corticosteroid therapy for duration of 4 months resulted complete improvement without any relapse.

OSTEOSARCOMA IN FRONTAL BONE IN A DOG IN IRAN

S.J. Aldavood[1], A. Veshkini[1], M.H. Karimi-Nejad[2], E. Gorgin[1]

[1]Veterinary faculty of University of Tehran, Azadi St., Tehran, Iran; [2]Pathologist, Shahrake gharb, Tehran,Iran

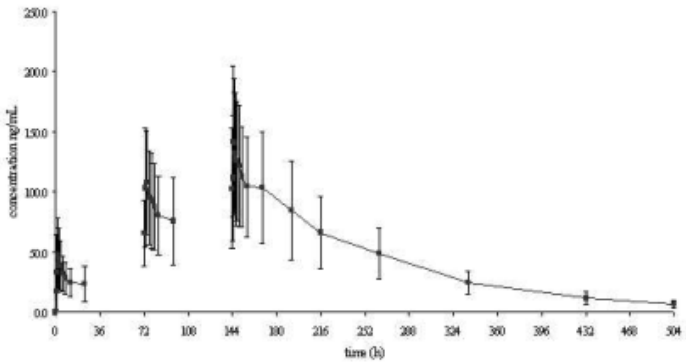
Seventy five per cent of the osteosarcomas originate in the long bones. The skull bones are rarely involved and in our present knowledge there was no report of osteosarcoma arising from frontal bones in Iran. A 11 years' old male German shepherd dog was referred to the Small Animal Hospital, faculty of Veterinary medicine, because of a mass on the head of two months duration. The lesion was a hard nodule on the left Frontal bone, measuring 10 cm in diameter. There was mild tenderness on palpation and no warmer than body temperature. The owner gave no history of head trauma or fractures. A CBC, biochemistry work-up, and urinalysis showed no abnormalities. Melena was positive in the stool because of passage of blood through the nasal cavity and pharynx. The neurological examinations were normal, excluding brain invasion. Lat. oblique view of the skull showed cortical destruction of the left frontal bone with amorphous extra cortical new bone formation extending into the soft tissue neoplastic mass. The lesion seems to be more osteoclastic. Right frontal bone is intact. Lat. oblique radiography revealed more aggressive changes in left frontal bone which shows rapid rate of changes of this malignant lesion. Microscopic examinations revealed highly cellular neoplastic tumor, compose of fairly uniform stellate vacuolar or slightly eosinophilic cytoplasm. The nuclei are irregular in shape and vesicular with one or two prominent nucleoli. The Tumor cells tend to produce osteoid tissue. Numbers of giant osteoclastic cells around osteoid formation are evident. Occasionally spicules of bone formation also present. After radiographic and pathologic confirmation of osteosarcoma and because of owner request dog was euthanasied.

PHARMACOKINETICS OF OSATERONE ACETATE AFTER REPEATED ORAL ADMINISTRATION AT 0.25 MG/KG/DAY FOR 7 DAYS

V. Allix[1], M. Sillon[1], T. Mezzasalma[2], L. Maynard[1]

[1]VIRBAC, 13e rue LID, Carros, France; [2]AVOGADRO, Parc de Genibrat, Fontenilles, France

A GLP study was performed on 6 non-fasted Beagle dogs to evaluate the pharmacokinetics of osaterone acetate (OSA) (YPOZANE, Virbac) after a 7-day oral repeated administration at the therapeutic dosage of 0.25 mg/kg/day. Blood samplings were collected at 0.5, 1, 1.5, 2, 3, 4, 6, 8, 12 and 24 hours after the 1st treatment, at 1, 2, 4, 6, 8, 12 and 24 hours after the 4th treatment, and at 0.5, 1, 1.5, 2, 3, 4, 6, 8, 12, 24 hours and 2, 3, 5, 8, 12, 15 days after the 7th treatment. OSA in plasma was quantified by validated Liquid Chromatography with Mass/Mass detection with a LOQ of 2.0ng/ml. According to a model for repeated administration, Tau (Interval between 2 administrations), $Cmax_{ss}$ (Maximal observed concentration at steady state during Tau), $Tmax_{ss}$ (Time for $Cmax_{ss}$), Cmin (Minimal observed concentration at steady state during Tau), AUCss (Area Under the Curve at steady state during Tau), Cav (Mean concentration between 2 administrations: AUCss/Tau), Cmax1 (Cmax after the 1st administration) were calculated with Kinetica software (InnaPhase). Accumulation ratio (R_1) was calculated as the ratio of $Cmax_{ss}$ to Cmax1. According to a non-compartmental analysis for extra-vascular administration, for single day of administration (1st, 4th and 7th administration), Cmax, Tmax, AUC_{0-t} (AUC between t0 and time of the last quantifiable concentration), Lz (Constant of elimination rate, slope of the log-linear regression (ln concentration versus time) calculated for the last points to maximise the r coefficient), AUC_{0-24h} (AUC from 0 to 24h after each administration) were calculated with Kinetica. Accumulation ratio (R2) was calculated as the ratio of AUC0-24h between 7th and 1st administration. The plasma concentration and the AUC of OSA were higher after the 7th dose than after the 1st dose (see table and figure). After 7-day oral administration, a bioaccumulation of OSA was demonstrated (R1 = 3.1 ± 1.0 and R2 = 4.2 ± 1.0) in correlation with a long elimination half-life.



model of repeated administration	
$Cmax_{ss}$ (µg/L)	146.53 ± 64.02
$Tmax_{ss}$ (h)	145.7 ± 1.2
Cmin (µg/L)	97.92 ± 44.50
AUCss (µg.h/L))	2676 ± 1091
Cmax1 (µg/L)	51.72 ± 28.50
Caverage (µg/L)	111.48 ± 45.45

model of single administration			
	Day 0, 1st adm.	Day 3, 4th adm.	Day 6, 7th adm.
Cmax (µg/L)	51.72 ± 28.53	111.41 ± 47.42	146.53 ± 62.02
Tmax (h)	1.7 ± 0.8	1.5 ± 0.5	1.7 ± 1.2
AUC_{0-t} (µg.h/L)	669 ± 351	2039 ± 874	14321 ± 5747
Lz (1/h)	0.022 ± 0.006	0.012 ± 0.006	0.008 ± 0.001
AUC_{0-24h} (µg.h/L)	669 ± 351	1745 ± 294	2676 ± 1091

ENROFLOXACIN EFFICIENCY IN URINARY INFECTION CONTROL OF THE DOGS WITH TRANSITIONAL CELL CARCINOMA

A.L. Andrade[1], M.C.R. Luvizotto[1], M.G. Laranjeira[1], F.R. Eugênio[1], M.A.R. Fernandes[2], H.F. Ferrari[1]

[1]Curso de Medicina Veterinária, Rua Clóvis Pestana, 793, Araçatuba, Brazil; [2]Centro de Ensino e Tecnologia de Araçatuba, Rua Humaitá, 231, Araçatuba, Brazil

The transitional cell carcinoma (TCC) is the most common form of canine urinary bladder cancer and its most often trigonal in location and can result in partial or complete urinary tract obstruction. The etiology of canine bladder cancer is most likely multifactoral. Bacterial and virus infections and you capsize as being one the involved causes in vesical carcinogenesis. The enrofloxacin efficiency in controlling the urinary infections associates the vesical neoplasias was studied. Eleven dogs, male and female, with papillary infiltrative transitional cell carcinoma associated with urinary infection caused by *Eschechiria coli* and *Proteus Mirabilis*, had been treated by means of tumoral resection in association with 90-Strontium betatherapy (3.000 cGy) with bladder preservation. The respective infections had been treated during 15 days with enrofloxacin after surgery and betatherapy. The animals were observed during one year and they did not have the disease returns, which was confirmed by clinical and uroculture laboratory analysis. Finally, in this study the enrofloxacin demonstrated to be efficient in controlling the urinary infection in these cases.

BRAIN GLIOMA IN A DOG - CASE REPORT

N. Andric[1], M. Matic[2], S. Spasojevic[2], M. Curcic[2]

[1]Faculty of veterinary medicine, Bulevar oslobodjenja 18, Belgrade, Serbia; [2]Private veterinary clinic "SPINA", Bulevar Arsenija Carnojevica 17a, Belgrade, Serbia

Clinical History: The Irish setter, female, 15 years old, was brought to the Small animals clinic at Faculty of veterinary medicine in Belgrade, with the history of seizures. Within five days the dog had four tonic - clonic seizures, that lasted for ten to fifteen minutes each. Other than that, the owners have recently noticed behavioral change which manifested in anxiety, and, a day before coming to the Clinic, the dog was unable to stand.

Physical and Neurological Examination: Depressed/obtunded, heads tremor, depressed cranial reflexes of the right side of the head and hemiparesis of the right side of the body.

Diagnostic testing: cbc and serum chemistry - no abnormalities; urin analysis: no abnormalities; radiograph examination of calvarum: no abnormalities; CT scan without contrast and with contrast: omnipaq (350mg/ml) in the doses of 1ml/kg of body weight IV was used as the contrast. CT

scan without contrast points out to the existence of expansive formation in the area of the left parietal lobus, completely compressing the left lateral ventricle, while the right lateral ventricle dilated. After IV contrast aplication, contrast enhancement in the compressed area is noticed, whereas changed formation was not clearly defined.
Diagnosis: Neoplasia was suspected.
Therapy: After consultations, colleagues from private veterinary clinic «SPINA» decided to operate the dog, in order to remove the most of the tumor. During the operation, the sample of tumorous mass was taken for histologic examination. Tissue samples were colored by haematoxylin – eosin (HE) and examined through microscope. Histological examination confirmed changes that point out to the glioma. The euthanasia was carried out.

MALIGNANT PERIPHERAL NERVES SHEATH TUMOUR (MPNST) IN A DOG – CASE REPORT

N. Andric[1], M. Knezevic[1], V. Kukolj[1], D. Djurdjevic[2]

[1]Faculty of veterinary medicine, Bulevar oslobodjenja 18, Belgrade, Serbia; [2]Military academy of medicine, Crnotravska 17, Belgrade, Serbia

Clinical History: The Siberian husky, male, 13 years old, was brought to the Small animals clinic at Faculty of veterinary medicine in Belgrade, with incapability of standing on the thoracic left limb. The dog started limping on left thoracic limb one year ago, and lameness increased during time. A month ago, the dog stopped leaning on that limb (in case of leaning on that limb, it would show signs of pain). The dog started to drag the limb ten days ago, and the pain was increasing, and manifested with whining and biting its limb in the area of m. brachialis.
Physical and Neurologic Examination: sensorimotor monoplegia with apparent muscles atrophy of the thoracic left limb with no other neurological abnormalities.
Diagnostic Testing: cbc and serum chemistry: no abnormalities; vertebral radiographs C6 – T2: no abnormalites; MRI without contrast: above the top of the left lobe of a lung parathrahealy, oval, clearly limitied, expansive formation is noticable, with the dimensions 43x57mm, which holds back the trachea contralateraly and pushes down the top of lungs. The tumor had moderate unhomogenous hypersignal in T1W, and distinctive hypersignal in T2W. The suspected diagnosis was neoplasia of brachial plexus peripheral nerves. Following euthanasia, histological examination confirmed infiltrative and poorly circumscribed tumorous mass, composed of a dense population of spindle-shaped cells arranged in fascicles, whorls or sheats. There were two to five mitotic figures per high-power field. Immunohistochemically, most spindle cells were positive for vimentin and negative for S-100, keratin and GFAP. Based on the morphological and immunohistochemical features, the tumour was classified as a malignant peripheral nerve sheath tumour (MPNST) with dominant mesenchymal component.

PERIODONTAL REGENERATION WITH LOW LEVEL LASER THERAPY (SOFT LASER) - EXPERIMENTAL STUDY IN BEAGLE DOGS

C.A. Antunes Viegas[1], U. Thams[2], J. Rodrigues[1], G. Watzek[3], M.I.R. Dias[1], P. Llorens[2], F. San Román[2]

[1]Veterinary Science Department – University of Trás-os-Montes e Alto Douro, Portugal; [2] Animal Medicine and Surgery Department –University Complutense of Madrid, Spain; [3] Medical School – University of Vienna, Austria

The purpose of this study was to prove the effect of the soft laser (low level laser therapy) in the reconstruction and healing of hard and soft periodontal tissue after periodontal reconstructive surgery. In this experiment five Beagle dogs were used. The procedure was the following: 7 mm large periodontal defects were created in the mandibular vestibular face at the 4th premolar and the 1st. molar. The root surfaces were then instrumented to remove all cementum and the wounds immediately closed by replacing and suturing the flaps just coronal to the cementum-enamel junction. All the defects were filled up with collagen, and during a period of 4 weeks, 5 days a week, the teeth were treated with soft laser only on experimental side. The dogs were sacrificed 16 weeks postsurgery. Histometric recordings included height and area of alveolar bone regeneration, height of cement regeneration, connective tissue repair, and junctional epithelium. We evaluated the bone regeneration, the dental cement regeneration, the new PDL, the collagen sponges persistence, root resorption and/or ankylosis histologicly. Group means, standard deviations, and P values are shown (Student t test; n=5 y χ2; n=2). The size of regeneration with laser measured 1.8 ± 0.5 against 2.3 ± 0.8 on control (ns). Bone-values with laser were 2.1 ± 0.8 against 2.7 ± 1.0 on control (ns). The regenerated

cement measured 1.7 ± 0.5 with laser against 2.8 ± 0.8 on control (p=0.006). The junctional epithelium measured 2.7 + 1.1 with laser against 2.8 ± 0.1 on control (ns). The connective tissue repair measured 2.2 ± 1.0 with laser against 1.6 ± 0.4 on control (p=0.04). Ankylosis was 0.0 ± 0.0 with laser against 0.0 ± 0.0 on control (ns). One found root resorption on 11/18 with laser against 7/18 on control. The irradiated bone presents architectural disorganization and an intense activity of bone remodelling. We could see some empty osteocytes lacunes and some osteocytes nucleus in picnosis or cariolisis. The PDL presents a few density of functionally oriented periodontal fibers and was poorly irrigated. We couldn't find collagenous vehicles in both the experimental and the control groups. Our data suggest that laser helps with the soft tissue cicatrization but it stops the bone regeneration.

CONCRETIONS IN EXOTICS. CLINICAL AND RADIOLOGICAL EVALUATION

J. Arnbjerg, M.L. Ruelokke, T. Iburg

Royal Veterinary University, Dyrlaegevej 32, Copenhagen, Denmark

Concretion is described in 9 guinea pigs out of approx. 150 guinea pigs radiographed; High density in the urinary bladder in 3 rabbits.

Case GP 1: A neutered male presented with pain associated with defecation. Radiographs revealed a urinary bladder calculus and irregular higher density areas bilateral to the rectum. The urinary calculus was removed but the animal still painful during defecation. At post mortem both anal sacs were found with hard concrements. Size, shape and location were at the density observed on the radiographs.

Case GP 2: A 4 years old male guinea pig had dysuria and stranguria. Abdominal radiographs showed a high density 6 x 14 mm around the os penis. After content removed from the preputial cavity normal radiological findings around the os penis was observed and the animal had no clinical symptoms.

Case GP 3 – 9: These 5 male and 2 female guinea pigs were of different age but were radiographed due to other reasons than urinary tract problems. They showed minor concretions in their prepuce cavity and urinary excretion system.

Case Rabbit 1 - 3: Three rabbits were presented with coloured and opaque urine. No other abnormal clinical signs. On radiographs their bladders were visualized with varying but high density.

Discussion: The urinary bladder stones in the male guinea pig are located in the bladder, but in the female, the stone can be located very caudally in urethra. The existence of the Perianal Glands is debated. We found Perianal Glands in male Guinea Pigs only. Smegma is a normal fatty oily substance, which some authors claims is produced by the mucilaginous/sebaceous glands, Tyson's glands. The infection in relation to smegma seems in animals to be mycobacterium, but no specific organism was found in this material. The Tyson Glands could not be found in these Guinea Pigs. High density and opaque urine is due to an excretion of surplus of Calcium.

Conclusion: In case of tenesmus in Guinea Pig concretion-conditions should be considered. In rabbits with high radiological density in the urinary bladder the clinical symptoms can be unspecific and due to excretion of calcium.

SEROEPIDEMIOLOGICAL INVESTIGATION OF VISCERAL LEISHMANIASIS IN DOGS OF AHVAZ, IRAN

R. Avizeh, M. Mohebali, M. Sheikholeslami

Shahid Chamran University, Golestan, Ahvaz, Iran

Visceral leishmaniasis is a parasitic infectious transmissible disease from dogs and canids to human that is caused by protozoans of the genus Leishmania. Infected dogs serve as reservoirs of the disease in many countries. Information on the prevalence of canine leishmaniasis is necessary to define control measures for zoonotic leishmaniasis. This seroepidemiological survey was performed in dogs from Ahvaz district using by DAT and ELISA from October 2003 to March 2004. Blood was randomly collected in 38 pure or mixed breed dogs presented to veterinary hospital of Ahvaz Shahid Chamran university (urban dogs) and 172 mongrel dogs of 10 villages around Ahvaz city (rural dogs). A high level of concordance (98%) was found between the titers measured by DAT and ELISA then DAT selected as valid and simple test. The detected seroprevalences based on DAT were 2.6% and 16.3% in urban and rural dogs respectively. No statistically significant difference was observed

between male and female seroprevalences in each groups (P>0.05). Regarding age-groups of rural dogs, the lowest of seroprevalence (5.3%) was foun d in dogs younger than one year of age and the highest (33.3%) in dogs older than seven years. Only between of these two groups was statistically significant difference (P<0.05). In rural dogs was not statistically significant difference between village seroprevalences (P>0.05). This study revealed the importance of the dog as a reservoir for visceral leishmaniasis in Ahvaz district. It seems that seroprevalence of disease in rural dogs from Ahvaz district is similar to Endemic area as of Mediterranean countries.

ANTIBODY TITERS AGAINST CANINE DISTEMPER VIRUS IN UNVACCINATED RURAL DOGS FROM AHVAZ, IRAN

R. Avizeh, M.R. Seifiabad Shapoori, N. Akhlaghi

Shahid Chamran University, Golestan, Ahvaz, Iran

Canine distemper is an acute to subacute contagious febrile and often fatal disease with respiratory gastrointestinal and CNS manifestations which caused by canine distemper virus (CDV), a morbillivirus in the paramixoviridae family. The purpose of this study was to evaluate the prevalence of antibodies to CDV in unvaccinated rural dogs without known immunization status and to assess risk factors for infection by means of indirect immunofluorescent test (IFA), in Ahvaz district, southwest of Iran. Serum samples were randomly collected from 97 healthy dogs greater than six months old from six villages around Ahvaz city between 2004 and 2005. We considered titers > or = 1:10 indicative of an adequate antibody response. Dogs were grouped by age, sex, and area to determine whether these factors were associated with antibody titers, using fisher's exact test. Seroprevalence to CDV antibodies in these dogs were 17.52% indicating that this virus is present in the ecosystem. Also there is evidence of previous natural exposure to CDV. Prevalence of antibodies to CDV did not differ among various regions or between sexes or ages (P>0.05). Rural dogs are abundant in the ecosystem of area and interact with other species of wild carnivores and domestic animals in ways that could encourage disease transmission. The prevalence of CDV antibody-positive dogs do not indicates protection against canine distemper, thus these dogs also may be affected. Therefore we should direct future guidelines for translocations, including quarantine of seropositive dogs and preventing contact between them and domestic pets. Also the role of rural dogs in the epizootiology of CDV in both urban dogs and wildlife needs to be further explored.

CLINICAL AND ELECTRODIAGNOSTIC EVALUATION OF TRAUMATIC DISEASE OF BRACHIAL PLEXUS: 12 DOGS, 17 CATS

O. Besalti[1], Z. Pekcan[2], Y.S. Sirin[3], E. Unlu[4]

[1]Ankara University Faculty of Veterinary Medicine Department of Surgery, Diskapi, Ankara, Turkey; [2]Kirikkale University Faculty of Veterinary Medicine Department of Surgery, Yahsihan, Kirikkale, Turkey; [3]Ankara University Faculty of Veterinary Medicine Deapartment of Surgery, Diskapi, Ankara, Turkey; [4]Ministry of Health Ankara Diskapi Education Hospital Department of Physical Therapy and Rehabilitat, Diskapi, Ankara, Turkey

The objective of the study was to present electrodiagnostic and clinical findings of the traumatic disease of brachial plexus (TDBP). Dogs and cats that had clinical signs of TDBP and diagnosed electrophysiologically were reviewed. Standard motor nerve conduction study and/or sensory nerve conduction studies, H reflex, somatosensoric evoked potentials, and needle electromyography in both extremity and paraspinal muscles were employed for diagnosing the involved nerve and level of injury. Injured areas were examined in three cases (1 dog, two cats) after euthanasia and in 10 cases (4 dogs, 6 cats) during operation at the lower part of brachial plexus by the reflexion of the scapula laterally. The left side was predominant in both dogs and cats in 81.82 % and 76.47% respectively. The radial nerve was involved in all cases individually or associated with other nerves. There were avulsion in radial nerve (n=11) and at the outside of vertebral canal or lower spinal ganglion (n=4), and the other cases had multiple nerve involvement in brachial plexus as in ulnar-median, axial, musculocutaneous and suprascapular nerve in addition to radial nerve. The injured nerves were found totally severed and lodged in fibrous tissues ventrally at the operation or necropsy. However in two surgically explored cats epineurium remained partially intact. In conclusion, sensory nerve action potentials, and needle EMG and H reflex can be suggested in determining the avulsion of the brachial plexus, denervation potentials can be accepted as a clue to diagnose the involved nerve.

THE EFFECT OF CHRONIC OTITIS EXTERNA–MEDIA ON BRAINSTEM AUDITORY EVOKED RESPONSE IN DOGS

O. Besalti[1], Y.S. Sirin[2], Z. Pekcan[3], O. Koskan[4]

[1]Ankara University Faculty of Veterinary Medicine Department of Surgery, Diskapi, Ankara, Turkey; [2]Ankara University Faculty of Veterinary Medicine Department of Surgery, Diskapi, Ankara, Turkey; [3]Kirikkale University Faculty of Veterinary Medicine Department of Surgery, Yahsihan, Kirikkale, Turkey; [4]Ankara University Faculty of Agriculture, Diskapi, Ankara, Turkey

The objective of the study was to present normative Brainstem Auditory Evoked Response's (BAER) data acquired by the both air conducted clicks (30–100 dBHL) and bone conducted clicks (100–130 dBHL) for normal dogs, and dogs with chronic otitis externa–media. The data were analyzed to acquire reference values of the laboratory in 55 healthy dogs and to estimate the degree of hearing impairment associated with the disease. Fifty four dogs with chronic otitis externa-media were divided into two groups. The first group included dogs with severe chronic otitis externa–media, candidate to surgery (n=16), and the second group included dogs with mild chronic otitis externa–media, candidate to medical treatment (n=38). The appearance rate of V. potential was found higher than the others at the every stimulation level. Seventh potential was not seen by the bone conducted click at the all stimulation level, and also in cases with severe chronic otitis externa–media by the air conducted click. While fifth potential was seen more than 50 % at the 60 dBHL in severe otitis externa-media, it was at the 30 dBHL in mild otitis externa. The latencies of potentials (I-VII) acquired from healthy dogs and interpeak latencies (I-III, I-V, III-V) were compared between left and right side there were no significant differences between both sides except for the shorter latency of the VI. potential in the left ear. Facial paralysis was diagnosed in four cases with severe chronic otitis externa-media. In conclusion, reference values of the laboratory for BAER in healthy dogs were obtained. Chronic otitis externa–media cause increasing latency rather than total deaf. BAER can be suggested as an ancillary diagnostic tool in ear disorders.

SOME BIOLOGICAL AND IMMUNOLOGICAL STUDIES ON HYDATIDOSIS/ ECHINOCOCCOSIS IN EGYPT

A. Derbala[1], A. Elmassry[2], M. Mahmoud[1], O. Elragehy[1]

[1]National Research Centre, Parasitology & Anim. Dis. Departement, Tahrir Street, Giza, Egypt; [2]Faculty of Veterinary Medicine, Parasitology Departement, Gamea Street, Giza, Egypt

Hydatidosis or echinococcosis is caused by a tapeworm, Echinococcus granulosus. It is still a serious public health of zoonotic and economic importance. The biological identification showed several aspects between the adult worms. The prepatent period was 55 days for camel strain while that of Equine strain was 70 days. Marked differences between the total length of worm; the length and width of scolex, immature, mature and gravid segments; total length and blade length of rostellar hooks were observed. Regarding the immunological studies, the hydatid fluid (HF) and protoscoleces (P) antigens from both animals were partially purified using gel filtration chromatography. The crude and partially purified antigens of HF and P of both origins were resolved by SDS-PAGE. Electrophoretic pattern revealed distinct variations among the used antigens. ELISA was preformed twice to evaluate the crude and partially purified antigens against their versus sera. The second ELISA was preformed on PC p1 and HFD p2 antigens against sera obtained from naturally infected animals with hydatidosis or with other parasites. The sensitivity of ELISA was 100% using PC p1 and HFD p2 in serodiagnosis of hydatidosis. The specificity of ELISA was 97.6% and 95.9% in both origins, respectively. Using of HFC p1 and HFD p1 antigens in the first step of ELISA showed that these antigens might contain diagnostic epitops for hydatidosis in both origins, so both antigens could be used in Immunoblot technique to identify the diagnostic bands for each species. Western blot recognized two bands at 80 and 150 KDa which might be diagnostic bands in both intermediate hosts. While the epitops at 21 and 59 KDa might be specific for camel hydatidosis. The common reactive band at the level of 138 KDa might be specific for hydatidosis in donkyes. Two variant subspecies from E. granulosus were recorded. Identification of specific antigens may have a value in diagnosis and vaccine candidates.

DOSE TITRATION STUDY OF ORAL PASTE, PRAZIQUANTEL IN THE TREATMENT OF ECHINOCOCCUS GRANULOSUS IN DOGS

A. Derbala[1], L. Frayssinet[2], A. Elmassry[3]

[1]National Research Centre, Parasitology & Anim. Dis. Departement, Tahrir Street, Dokki, Giza, Egypt; [2]Virbac S.A., Research and Development Departement, Carros, Cedex, France; [3]Faculty of Veterinary Medicine, Parasitology Departement, Gamea Street, Giza, Egypt

A control study trial involving 36 selected healthy vaccinated, experimentally infected with *Echinococcus granulosus* (10000 viable protoscoleces/2 successive days for each animal) was carried out. The study was designed to compare the efficacy of 4 tested drugs in a new paste formulation and various concentrations of praziquantel (2.5-10 mg PZQ/kg B.W.) and Droncit® tablets as a reference drug, in treatment of *E. granulosus* infection in dogs. A single or fractionated administered dose of treatment with these oral pastes or Droncit® tablets (5 mg PZQ/kg B.W.) gave a similar degree of efficacy (100% clearance) against immature forms of *E. granulosus*. According the experimental design, animals were examined after necropsy for worm burdens at 5, 7 & 9 days post treatment. Adverse reactions or side effects were not observed in the treated dogs. No serious risk was involved in administering the tested drugs. The administered pastes given orally were well tolerated without observable adverse effects. These new pharmaceutical preparations of praziquantel were effective and extremely convenient to administer for treatment of *E. granulosus* infection in dogs.

BIOLOGICAL CONTROL OF SOFT TICKS (ARGASIDAE) BY ENTOMOPATHOGENIC NEMATODES

A. Derbala[1], M. Hassanain[1], N. Abdelbarry[3], M. Elsherif[5], H. Elsadawy[1]

[1]National Research Centre, Parasitology & Anim. Dis. Dept., Tahrir Street, Dokki, Giza, Egypt; [2]National Research Centre, Tahrir Street, Dokki, Giza, Egypt; [3]Faculty of Agriculture, Gameaa Street, Giza, Egypt; [4]Faculty of Agriculture, Gameaa Street, Giza, Egypt; [5]National Research Centre, Tahrir Street, Dokki, Giza, Egypt

Potential hazards of insecticides caused environmental pollution, insect resistance and disturbance of natural biological balance. The possibility of infecting the Acari, Argas persicus (tick bird) using two species of entomopathogenic nematode: Steinernema carpocapsae and Heterorhabditis bacteriophora was investigated. Different concentrations: 12000, 9000, 6000, 5000, 4000, 3000, 2000 & 1000 infective juvenile stages (IJS) of the two nematode species were used in the experiment. The study revealed that nymphs, male and females soft ticks were susceptible to the two used nematodes. The LD50 values were estimated for the two nematodes, respectively. Rates of mortalities differed according to host stage, the nematode species and concentrations of (IJS). It was of interest to mention that the nematodes could invade, kill the ticks but failed to reproduce inside the dead ticks. The influence of infected and non infected tick haemolymph on the development and migration of nematode inside cotton leaf worm, Spodoptera littoralis, the host choice of nematodes, was investigated. Mortality percentage with different values was observed after their injection with infected and non infected Argas haemolymph. Entomopathogenic nematode might be used as an alternative useful, safe and effective biological control agent in the future.

PROLAPSUS URETHRA IN A DOG: A CASE PRESENTATION

B. Dokuzeylül[1], Y. Devecioğlu[2], A. Akdoğan Kaymaz[1], A. Uysal[1]

[1]Department of Internal Medicine, Veterinary Faculty of Istanbul University, Avcılar Campus, Istanbul, Turkey; [2]Department of Surgery, Veterinary Faculty of Istanbul University, Avcılar Campus, Istanbul, Turkey

Prolapsus of the urethral mucosa is a very rare condition that occurs in male especially castrated dogs. A 7-year old male, neutered Yorkshire Terrier was referred to Clinic of Internal Medicine, Veterinary Faculty of Istanbul University, constituted the material of this study. As being informed by the patient's owner lethargy, stranguria and bleeding from the prepuce lasted for the duration of 5 days and castrated 3 years ago, was also mentioned. Physical examination at the time of referral revealed discomfort at the penis region and oversensitivity at the urinary bladder. The urethral mucosa was seen as prolapsed and the mucosa's colour was bright red to dark purple. During the urethral catheterization it was easily passed through the center of the

tissue. Severe thrombocytopenia (56x10^3 µL) and prolonged PT (11 sn) and APTT (21 sn) were detected in haematologic analysis. BUN and creatinine levels were seen in normal ranges. In the urinalysis, pyuria and crystalluria were detected. After the antibacterial and supportive therapies prolonged for 10 days, bleeding from the prepuce disappeared. The patient's problems had finished one month later after the treatment and the prolapsed mucosa healed.

STUDY THE EFFECT OF L-CARNITINE ON APOPTOSIS IN THE ISCHEMIC – REPERFUSED ISOLATED RAT HEARTS

Y. Doustar[1], A. Garjani[2], M. Najafi[3]

[1]Islamic Azad University, Vally Asr, Tabriz, Iran; [2]Faculty of Pharmacy, University of Medical Science, Daneshgah, Tabriz, Iran; [3]Faculty of Pharmacy, University of Medical Science, Daneshgah, Tabriz, Iran

Carnitine is a vital biologic substance for transporting fatty acids into myocytes and facilitates fatty acids β-oxidation for energy production. There are not enough reports about its anti-apoptotic effects during ischemia/reperfusion. In this study, effects of L-Carnitine on apoptosis in the ischemic isolated rat hearts were investigated. Male Sprague-Dawley rats (270-330g) were divided into 4 groups randomly and were anesthetized by sodium pentobarbital (50-60 mg/kg-ip). Heart was removed and quickly mounted on a Langendorff apparatus and perfused by a modified Krebs-Henseleit solution under constant pressure at 37 ºC. In control group (n=6), the hearts were perfused only by normal Krebs -Henseleit solution at stabilization, 30 min regional ischemia and 120 min reperfusion, while in the test groups (1-3 groups, n=6 in each group), during ischemia / reperfusion, the hearts were perfused with 0.5,2.5 and 5mM of L-Carnitine - enriched Krebs-Henseleit solution, respectively. At the end of reperfusion, Immunohistochemical detection of apoptotic cells was performed by using an in situ apoptosis detection kit. The number of TUNEL-positive cardiomyocytes was counted in five random high-power fields in each sample. Data represented as mean ±sem for each group. In control group, the number of apoptotic cells were 48 ±3 while in the test groups, addition of L-Carnitine (0.5, 2.5 and 5mM) into the Krebs solution during ischemia and reperfusion, reduced the number of apoptotic cells to 6±1, 4±1 and 3±1, respectively ($p<0.001$). There was no significant difference between and within test groups using ANOVA one-way. Considering these results, we conclude that L-carnitine has a protective effect against cardiac ischemic reperfusion injuries as a reduction of apoptotic cardiomyocytes.

GROWTH PERFORMANCE, SURVIVAL RATIO AND BODY MEASUREMENTS UNTIL WEANING AGE OF GERMAN SHEPHERD DOG

Ö. Elmaz[1], O.A. Aksoy[2], S. Dikmen[3], A. Zonturlu[4]

[1]Akdeniz University, Faculty of Veterinary Medicine, Burdur, Turkey; [2]Gemlik Military Veterinary School and Training Center, Bursa, Turkey; [3]Uludag University, Faculty of Veterinary Medicine, Bursa, Turkey; [4]Harran University, Faculty of Veterinary Medicine, Şanlıurfa, Turkey

This study was carried out to establish body weight, survival ratio and average body measurements of the German Shepherd Dogs raised under the condition at Gemlik Military Veterinary School and Training Center during suckling period. Live weight and body measurement records of 82 pure bred (54 female, 28 male) puppies were used for determining growth characteristics. Mean weights of puppies at 1st week and weaning were 776 and 2614g, respectively. Mean live weight of male and female puppies were statistically different at 2-4 week of age. Survival rate of puppies at weaning was found 83%. At 52 day age, head length, head circumference, body length, wither height, ear length, body circumference, rump height, cannon circumference, tail length and hind leg wrist circumference were 14.76, 24.03, 22.97, 25.16, 5.93, 30.64, 24.16, 6.62, 15.51 and 5.99 cm, respectively. Birth weight was statistically affected by mother's age. And tail length and wither height at 24, 38 and 52 day age was affected birth type (6 litter) ($P<0.01$). Body measurements before weaning were not affected by sex ($P>0.05$) except for head circumference ($P<0.01$). Correlations between live weight and body measurements were also determined. Correlations between live weight and ear length were significant before weaning ($P<0.001$). Correlation between live weight at 35 day age and all body measurements were statistically significant ($P<0.001$). In conclusion, it was determined that live weight and body measurements of German Shepherd puppies before weaning period should be a beneficial tool for selection.

Keywords: German Shepherd Dog, weaning age, body measurements, growth curve, survival rate.

PREVALENCE AND SUSCEPTIBILITY OF EUROPEAN PATHOGENIC BACTERIA FROM CANINE INFECTIONS SINCE 1994

D. Galland, F. Woehrle, B. Boisrame, M. Valle

Vetoquinol SA., BP 189, LURE, France

A network survey on pathogenic aerobic strains from canine pathologies of otitis (44%), urinary (17%), respiratory (9%) and dermatological (30%) infections has been established by Vetoquinol in Europe since 1994. The 1474 isolated strains showed that the main pathogenic strains were *Staphylococcus intermedius, Staphylococcus aureus* (between 40 and 64%) and *Pseudomonas aeruginosa* (between 22 and 38%) from otitis and dermatological infections, *Bordetella bronchiseptica* (39%) and *Pasteurella multocida* (30%) from respiratory infections, and *Escherichia coli* (61%) from urinary infections. Activity testing (by antibiograms) of the main anti-infectious drugs against these pathogenic strains has shown that marbofloxacin was generally the most active (82 to 100%), followed by amoxicillin/clavulanic acid (1 to 100%), cefalexin (1 to 99 %), doxycycline (1 to 100%) and clindamycin (0 to 84%). The main multiresistant strains (up to hexa-R) were observed for *Pseudomonas spp*. strains from otitis. Marbofloxacin MICs showed a very high activity against *P. multocida* strains (MIC_{90} range: 0.025 to 0.413µg/ml), *Staphylococcus spp*. (MIC_{90} range: 0.219 to 0.435µg/ml), *E. coli* strains (MIC_{90} range: 0.014 to 8.574µg/ml) and *B. bronchiseptica* (MIC_{90} range: 0.375 to 0.456µg/ml) and a lower activity against *P. aeruginosa* (MIC_{90} range: 0.478 to 12.126µg/ml). MIC_{90} variability was primarily due to the low number of strains isolated. The marbofloxacin MIC distributions were unimodal for *Staphylococcus spp., B. bronchiseptica* and *P. aeruginosa* strains. For the other strains, the distributions were bimodal. Few resistances to marbofloxacin have been observed and mainly for *E. coli* strains (5%) and *Pseudomonas spp.* strains (8%), but no significant increase of marbofloxacin MIC_{90} has been observed excepted for *Staphylococcus spp.* isolated from otitis since 1994. Consequently, marbofloxacin appears to be effective against the main canine infections even if a limited spread of resistance was observed.

EXAMINATION OF CANINE MAMMARY TUMOURS BY USING MAGNETIC RESONANCE IMAGING

R. Garamvölgyi[1], Z.S. Petrási[1], B. Lőrincz[1], Á. Hevesi[1], Ö. Petneházy[1], I. Repa[1], C.S. Jakab[2]

[1]Institute of Diagnostic Imaging, University of Kaposvár, Guba Sándor u. 40, Kaposvár, Hungary; [2]Szent István University, Faculty of Veterinary Science, Department of Pathology, István u. 2, Budapest, Hungary

Magnetic resonance imaging (MRI) is a sensitive, noninvasive diagnostic tool that helps to establish accurate diagnosis in neoplastic patients and enables the staging of tumourous diseases. MR mammography is widely used in the human oncologic practice. Since the introduction of contrast-enhanced MRI of the breast, this method has gained increased acceptance because it offers new and different information as compared with other imaging modalities. The aim of this study was to obtain the availability of the human mammographic MR protocol in the routine examination of canine mammary glands. Cancer-induced angiogenesis is the main feature that can be pictered in vivo by dynamic contrast enhanced (DCE)-MRI, and it plays an important role in the differentiation of benign mammary diseases from malignant ones. We examined whether this human characteristic could be applied to describe canine mammary tumours (contrast enhancement, morphological patterns and kinetic curves). After the imaging procedure the tumours were excised and typified by histopathological examinations. Eleven intact bitches of different breeds (4 German Shepherd, 2 Mongrel, 1 Giant Schnauzer, 1 Foxterrier, 1 Mastino Napolitano, 1 Pointer, 1 Tervueren) were examined during anoestrus. Average age was 10,2 years, the dogs weighed between 7-52kg. Examinations were performed with a Siemens Magnetom Vision Plus and a Siemens Avanto, 1.5 Tesla MRI scanner. The following sequences, adapted from the human protocol, proved to be suitable for MRI examination of the canine mammary glands:

– T1 SE (TR: 450 s, TE: 9.6 s, Aq.: 2 s, SL: 4 mm, FoV: 350 × 200 mm) coronal, transversal planes;
– T2 SE (TR: 3800 s, TE: 110 s, Aq.: 2 s, SL: 4 mm, FoV: 350 × 350 mm) coronal, transversal planes;
– STIR (short T1 inversion recovery; TR: 4500 s, TE: 36 s, Aq.: 2 s, SL: 4 mm, FoV: 350 × 350 mm) coronal, transversal planes;
– T1 GE (TR: 12 s, TE: 4.8 s, Aq.: 1 s, SL: 2 mm, FoV: 320 × 320 mm) in a dynamic fashion, coronal plane.

We found that using static sequences the neoplastic mammary gland and the neighboring anatomical structures could be examined in great detail

with optimal contrast conditions. We can typify the morphological characteristics of neoplasms, which can be compared to the histological findings and help to plan the therapeutic (surgical) method. All the eleven animals had malignant lesions (malignant mixed tumours, carcinoma simplex and carcinoma complex) and the morphological patterns as well as the kinetic parameters proved to be satisfying for the diagnostic work. The contrast accumulation methods and curves prepared for human medicine are of great promise in veterinary use but a highly sensitive standard protocol should be completed. In all cases we found malignant morphology, so the method must be tested also on benign tumours and on a large number of patients.

WHAT INFLUENCE ON ORAL HEALTH IN CATS AND DOGS. RESULTS OF 2005 PET SMILE CAMPAIGN IN POLAND

J.P. Gawor[1,2], K. Jodkowska[1,3], G. Kurski[1,4], A. Kurek[3], J. Hylmarova[5], M. Kaszyński[5]

[1]Dental Working Group in Polish Small Animal Veterinary Association; [2]ARKA Veterinary Clinic, Kraków; [3]SGGW Warszawa, Warsaw Agricultural University; [4]ELWET Veterinary Surgery, Warszawa; [5]Masterfoods Polska, Kożuszki Parcel

The Dental group of the Polish Small Animal Veterinary Association together with Masterfoods Polska ran the third edition of the Pet Smile Campaign (PSC) in 2005. The PSC Team prepared materials for owners, instructions for the veterinarians, posters and the questionnaires for participating veterinary surgeons to fill in based on examined pet's oral health status.

Materials and methods: In 2005, members of the Dental Working Group of the Polish Small Animal Veterinary Association (PSAVA) and representatives of Masterfoods Poland recruited over 400 veterinary practices to provide free oral examinations of pet cats and dogs. The examination procedure consisted of three parts: 3 minutes dental/periodontal examination (no sedation or GA applied), 3 minutes interview and filling in the questionnaire with the owner, and 3 minutes presentation of diagnosis to the owner, instruction for home oral hygiene methods, and recommendation of professional treatment.

Each oral health check was documented in the standardized chart which included following parameters: age of the patients, their gender and bodyweight, type of diet fed and extent of home oral hygiene. Bodyweight was divided into 5 groups in dogs (<5, 5-10, 10-25, 25-40 >40) and in 2 groups in cats (<5kg >5kg). Dental examination protocol consisted of: size of mandibular lymph nodes evaluated on palpation, presence of dental deposits, and presence of periodontal disease. The size of mandibular lymph nodes was determined as: normal, slightly enlarged, or moderately to severely enlarged. The presence of dental deposits was determined visually of the most severely affected tooth and was recorded as absent, up to 50% of the crown affected, or more than 50% of the crown affected. The presence of periodontal disease was determined visually. Gingivitis was specified as inflammation of gingival tissue, (abnormal reddening or bleeding of the gums). Periodontitis was recorded when a tooth had gingival recession or was mobile on digital palpation. The scheme and scoring system is presented in the table1.

Other parameters that were marked in the questionnaire: diet (five options): dry food, dry and tinned or other soft commercial food, mixed home-made and commercial food, only home-made food) and oral prophylaxis (five options): daily teeth-brushing; daily dental chews, 2-3 times a week dental chew or brushing, seldom dental chews or brushing, none. Breeds of the examined patients were also recorded but the results are not reported here.

The oral health index was defined as the summation of scores obtained for the three parameters: lymphadenopathy, dental deposits, and periodontal disease, with 0 points indicating optimal oral health, and 6 points indicating most negative oral health status. A one-way analysis of covariance was performed to adjust for age. Significance was defined as $p < 0.05$. Statistical analysis was performed using SPSS 12.0 software (SPSS Inc., Chicago, IL).

Results: In 12344 evaluated animals 70.6% were the dogs (8712) and 29.4% cats (3632). The results regarding each of evaluated parameters are presented in Table 1 (cats) and Table 2 (dogs) All parameters were adjusted to the mean age that in cats was 4,801 yrs and in dogs 5,758 yrs. The most significant influencing parameter on oral heath status has the age. Bodyweight, oral hygiene and diet also had significant influence on oral health index, the most positive correlation were: big size of the dog (over 25 kg)* and smaller size in cats (less than 5 kg), dry diet and daily oral prophylaxis in both species. There are significant differences in oral health among the animals fed different diets and having different extent of oral hygiene. The cats fed dry, mixed commercial and homemade food diet had increasing oral health index respectively which means decreasing oral health status. In dogs was noted additional difference between soft commercial and homemade food.

Conclusions:

1. The age is the most important factor at oral cavity condition.
2. Significant influencing factors are: diet, bodyweight and oral hygiene.
3. The best results in dogs oral health index were observed in groups of large individuals (over 25 kg) fed with dry food, and with daily teeth-brushing.
4. The best oral health index was presented in cats less than 5 kg, fed with dry food and having daily oral hygiene (teeth-brushing or daily chews)

Table 1 Cats. Relations between evaluated parameters and oral health index

Evaluated parameter	Number of individuals	Ratio [%]	LSM Logarithm of Oral Health index +1	Significant difference	SE (Standardized error)
Gender F= 0.32 P = 0.57					
Female	1860	51,21	0,805	A	0,023
Male	1772	48,79	0,815	A	0,022
	3632				
Bodyweight F= 20,96 P<= 0.01					
>5 kg	2838	78,14	0,761	A	0,020
5-10,0	794	21,86	0,861	B	0,025
	3632				
Diet F= 27,73P<= 0.01					
Dry	823	22,66	0,638	A	0,024
Commercial mixed (dry and tinned)	1502	41,35	0,734	B	0,021
Tinned	341	9,39	0,883	C	0,034
Mixed commercial and homemade	733	20,18	0,853	C	0,026
Homemade	233	6,42	0,946	C	0,040
	3632				
Oral Hygiene F= 24,15P<= 0.01					
Daily teeth brushing	78	2,14	0,617	A	0,061
Daily chews	123	3,38	0,641	A	0,049
2-3 chews a week	219	6,03	0,856	B	0,037
Seldom	463	12,76	0,943	BC	0,027
No	2749	75,69	0,997	C	0,013
TOTAL	**3632**				
Age F=1263,59 P<=0,01	3632		B = 0,095		0,003

Table 2. Dogs Relations between evaluated parameters and oral health index.

Evaluated parameter	Number of individuals	Ratio [%]	LSM Logarithm of Oral Health index +1	Significant difference	SE (Standardized error)
Gender F= 18,50 P<= 0.01					
Female	4122	47,31	0,804	A	0,012
Male	4590	52,69	0,851	B	0,012
	8712				
Bodyweight F= 51,62P<= 0.01					
>5 kg	986	11,32	0,995	A	0,018
5-10,0 kg	2691	30,89	0,869	B	0,013
10,1-25,0 kg	2502	28,72	0,805	C	0,013

25,1-40,0 kg	1883	21,04	0,753	D	0,015
>40,1 kg	650	8,03	0,715	D	0,022
	8712				
Diet F= 49,42P<= 0.01					
Dry	1793	20,58	0,696	A	0,014
Commercial mixed (dry and tinned)	1454	16,69	0,768	B	0,015
Tinned	356	4,08	0,894	CD	0,028
Mixed commercial and homemade	3704	42,52	0,854	C	0,012
Homemade	1405	16,13	0,926	D	0,017
	8712				
Oral Hygiene F= 61,21P<= 0.01					
Daily teeth brushing	208	2,39	0,606	A	0,035
Daily chews	438	5,03	0,757	B	0,024
2-3 chews a week	1050	12,05	0,820	B	0,016
Seldom	2362	27,11	0,970	C	0,012
No	4654	53,42	0,985	C	0,009
TOTAL	**8712**				
Age F=4528,0 P<=0,01	8712		B=0,097		0,001

DENTAL PROCEEDINGS IN BUSH DOG (SPEOTHOS VENATICUS) IN BRAZIL

M. Gioso[1], R. Fecchio[2], M. Gomes[1], J. Rossi[1]

[1]University of São Paulo, Av. Prof. Dr. Orlando Marques de Paiva, 87, São Paulo, Brazil; [2]São Bernardo`s Zoo, Rua Portugal, s/n, São Bernardo, Brazil

The Bush Dog (*Speothos venaticus*) is a South American canid described by Lund in 1942 and now is classified as in risk of extinction by IUCN (1990), remaining only 26 captive animals in Brazil. Their dental formula is different from other canids by the absence of the seconds upper molars (110 and 210) and of the third lower molars (311 and 411), presenting the following dental formula: 2x (3/3 1/1 4/4 1/2) = 38. Two females of Bush Dog were chemically restrained for several procedures, during which they were thoroughly examined, including the oral cavity. One of the females, with approximately 10 years of age, presented several oral illnesses with lesions that included: fractures with and without pulp exposure, tooth-version, gingival hiperplasia, periodontal pocket, furcation exposure, gingivitis and dental absence. The other animal, with approximately 5 years, presented dental fracture with pulp exposure of the left lower canine tooth. During restraint, it was not possible to accomplish the necessary treatment. However all of the information regarding the oral lesions were classified in specific clinical record (dental chart). Later on the animals were directed to the Laboratory of Comparative Dentistry, of the Veterinary School of the University of São Paulo, where the specific proceedings were accomplished, which included: periodontic, endodontic, exodontic and restorative dental treatments. One year later the animals are still clinically healthy and new restrains were not necessary. In the case of wild animals, the treatment options are more restricted, because the capacity of post-surgical attendance of the oral cavity is more limited. Therefore, it should be selected the therapy of longer trustiness, so that it can be avoided other handlings of the animals and new chemical restraints. Moreover, it is indispensable the accomplishment of clinical exam of the oral cavity wherever the animal be anesthetized for any purpose, in order to have early diagnostic of any related problem in the oral cavity.

CLINICAL STUDY OF TYPE-I COLLAGEN CELL-BINDING (PEPGEN-P15®) IN ADVANCED PERIODONTAL LESIONS IN DOGS

M.A. Gioso, D.G. Ferro

Universiadade de São Paulo, Av Prof Dr Orlando Marques de Paiva, 87, São Paulo, Brazil

The aim of this study is to evaluate the response attachment loss, periodontal pocket and II and III furcation lesion of tooth 3 and 6 month after application of collagen cell-binding peptide (PepGen P-15®). Twenty four dogs from the FMVZ-USP Veterinary Hospital were anesthetized in order to periodontal treatment and 91 tooth faces with attachment loss was treated. From it, 45% (41) received P-15 and 55% (50) constituted control group that received conventional treatment (flap and root planning). Eighth tooth had furcation lesions. Five received the peptide and 3 do not. The procedure was documented by radiography and photography from the periodontal probing. After 3 and 6 month, the animals were re-anesthetized in order to realize new photography, radiography and periodontal probing exams. From furcation tooth treated with P-15, two exhibit reduction of furcation degree, two do not change it condition and one had furcation enhanced after 6 month. The conventional treatment group presents 1 tooth with furcation reduction and no changes in 2 teeth. The 41 attachment loss faces that received graft material exhibit 40% of regeneration rate after 6 month. The control faces do not change it attachment level. The palatal face present the better regeneration rates (40%) and the canines and molars were the better tooth responses (57.14% and 65%, respectively). There was no post-surgical infection related to oral home care, despite the fact that just one owner (4.16%) had reported diary tooth brush on his pet. This data permits to conclude that the P-15 helps the more rapidly periodontal structures re-attachment e regeneration, including alveolar bone. Its application is easy and practical and the post-surgical complications incidence is poor. Nevertheless, more studies and researches are necessary to evaluate the formed bone and periodontal ligament amount and the quality.

EVALUATION OF SUPPRESSING EFFECT OF KETAMINE ORAL SPRAY WITH ORAL KETAMINE ON CNS IN CAT

B. Habibi Asl[1], E. Issabeagloo[2], R. Kaffash Elahi[3], J. Mahmoodi[3]

[1]School of Pharmacy, Tabriz University of Medical Sciences, Daneshgah, Tabriz, Iran; [2]Medical Sciences Faculty, Islamic Azad University Of Tabriz, Manzariye-Soleymankhater, Tabriz, Iran; [3]Veterinary Medicine Faculty, Islamic Azad University Of Tabriz, Jadde Basmenj, Tabriz, Iran

Background: Ketamine is known to provide anesthetic effects when is administrated parentral. Ketamine has a low intestinal absorption in human (20 ± 7%). The aim of this study was evaluation of suppressing effect of ketamine oral spray with oral ketamine mixed with milk or meat on CNS in cat.

Methods: Ten cats received Ketamine in mixed of milk or meat (30 gr) or oral spray. Different doses of Ketamine (20, 40, 80, 120 mg/kg) in different route administrated. Each animal was observed continuously by a winded observer for CNS depression as graded on the behavioral scale shown in under. Our scales for CNS depression were: 0: Normal, 1: Slight ataxia, 2: Marked ataxia, 3: Loss of righting reflex, 4: Immobility, 5: No reaction to pain. Quantal data were obtained by determining the percentage of animals which lost the reflexes (above scores) for each dose. Peak scores for each dose and the percentage of animals that reached each peak score is given.

Results: Animals accepted Ketamine administered via the Oral spray route better than that given other way. Different doses of ketamine showed dose dependent effect. Oral spray use of Ketamine lead to more and persistant depressive effects. 100% of animals showed No reaction to pain (score = 5) in ketamine (120 mg/ kg) oral spray way. Depressive effects of ketamine (20, 40 mg/kg) were weak in cat.

Conclusions: Ketamine as oral form (Syrup) in mixed with milk is not appropriate for cat, because of low PH and unpleasant taste. Ketamine was taken oral spray was useful. Our findings suggest that the ketamine oral spray administration should be selected for anesthetic effects in cat.

EFFECT OF TYLOSIN ON THE QUALITATIVE COMPOSITION OF CANINE JEJUNAL MICROBIOTA

J. Harmoinen, J. Björkroth, T. Spillmann, E. Westermarck

Faculty of Veterinary Medicine, Hämeentie 57, Helsinki, Finland

The indigenous intestinal microbiota forms a dynamic ecosystem, the equilibrium of which is essential for the host's well-being. Disturbance of the small intestinal microbiota have been implicated as a risk factor of small intestinal disease. Tylosin, a bacteriostatic macrolide antibiotic, is commonly recommended for the treatment of intestinal disorders such as small intestinal bacterial overgrowth or tylosin-responsive diarrhea in dogs. However, there are only few data available about the influence of tylosin on the composition of the small intestinal microbiota. The aim of this study was to evaluate the dynamics of the jejunal microbiota after administration of tylosin at a dose corresponding to routine therapeutic. Five healthy laboratory beagles with permanent jejunal fistula located approximately 60cm distal to the pylorus were included into the study. Tylosin was administered at a dose of 20-22 mg/kg/day for a period of 14 consecutive days. Samples of jejunal juice were collected through the fistula on day 0 (before tylosin administration), day 14, and day 28 (14 days after withdrawal of tylosin). For evaluation of changes in the levels of total anaerobic and lactic acid bacteria (LAB) in jejunal chyme, samples were cultivated anaerobically on Brucella and MRS media, respectively. From two highest dilutions 20 colonies of LAB were randomly selected, and identified to species level using library based numerical analysis of 16 and 23 S rRNA gene RFLP. Inter-individual variations in the levels of both total anaerobic bacteria and LAB were detected. LAB levels were not markedly altered during tylosin treatment. However, the administration of tylosin increased the proportion of enterococci, particularly *Enterococcus fecalis*. During tylosin treatment the proportion of enterococci within all LAB was 98% compared to 9.5% before and after tylosin administration. The results support the concept that tylosin may promote the growth of beneficial commensal bacteria such as enterococci, i.e. strains that are known to have probiotic characteristics.

FAILURE OF A SINGLE GNRH ANTAGONIST ADMINISTRATION TO PREVENT ESTROUS INDUCTION BY A GNRH AGONIST IM

G. Hermo[1], Y. Corrada[1], D. Arias[1,] T. Trigg[2], C. Gobello[1]

[1]National University of La Plata., calle 60 y 118 S/N, La Plata, Argentina; [2]Peptech Animal Health, Locked Bag 2053 North Ryde, Sydney, Australia

The combination of a short-acting GnRH antagonist with a long-acting agonist could prevent the gonadotropin "flare-up" at the beginning of agonist treatment in other species. The objective of this study was to evaluate the efficacy and clinical safety of a single injection of the GnRH antagonist, acyline, to prevent post-GnRH agonist, deslorelin-estrous response in anestrous bitches. Eight, postpubertal, 18 to 35 kg, anestrous bitches were allocated to one of the following treatment groups: deslorelin acetate (Suprelorin®, Peptech), 10 mg sc (DA; n = 4) or deslorelin acetate (Suprelorin®, Peptech), 10 mg sc followed by acyline (NICHHD, NIH, USA) 330mg/kg sc 72 hs later (DA&ACY, n = 4). All the bitches were examined daily for detection of post-GnRH agonist estrous response and the appearance of systemic or local side effects related to the treatments for one month. In animals that presented an estrous response, progesterone (P_4) serum determinations were carried out 3 wks after proestrus onset to test ovulation ($P_4 > 5$ ng/ml). The frequency of bitches achieving estrous response, ovulation or side effects in each treatment group were analyzed by PROC FREQ. Days to estrous response were expressed as least squares means (LSM) ± SEM (SAS®). Estrous response did not vary between treatment groups ($P > 0.05$), as all (8/8) the animals presented it. Ovulation occurred in all DA bitches and in 3 of the 4 DA&ACY animals ($P > 0.05$). None of the bitches presented local nor systemic side effect related to the treatments. Estrous response appeared 12.5 ± 0.1 and 5.2 ± 1.4 days after implantation in the DA&ACY and DA groups, respectively. It is concluded that, in this preliminary study, a single administration of the GnRH antagonist, acyline, failed to prevent post GnRH agonist stimulation in anestrous bitches. Further studies with repeated or higher doses of antagonists are necessary before antagonist depot formulations were available.

EVALUATION OF PERIOPERATIVE DESMOPRESSIN IN DOGS WITH SPONTANEOUS MAMMARY GLAND TUMORS

G. Hermo[1], P. Torres[2], G. Ripoll[1], D. Gomez[1], D. Alonso[1], C. Gobello[3]

[1]Laboratory of Molecular Oncology, Department of Science and Technology, Roque Saenz Peña 352, Buenos Aires, Argentina; [2]Faculty of Veterinary Medicine, La Pampa National University, Calle 5 esq. 116, La Pampa, Argentina; [3]Faculty of Veterinary Medicine, La Plata National University, Argentina., calle 118 y 60, La Plata, Argentina

Desmopressin (DDAVP) is a synthetic vasopressin analog with hemostatic properties that can be used to prevent bleeding in surgery. Previously, we demonstrated that perioperative administration of DDAVP dramatically reduced lymph node involvement and lung metastasis in a mouse model of mammary tumor manipulation and surgical excision. In this study, the effect of DDAVP was evaluated in the surgical treatment of bitches suffering from spontaneous mammary gland tumors. Intact bitches with locoregionally advanced mammary gland cancer (stages III and IV) confirmed by deferred biopsy were included. Tumors and regional lymph nodes were excised. Treated animals (n=13) were administered intravenously with two doses of DDAVP (1 µg/kg/dose), 30 min before and 24 h after surgery. Control animals (n=13) received the saline vehicle. Tumors were diagnosed as carcinoma (n=11), osteosarcoma (n=1), or carcinosarcoma (n=1) in the control group, and carcinoma (n=11) or osteosarcoma (n=2) in the DDAVP group. Six of 13 (46%) control bitches had locoregional recurrence or metastasis within the 3 months after surgery, while only 1 of 13 (7%) DDAVP-treated animals did ($p=0.03$; chi2). The disease-free survival median time was significantly higher in DDAVP-treated animals (Control: 105 days versus DDAVP: >318 days; $p<0.05$ log-rank test). These preliminary results support the potential utility of the neoadjuvant perioperative treatment with DDAVP in advanced mammary tumors.

CLINICAL REPORT OF TRYPANOSOMA EVANSI IN THREE DOGS IN IRAN

M. Hosseini Nejad[1], D. Shirani[2], S. Nabian[2], S.M. Nassiri[2], R. Mazaheri[2]

[1]Shahrekord University, Saman, Shahrekord, Iran; [2]Tehran University, Azadi, Tehran, Iran

Three cross breed dogs; referred to the small animal hospital of Tehran university. The most important complaints were the anorexia and sever emaciation. Corneal opacity was obvious in two of these cases. Animals were pyretic (T 40-41ºC) and other vital signs were normal. Blood samples collected from the cephalic veins of the dogs, using ethylene diamine tetra acetic acid (EDTA) as anticoagulant (1 mg/ ml). Complete blood cell count showed a non regenerative anemia with low PCV, Hb, RBC, MCV, MCH and MCHC. Thin smears were made and stained by Gimsa method after fixation in methanol and then examined under a light microscope (100 X). Trypanosoma evansi detected with 17-36 µ length (mean 25 µ). The kinetoplasts of the parasites were subterminal, the undulating membranes were well developed and there was a substantial free flagellum. Serum analysis showed hyperproteinemia and normal values of Alanin Aminotransferase, Aspartat Amino transferase and total billirubin. Serum analysis showed a polyclonal gammapathy and a beta-gamma bridge in the electrophoresis of serum samples of two dogs. The gamma fraction in one of these dogs composed 36% and in another case 60% of the whole serum proteins. In these two dogs the amount of increase in gamma2 region which is mainly the region of IgG migration, was much more than Gamma1, it can be resulted that these dogs suffered from a chronic but active antigenic stimulation of infection by Trypanosoma evansi. Decrease in beta globulins was occurred in all of the serum samples. Hypoalbuminemia occurred in two cases as the result of extravasation of albumin due to increased vascular permeability in trypanosomiasi. After confirming the disease, treatment started by Diminazen Aceturate (Brenil, Intervet).

COMPARISON OF TWO METHODS OF BLOOD PRESSURE MEASUREMENT IN CONSCIOUS OUTPATIENT DOGS

T. Hsiang[1], H. Huang[1], Y. Lien[2]

[1]Department of Veterinary Medicine, National Taiwan University, Taipei, Taiwan; [2]Azu Clinics for Animals, Taipei, Taiwan

The purpose of this study was to compare two methods of blood pressure measurement oscillometric sphygmomanometry and Doppler ultrasonography in outpatient dogs in a clinical setting. One hundred dogs admitted to the National Taiwan University Veterinary Hospital for various medical disorders were randomly enrolled for the study. For each dog, five consecutive measurements were taken for each method. The mean (± standard deviation) blood pressure measured using oscillometric sphygmomanometry was 135 ± 35.3 mmHg; whereas the mean blood pressure measured using Doppler ultrasonography was 153 ± 36.3 mmHg. The blood pressure readings measured using these two methods were statistically different ($P<0.001$). The coefficient of variance from five consecutive measurements using oscillometric sphygmomanometry was ranged from 2.6 to 51.4 (20.1 ± 9.9); whilst, the coefficient of variance from five consecutive measurements using Doppler ultrasonography was ranged 1.8 to 36.4 (9.2 ± 6.5). The coefficient of variance of both methods was statistically different ($P<0.001$). Based upon the results of this study, oscillometric sphygmomanometry was lack of consistency to obtain blood pressure readings, and tended to obtain lower blood pressure readings in conscious outpatient dogs in a clinical setting.

COMPARISON OF THE TRANSMUCOSAL ADMINISTRATION OF MIDAZOLAM VERSUSE KETAMINE FOR CNS DEPRESSION OF CAT

E. Issabeagloo[1], B. Habibi Asl[2], A. Shabestary Asl[3], J. Mahmoodi[4]

[1]Medical Sciences Faculty, Islamic Azad University of Tabriz, Manzariye-Soleyman Khater, Tabriz, Iran; [2]School of Pharmacy, Tabriz University of Medical Sciences, Daneshgah, Tabriz, Iran; [3]Veterinary Medicine Faculty, Islamic Azad University of Tabriz, Jadde Basmenj, Tabriz, Iran; [4]Veterinary Medicine Faculty, Islamic Azad University of Tabriz, Jadde Basmenj, Tabriz, Iran

Background: Sublingual benzodiazepines, including midazolam, are effective in humans. Ketamine also has sublingual absorption in human. The current study compared acceptance of and behavioral responses to Transmucosal midazolam and Ketamine administered via the sublingual route in cat.

Methods: Ten mal mature freeroaming cats received different doses of Ketamine (20, 40, 80, 120 mg/kg) Or midazolam (0.3, 0.6, 1.2, 2.4, 4.8 mg/kg) under the tongue with additional sugar. Each animal was observed continuously by a winded observer for CNS depression as graded on the behavioral scale shown in under. Our scales for CNS depression were: 1) no effect 2) impared gait, prancing gait, some excitement 3) lowered head, braced stance, hindquarter weakness 4) sternal or lateral recumbency, some responsivness to repositioning, unable to stand 5) lateral recumbency, no response to movmentof limbs, no reaction to pain. Quantal data were obtained by determining the percentage of animals which lost the reflexes (above scores) for each dose. Peak scores for each dose and the percentage of animals that reached each peak score is given.

Results: Animals accepted midazolam and Ketamine administered via the sublingual. Different doses of ketamine and midazolam showed dose dependent effect in CNS depression. Midazolam administration via the sublingual in 1.2, 2.4, 4.8 mg/kg doses could induce only immobility (score = 4) in 100% of animals but all of cats in any doses react to pain. 100% of animals showed no reaction to pain (score = 5) in ketamine (80, 120 mg/kg). Also onset of effect in midazolam administration was dose dependent but in regard with ketamine wasn't in this order.

Conclusions: Sublingual administration of ketamine is as effective and better suppressed than sublingual midazolam as a sedative-hypnotic in cats. Our findings suggest that the ketamine subligual administration should be selected for anesthetic effects in cat.

AN INTRANASAL KENNEL COUGH VACCINE ADMINISTERED AT 3 WEEKS OF AGE IS ABLE TO STIMULATE PROTECTIVE IMMUNITY DESPITE THE PRESENCE OF PASSIVE ANTIBODY

A.A.C. Jacobs, R.P.H. Theelen, D. Sutton, L. Van der Waart

Intervet International, Wim de Körverstraat 35, P.O. Box 31, 5830 AA Boxmeer, The Netherlands

Kennel cough, also called canine infectious tracheobronchitis, is a common infectious and highly contagious disease of dogs. A number of different infectious agents, often in combination, can be responsible for the disease, however *Bordetella bronchiseptica*, and canine parainfluenza virus are generally regarded as the two most commonly implicated pathogens. Although rarely fatal, the disease can cause persistent, often severe, bouts of coughing which can last many weeks and cause distress to both dog and owner. Therefore many vaccines have been developed in an attempt to prevent clinical disease and reduce shedding of infection following exposure. Although injectable vaccines are available, and are often preferred by vets because of the ease of administration, intranasal vaccines are felt to offer a number of potential advantages. In this respect, one of the often-stated advantages of intranasal vaccination is that it is less susceptible to interference by circulating maternally-derived antibody (MDA) and therefore can potentially be used to immunise very young puppies. However a statement warning about the possibility of MDA interference can be found on the product literature for at least one intranasal kennel cough vaccine and therefore it may be that this generally accepted dogma is not true – at least in the case of certain products. This study therefore was instigated in order to establish whether protection against *Bordetella bronchiseptica* in the presence of significant levels of passive antibody could be demonstrated for one particular intranasal vaccine. Thirty three SPF puppies, both seronegative and culture negative for *Bordetella bronchiseptica*, were used in this study. At two days of age all puppies were injected with Bordetella bronchiseptica-positive antiserum to provide levels of passive circulating antibody which was well above the mean titre for adult dogs in the field. At three weeks of age 17 pups were vaccinated intranasally with Nobivac® KC plus (Intervet) - a trivalent vaccine containing live attenuated *B. bronchiseptica* strain B-C2, canine parainfluenza virus strain Cornell and canine adenovirus 2 strain MH1 components, diluted to its minimum authorised titre ($10^{6.5}$ CFU/dose) in respect of the Bordetella component. The remaining 16 puppies were kept as unvaccinated controls. At 96 hours after vaccination the puppies were challenged with virulent *B. bronchiseptica*. After challenge the dogs were evaluated over a period of 25 days for respiratory signs using a numerical clinical scoring system. Just before challenge and at regular times after challenge, nasal swabs were collected for Bordetella isolation. After challenge, both vaccinates and controls developed some upper respiratory tract signs, as expected from previous vaccine challenge studies. However the total clinical scores were significantly lower in the vaccinated group compared to the controls ($p=0.0022$). Until four days post-challenge the mean body temperature of vaccinates and controls were nearly identical. However, from day 5 post-challenge onwards the controls had a significantly higher average body temperature than the vaccinates ($p=0.0155$). On the day of challenge, *B. bronchiseptica* was isolated from 8 of the17 dogs that were vaccinated with Nobivac KC plus, but not from any of the control dogs. At day three after challenge, the vaccinates still had a higher re-isolation rate compared to the controls – probably due to shedding of the live vaccine strain. However from day 5 to 25 post-challenge, the controls had a significantly higher overall re-isolation rate than the vaccinates ($P=0.0467$). From the results it can be concluded that Nobivac KC plus at the minimum titre is effective in reducing clinical signs and bacterial shedding in passive antibody positive 3-week-old puppies challenged with *BordeteIla bronchiseptica*, 96 hours after vaccination.

GASTRIC LESIONS IN CATS AND IT'S RELATION WITH HELICOBACTER

S.H. Jamshidi[1], B. Akhtardanesh[1], F. Sasani[1], M. Mohammadi[2], S. Bokaee[1]

[1]Tehran University, Azadi ave, Small Animal Hospital, Tehran, Iran; [2]Pasteur Institute, Pasteur square, Tehran, Iran

Gastritis is a common finding in dogs with 35% of dogs investigated for chronic vomiting and 26% to 48% of asymtomatic dogs affected but the true prevalence in cats is yet to be determined. This study aimed to determine the prevalence of chronic gastritis in domestic and stray cats. The total rate was an estimated 66.6%. Thorough histopathological studies revealed no significant association between occurrence of chronic gastritis with age and sex in both stray and domestic

animals. Gastritis was significantly more prevalent in antrum than body and only chronic nonspecific gastritis was diagnosed. The most common types of chronic nonspecific gastritis were atrophic (26.6%), lympho-plasmacytic (24.6%) and hypertrophic (15.3%) respectively. In chronic gastritis cases, fibrosis and lymphoid follicle was seen in 42.1% and 31.6% of the subjects respectively, but no significant association between type of nonspecific chronic gastritis, fibrosis and lymphoid follicle occurrence was seen. The prevalence of gastric erosion and ulcers in cats was 19.2% and 3.5% respectively and there was no significant association between chronic gastritis occurrence and gastric ulceration & erosions syndrome. Cytology examination showed GHLO infection rate of antrum and body 63.15% and 77.19% respectively, however there was no correlation between presence and degree of Helicobacter colonization and nonspecific chronic gastritis.

HYPERTHYROIDISM ASSOCIATED TO A THYROID CARCINOMA IN A DOG

M. Jericó, R. Laurentino, C. De Biaggi, A. Nishiya, R. D´Angelino, M. Moreira, J. Guerra

Universidade Anhembi-Morumbi, Rua Conselheiro Lafaiete, 64, São Paulo, Brazil

Thyroid tumors in dogs are relatively uncommon, representing around 1% to 4% of all neoplasias in the species, with thyrotoxicosis, or hyperactivity, being rare (<10% of cases). A female pinscher, aged 8 yrs, was taken to the Veterinary Hospital of Anhembi-Morumbi University, and presented with a large volume increase in the cervical region, a two-month evolution, dyspnea, coughing, and was eurhythmic, in good general health status. At radiological assessment, a decrease in the rostral third of the tracheal lumen was observed, adjacent or superposed in relation to the larynx, with soft tissue increase in the ventral region of the epiglottis and larynx. Considering the extension of the finding, a complete surgical resection was not possible, and an incisional biopsy was performed. The histopathological evaluation disclosed a small-cell carcinoma of the thyroid, with infiltrative growth that invaded the adjacent tissues. Laboratory assessment showed an increase of thyroid hormones, characterizing a functional follicular carcinoma of the thyroid [T4T = =4.59 µg/dL; T3T = 407.33 ng/dL; T4L = 4.8 ng/dL (radioimmunoassay, Coat-a-count®, DPC, USA; Laboratório Rhesus Veterinária, São Paulo)]. Chemotherapy with doxorubicin was started, 30mg/m²/IV every 3 weeks, and prednisone, 1mg/kg/PO/SID. There was a considerable initial improvement; however, after two cycles of chemotherapy, mass growth recurred, with progressive dyspnea and dysphagia. At the X-ray, an almost total occlusion of the trachea was observed in its rostral portion, and at this moment, a tracheotomy was performed. Despite the procedures, the evolution remained unfavorable, and the animal was sacrificed. The diagnosis of follicular carcinoma of thyroid was confirmed by a posterior anatomohistopathological assessment. It is noteworthy the fact that this is a report of a functional carcinoma, with consequent thyrotoxicosis.

CLINICAL EVALUATION OF OBESE DOGS

M. Jericó, A. Leonardi, V. Pereira, A. Tirapelli, M. Moreira, A. Provasi, C. Schaeffer

Universidade Anhembi-Morumbi, Rua Conselheiro Lafaiete, 64, São Paulo, Brazil

Obesity, a multifactorial and polygenic common nutritional disorder in dogs, brings harmful effects to the health and longevity of the affected animals. A dog is considered obese when it presents a percentage of body fat > 20%. The presents study reports the main clinical alterations observed in 38 obese dogs with no endocrinopathies, from the data obtained through the identification, anamnesis, physical examination, and routine laboratory and imaging assessment. The most affected age range was between 7 and 10 yrs, and they were, mostly, female animals (79%), whose mean body fat content was 37.87%. The man complaint of animals' owners were tiredness (82.8%) followed by dyspnea (86.2%) and hyperexia (75.4%). It was observed that 89% of them consumed several treats. At the complementary examination, osteoarticular alterations were evidenced at the radiological assessment (100% with varied arthropathies) and 72% of them presented increased cardiac silhouette. At the ultrasonographic assessment, the main alteration observed was hepatomegaly, present in 36% of the animals. Blood pressure measurement showed that 50% of them were hypertensive. The main laboratory alterations were lipiduria (75.4%), as well as hypercholesterolemia, hypertriglycemia, and hyperproteinemia, present in 32.4% of the animals. We conclude that obesity affects especially female dogs aged 7 to 10 yrs, and is associated to morbid alterations such as arthropathies, eating disorders, dyskeratosis, cardiovascular and respiratory problems.

EFFECTS OF DIET AND PHYSICAL ACTIVITY IN THE CLINICAL EVALUATION OF OBESE DOGS

M. Jericó, A. Silva, V. Pereira, A. Tirapelli

Universidade Anhembi-Morumbi /UNISA, Rua Conselheiro Lafaiete, 64, São Paulo, Brazil

The main treatment forms of canine obesity are restriction diets and physical activity. In the present study, the effects of diet and exercise were analyzed in 30 obese female dogs, whose mean age was 7.1 yrs. These animals were divided in two groups: A (14 dogs treated with diet) and B (16 dogs treated with diet and exercise). Swimming was the physical activity of choice, for 20 min, twice a week. After six months, group A showed a higher mean weight reduction (15.7%) than group B (10.3%). On the other hand, body fat decrease was higher in group B (16%) than in group A (7.5%). Regarding blood biochemical analysis, group A presented a mean reduction of 33% in triglyceride levels, whereas group B had 35.8%. Cholesterol concentrations remained unaltered in group A and presented a decrease of 6.12% in group B. As for platelet count, group A presented a reduction of 28.9% and group B, 31.85%. Systolic blood pressure (SBP) decreased in 11.4% of dogs in group A and 13.5% in group B. We conclude that, although weight loss was higher in those dogs under diet, the diet and exercise combination was more efficient for the treatment of obesity, as it promoted a higher body fat loss, greater reduction in cholesterol levels and platelet count, as well as a significant decrease in SBP.

USE OF PEDIATRIC TRANSFUSION BAGS FOR PRESERVATION OF CANINE BLOOD

M. Jovanovic, M. Calic, M. Lazarevic

Faculty of Veterinary Medicine, Bul Oslobodjenja 18, Belgrade, Serbia

Blood transfusion is extremely important therapeutical procedure that is widely used on the small animal's clinics. So far, in our practice we have used transfusion bags for humans. Because of their big volume (450 ml) it was sometimes difficult to perform correct blood donation and transfusion. Moreover, donors had to be only dogs of the large breeds. Because of that, we have explored a possibility for use of pediatric transfusion bags for the preservation of the canine blood and transfusion procedure. During three weeks period of conservation we followed the changes in some hematological and biochemical parameters in the blood bags. Our investigations were conducted on eight 2-3 years old, healthy bitches of German shepherd breed. Blood was collected in closed kits for transfusion (Blood bags, Jierui, China) that contained 14 ml of CPDA (citrate, phosphate, dextrose, and adenine) solution. The amount of blood taken from every dog was 86 ml to reach the final volume of 100 ml. Bags were stored in the refrigerator at + 4°C. Hematological and biochemical analyses were performed on the day 0, 7, 14, 21, 28 day by automatical analyzers (Arcus Diatron, Austria and Basic Secoman, France). Prothrombine time was measured by Reaplastin *in vitro* test (Reanal Finechemical, Hungary). During the three weeks period of storage we didn't documented changes in RBC and thrombocyte number, packed cell volume, hemoglobin concentration, MCH and MCHC values. Biochemical analyses in the blood plasma revealed statistically significant elevation of the free hemoglobin concentration, total protein concentration and bilirubin concentration from the day 21, while albumin concentration remained the same. We have also documented a significant prolongation of the prothrombine time. We were able to conclude that pediatric blood transfusion bags are suitable for veterinary practice especially in small breeds. Blood collected and preserved in this way can be stored for 14-21 day.

FREQUENCY AND COMMON COMPLICATIONS OF BABESIOSIS IN DOG

M. Jovanovic, M. Calic, R. Resanovic

Faculty of Veterinary Medicine, Bul Oslobodjenja 18, Belgrade, Serbia

The study of incidence of this disease and complications occurred at dogs was performed in the period January-December 2005. At the Clinics of Small Animals Diseases, the Facility of Veterinary Medicine of Belgrade, there were included 2.865 dogs of various breed and age categories. All the patients-suspects to have the babesiosis, on the basis of the clinical picture and

the anamnestic information, were submitted to the complete haematological and biochemical blood analyses, as well as urine examination. There was also performed the blood smear, coloured by Romanowsky method. At 128 dogs, or 4.46%, there was established presence of *Babesia canis* and erythrocytes, which, along with the characteristic clinical picture, only confirmed the suspicion of existence of this disease. There was not established any breed inclination towards this disease, while most of the dogs (38%) were mix bred. As regards the haematological anomalies, there was registered anaemia (86.5%), eosinopoenia (32.1%), monocytosis (26.3%), leucocytosis (53.7%), trombocytopoenia (68.3%). After the diagnosis has been established, all the dogs were subjected to a single treatment with Imisol (imidokarb dipropionat). Most dogs showed improvement of the general clinical state as early as the following day and finally, after two or three days of supportive therapy, the complete healing. However, there were some complications registered with 21 dogs (16.8%). All the dogs were 6-12 years old. The complications that most frequently accompanied the babesiosis of dogs, included the acute renal failure occurred at 8 dogs (38.0%), icterus and hepatopathy at 6 dogs (28.5%), acute respiratory distress syndrome at 3 dogs (14.2%), coagulopathy at 2 dogs (10.0%) and cerebral babesiosis at 2 dogs (10.0%). Out of this number, 16 dogs (76.1%) died despite the administration of the adequate therapy.

THE FIRST CASE REPORT OF CANINE CHOLANGIOCARCINOMA IN IRAN

R. Kaffahsi Elahi[1], Y. Doustar[2], A. Adalat[3]

[1]Department of Small Animal Internal Medicine, Veterinary Faculty, Islamic Azad University, Jade Basmenj, Tabriz, Iran; [2]Department of Veterinary Pathology, Veterinary Faculty, Islamic Azad University, Jade Basmenj, Tabriz, Iran; [3]Clinician, Valiasr, Tabriz, Iran

Cholangiocarcinoma (bile duct carcinoma) has been reported in dogs, cats, sheep, goats and frequently in cattle but not in swine. It is relatively uncommon in all domestic species and comprises less than 1% of all neoplasms in dogs. The incidence of cholangiocarcinoma in dogs estimated to be 1.6 per 100,000 dogs and 0.36% of all neoplasms. This neoplasm arises within the intrahepatic billiary system much more than extrahepatic bile ducts or gall bladder. A 4.5 years old mixed male German shepherd presented with severe abdominal enlargement and vomiting. Clinical examination showed depression, lethargy and deep icterus, liver palpation was not possible because of severe abdominal enlargement, but confirmed presence of fluid in abdominal cavity. Blood chemistry profile was the first laboratory test performed; results showed severe hepatic involvement (high level of hepatic enzymes, hypoalbominemia). Abdominal radiography showed ground glass appearance (figure-1). Because of loss of owner companionship and severe patient involvement (at the point of death), we were not able to perform other compatible diagnostic procedures, finally decided to euthanize the patient. In necropsy (video-1) great amounts of abdominal fluid drained and at first glance a piknotic multinodular liver (firm) noted (figures 2-12). Pathologic examinations showed the cells that retained their resemblance to biliary epithelium but with some pleomorfism and mitotic figure abundance. Some acinar arrangements can be detected among solid masses of neoplastic cells. The epithelial components of neoplasm were separated by fibrous connective tissue. And mucin was present within the neoplastic tubules or acini (figures 13-20). That all were evidences of cholangicarcinoma.

Finally although this is a rare neoplasm but we should bear it in our minds as one differential diagnosis, and perform more concise (depends on availability of diagnostic instruments) diagnostic approach. In this cases biopsy, ultrasonography and clarifying metstatic state by radiography, May lead us to a better and more concise decision and saving more lives.

A CASE REPORT OF CANINE PULMONARY AND NASAL ASPERGILLOSIS IN IRAN

R. Kaffahsi Elahi[1], A.A. Kave[2], M. Sadeghi[3]

[1]Department of Small Animal Internal Medicine, Veterinary Faculty, Islamic Azad University, Jadde Basmenj, Tabriz, Iran; [2]Department of Veterinary Obstetrics, Veterinary faculty, Islamic Azad University, Jadde Basmenj, Tabriz, Iran; [3]Department of Veterinary Microbiology, Veterinary Faculty, Islamic Azad University, Urmia, Iran

Aspergillosis is an opportunistic infectious disease caused by a number of aspergillus spp, especially A. fumigatus. It is found worldwide, in human being and almost all domestic animals and birds as well as in many wild species. It is primarily a respiratory infection that may become generalized; however tissue predilection varies among species. The most common forms are pulmonary infection in poultry and other birds, mycotic abortion in cattle, guttural pouch

mycosis in horses, and infections of nasal and paranasal tissues of dogs. Pulmonary and intestinal forms have been described in domestic cats. A 5 years old mixed mesaticephalic native dog (sarabian fight dog) presented with a history of persistent nasal sanguineous discharge, anorexia, depression, weight loss during past 1 year and rapidly getting breathless while practice, with multiple non successful treatments. Clinical assessments showed only mucopurulent and sanguineous nasal discharge and pulmonary wheezes. Minimum data base was collected and there was no platelet deficiency, urine and liver tested and all were normal except Mild neurophilia and monocytosis. Radiographic evaluation showed soft tissue density in nasal cavity (figure-1) and severe lung involvement with cotton ball like densities (figure-2). In the same time direct nasal samples collected and at the first glance hyphae and some conidia were seen (figure 3-6). Culture results showed aspergillus fumigatus infection (figure-7). Tracheal wash samples also showed the same results that mean pulmonary fungal infection (figure-8). Treatment started promptly with oral ketoconazole (10mg/kg bid for 3 months) with broad spectrum antibiotics, vit K, and nasal lavage with diluted chlorhexidine 4 times daily. Obvious recovery achieved after 50 days with 12 kg weight gain, treatment didn't stop, and continued with amphotricin B (3 times per week 0.15-1 mg/kg) for 60 days, but ketoconazole was continued. At the end, the dog successfully treated (no recurrence up to now, 7 months after stopping the treatment) and final weight reached 62 kg. No nasal discharge and no breathlessness while practice were seen.

AN MLV VACCINE ELICITS A PROTECTIVE SEROLOGICAL RESPONSE TO CPV EARLIER THAN THREE OTHER VACCINES

T. Kanellos, A. Robinson, P. Chipanga, S. Thevassagayam

Pfizer Animal Health, Ramsgate Road, Sandwich, U.K.

Objective: Canine parvovirus (CPV) remains one of the most significant and widespread infectious pathogens that is associated with high mortality rates in dogs and in particular in young animals. Some commercial CPV vaccines have shown to induce protective immunity in pups however very little information is available on the speed of onset of immunity. In this study the onset of seroconversion to CPV after primary vaccination in dogs using 4 different commercial vaccines was measured.

Method: Forty-eight dogs were assigned to four treatment groups of twelve animals each according to a randomised block design with blocking based on litter. Animals were between 51 to 60 days old when they received their 1st vaccination on study day 0 and between 79 to 88 days old when they received their booster. All puppies were from vaccinated bitches and had CPV antibody titres ≤ 1:10 pre-vaccination on study day 0. The animals in the first group (P) were vaccinated with Vanguard™ 7 (Pfizer). The other 3 groups (M, V and I) were vaccinated with three different commercial DHPPi+L vaccines. Blood samples were collected from all animals on study day 0 and -28 prior to vaccination, and then daily from study day 1 to 7 inclusive and on study days 14, 21, 32, 35, 39, 42, 49, 56 and 63. The samples were analysed by haemagglutination inhibition (HAI) test for the detection of antibodies to CPV.

Results: CPV antibody titres of 1:80 or greater using HAI test are considered to be protective (McCaw *et al*., 1998). Group P (Vanguard™ 7) had a geometric least squares mean CPV HAI antibody titre ≥ 80 within six days after the 1st vaccination. Group M had a geometric least square mean CPV HAI antibody titre≥ 80 within 21 days after the 1st vaccination. Group V and Group I had a geometric least square mean CPV HAI antibody titre ≥ 80 within 14 days after the 1st vaccination. All animals that received Vanguard™ 7 had protective CPV HAI antibody titres within 14 days after the 1st vaccination, before administration of the second vaccination dose. All animals that received the other 3 vaccines only had protective CPV HAI antibody titres within 35 days after the 1st vaccination.

Conclusion: Vanguard™ 7 induced a more rapid CPV protective seroconversion compared to three other commercial vaccines.

THE CORE ANTIGENS OF A MULTIVALENT CANINE VACCINE PROVIDE AT LEAST 48 MONTHS DURATION OF IMMUNITY

T. Kanellos, A. Robinson, P. Chipanga, S. Thevassagayam

Pfizer Animal Health, Ramsgate Road, Sandwich, U.K.

Objective: This was a pivotal investigation to determine the duration of antibody responses to the viral antigens of Vanguard™ vaccine (Pfizer Animal Health) in several field studies.

Method: A multi-centre serology study was conducted using client-owned dogs from clinics located in the USA (44), UK (14) and Canada (3). Three hundred and seventy-five dogs of various ages, breeds, sex, weights, lifestyles and time since last vaccination were enrolled in the study. Dogs were required to be healthy, with no history of those viral diseases and should not have been vaccinated for 12– 48 months. Additionally, dogs must have received at least a priming vaccination series approximately 2-7 weeks apart as a puppy and a booster vaccination approximately 8-16 months later. Dogs were considered to have antibody titres indicative of a protective serological response if their pre-vaccination serum levels were ≥1:16 for CAV-1, ≥1:32 for CDV, ≥ 1:16 for CPi and ≥1:80 for CPV (CVDL Guidelines) or if they demonstrated a 4-fold anamnestic response to revaccination.

Results: The pre-vaccination geometric mean titres were above levels indicative of a protective serological response for all viral antigens at all time intervals. The percentage of dogs that were classified as responders is shown in the table below:

Months Since Last Vaccination	12-18	19-24	25-30	31-36	37-42	43-48	>48
CPV	98.3%	100%	97.9%	96.6%	100%	90.9%	100%
CDV	99.2%	95.2%	100%	96.6%	100%	100%	90.5%
CAV1	96.6%	100%	100%	98.2%	100%	100%	100%
CPi	100%	100%	100%	98%	94%	90.9%	87.5%

Conclusion: Results from this study indicate that dogs of high and low disease exposure risk that have been previously vaccinated with Vanguard™ have protective antibody titers to the core viral vaccines that persist up to and beyond 48 months.

USE OF A MLV VACCINE IN 6 WEEKS OLD PUPPIES WITH CPV MDAS PREVENTS CLINICAL DISEASE

T. Kanellos, A. Robinson, P. Chipanga, S. Thevassagayam

Pfizer Animal Health, Ramsgate Road, Sandwich, U.K.

Objective: A major problem with the immunization of dogs against CPV is the persistence in pups of varied levels of maternally derived antibodies (MDA), which may strongly interfere with the development of vaccine-induced immunity. Hemagglutination inhibition (HAI) titres of >1:20 may interfere with an active immune response after administration of some vaccines. This results in a "immunity gap" as such titres do not prevent infection with a virulent virus. Therefore, in this study the efficacy of the canine parvovirus (CPV) component of Vanguard™ 7 was evaluated in the presence of moderate to high MDAs.

Method: Five puppies at 6 weeks of age with CPV MDA levels of 1:40-1:80 as measured by HAI and CPV negative were vaccinated at 6 weeks and 9 weeks. Two unvaccinated controls with no MDA and CPV negative were enrolled in the study. All seven puppies were challenged at 12 weeks of age with a virulent canine parvovirus strain labelled CHSV Bio-1: CPV 12/1/04 (CPV type 2a) and clinically monitored for 14 days after the challenge according to the guidelines of the relevant European Pharmacopoeia monograph. In addition the White Blood Cell counts (WBC) of the individual dogs were also monitored in order to evaluate the possible development of leucopoenia. Animals were also monitored to evaluate the shedding of virus in their faeces post-challenge.

Results: Severe, clinical signs typical of CPV infection and leucopoenia were observed in the two control animals. The vaccinates were 100% protected against leucopoenia and the manifestation of clinical signs of the disease. Faecal viral shedding was very high in the controls (>4096 HA) following challenge while in only one of the vaccinates very low shedding of the virus was detected (16 HA) on only one occasion

Conclusion: The CPV fraction of Vanguard™ 7 found to be 100% effective in the presence of MDA and to induce almost sterilising immunity when administered to puppies of 6 weeks of age.

VACCINATION OF PUPPIES AT 7 AND 10 WEEKS WITH A MULTIVALENT VACCINE GIVES PROTECTIVE SEROCONVERSION

T. Kanellos, A. Robinson, P. Chipanga, S. Thevassagayam

Pfizer Animal Health, Ramsgate Road, Sandwich, U.K.

Objective: Early vaccination of puppies is very desirable for owners especially when early socialization of puppies is expected. Although the immune system of dogs at 7 weeks is mature enough to respond to the vaccine stimulus, the presence of MDA can impede the development of protective immunity. Vanguard™ 7 (Pfizer) is a core multivalent vaccine and the recommended vaccination schedule is a two-dose regimen with the first dose at 9 weeks of age and the final dose at 12 weeks of age. This study was designed to compare the serological responses of the viral fractions to administration of Vanguard™ 7 vaccination at 9 and 12 weeks of age with an 'early finish' regimen, where pups were vaccinated at 7 and 10 weeks of age.
Method: Twenty-nine pups from vaccinated dams were randomly allotted into two treatment groups: 14 were allocated to T1 (vaccination at 9 and 12 weeks) and 15 were allocated to T2 (vaccination at 7 and 10 weeks). Blood samples were taken throughout the study and were analysed by virus neutralisation for antibodies to CDV, CAV and CPiV and by haemagglutination inhibition for antibodies to CPV. The antibody titers to CDV, CAV, CPV and CPiV in blood samples taken two weeks after the second vaccination and were compared using a mixed linear model to determine non-inferiority.
Results: The antibody titres for all four of the viral fractions of Vanguard™ 7 in T2 were non-inferior to T1 i.e. the lower confidence limit for the log2 difference between treatments was greater (more positive) than –2: CDV (-1.5186), CAV (0.3474), CPV (-1.6684) and CPiV (-0.9305). Furthermore, categorization of animals according to their serological status at the start of the study demonstrated that even animals with high maternally derived antibody titres before vaccination developed protective titres post-vaccination in both treatment groups.
Conclusion: This study demonstrated that in pups born to fully vaccinated dams vaccination at 7 and 10 weeks of age provided protective serological responses to the viral fractions of Vanguard™ 7 and that were non-inferior to the serological responses obtained when pups were vaccinated at 9 and 12 weeks of age.

COMPARATIVE PALATABILITY OF TWO FEED SUPPLEMENTS FOR SKIN & COAT CONDITIONS

J. Ketzis

Charles River Biolabs, Carrentrila, Ballina, Co. Mayo, Ireland

Products with essential fatty acids have become popular feed supplements for dogs to improve the condition of the skin and coat. The available products come in various forms: liquids, powders, and tablets. Quality and palatability of the products are primary concerns. In this study, the palatability of two brands (a powder produced by Oystershell and a liquid produced by Virbac) of essential fatty acid feed supplements were compared; the Oystershell product also was tested separately. In each trial, 20 dogs (pointers) were used and Purina Dog Chow (dry) was offered as the feed. The supplements were added directly to the feed. In trial 1, the palatability of the two products was compared using a preference test. Two bowls of feed with 1000 g of feed each were prepared for the dogs. In each bowl, either the powder or liquid product (at the label rate) was mixed with the feed. The bowls were then placed in the dog pen (one on each side) and then the dog was led into the pen and allowed to eat for 1 h. The position of the bowls with each product was altered daily (left or right side of the pen). Which bowl the dog approached first was noted, which bowl the dog ate from first was noted, and the total consumed from each bowl was measured. The two bowls were offered for four days. In trial two, an acceptance test was used to test the palatability of the Oystershell product. The same dogs were not used in the two studies. Data from both trials were analyzed using a paired one-tailed t-test. Both products were accepted by the dogs and there was no preference for either product. In addition, the Oystershell brand was tested for consistency in fatty acid content. Based on the analysis of 8 samples, consistency from a single production run was relatively high (64.7% (arithmetic mean; StDev 0.4) and 16.9% (StDev 0.6) poly- and mono-unsaturated fatty acids, respectively).

THE SAFETY OF A PLANT-BASED NUTRACEUTICAL FOR BEHAVIOUR IN CATS AND DOGS

J. Ketzis[1], T. Griffiths[2], M. Reichel[3]

[1]Charles River Laboratories, Carrentrila, Ballina, Ireland; [2]Novartis Animal Health Australasia Pty. Ltd., 245 Western Road, Kemps Creek, Australia; [3]Novartis Centre de Recherche Sante Animale SA, St. Aubin, Switzerland

PID 02027010 (Oystershell NV, Belgium) is one of the many nutraceuticals available for dogs and cats. It has been shown to have an impact on the behaviour of dogs and cats and is marketed as a complement or alternative to behaviour treatments. The standard dose rate is 0.5 to 1 ml/kg bodyweight (BW), and treatment needs to be for at least 3 consecutive days before there is an effect. Two studies were conducted to determine the safety of the product. The tolerability in dogs was assessed in a blinded, randomized, placebo-controlled study (Study 1). Twenty-four dogs (16 m and 8 f; divided into 4 groups of 6) were treated for 15 d with either a placebo (5x the labeled dose rate of PID 020270101) or 1x, 3x, or 5x the labeled dose rate for 15 d consecutively. Based on daily observations, body weight, clinical laboratory parameters, and clinical examinations, the product was well tolerated and did not cause any adverse events. Some changes in clinical laboratory chemistry were observed, but remained within normal ranges and were not considered clinically relevant. In Study 2, single high doses (5 and 10 ml) were tested in 3 cats (m and f; average weight of 5 kg) to assess safety and determine if single high doses could have an impact on behaviour. The 5 ml dose had no impact on behaviour and there were no adverse events. The 10 ml dose resulted in a mild sedative effect for approximately 2 h in two of the three cats treated. One cat had diarrhea after treatment. Based on these studies, the product was safe if used at the label rate. However, further work is required to confirm safety when used over longer periods of time. Also, reformulation would be required if a high dose for immediate effect is desired.

IN VITRO ANTI-FUNGAL ACTIVITY OF THE ESSENTIAL OIL AND PLANT EXTRACT MIXTURE OF A SKIN CREAM

J.K. Ketzis[1], N. Nolard[2]

[1]Charles River Biolabs, Carrentrila, Ballina, Co. Mayo, Ireland; [2]Scientific Institute of Public Health, rue Juliette Wytsman, Brussels, Belgium

The investigational skin cream (PID 02027030, produced by Oystershell, Belgium) is sold as a cosmetic product for dogs, cats, and horses to be used on skin abrasions, hot spots, etc. It contains a mixture of essential oils and plant extracts (8.25% v/w) in a non-natural base. To determine if the product could be useful in promoting healing in the case of skin infections, an *in vitro* study was conducted to determine the anti-fungal activity of the cream. Due to difficulties of using the formulated cream in a water-based test, the mixture of oils and extracts were used. A broth microdilution method was used to determine the minimum inhibition concentration (MIC) (read visually and with a spectrometer) and minimum fungicidal concentration (MFC) of the oil/extract mixture against three strains each of *Candida albicans, Malassezia pachydermatis, Microsporum canis,* and *Trichophyton mentagrophytes*. Each test was repeated 3 times. The MIC 80% values ranged from 0.032 to 1% concentration (visual) and 0.032 to 2% concentration (spectrometer), with more activity against *C. albicans*. The MFC values ranged from 0.25 to >2% concentration with more inhibition against *M. canis.*

TRAUMATIC BLEEDING OF THE PENIS DUE TO SELF-MUTILATION AS AN UNUSUAL SIGN OF SEPARATION–RELATED PROBLEMS IN A CROSS-BRED DOG

N. Khorami[2], M. Selk Ghaffari[1], S.J. Aledawod[2]

[1]Department of Clinical Science, Faculty of Veterinary Medicine, Islamic Azad University, Karaj, Iran; [2]Department of Clinical Science, Faculty of Veterinary Medicine, Tehran University, Tehran, Iran

Separation anxiety is a common behavioral problem in dogs. Treatment is based on developing a behavior modification protocol that gradually desensitizes and counter-conditions the dog to being left alone, by rewarding calm, relaxed behavior (Lem 2002) the presenting complaints varied. These are included: inappropriate urination, excessive vocalization, fearful behavior,

trembling, vomting, diarrhea, excessive licking, self-mutilation, overactive greetings, excessive attention seeking, and aggression at departures (Beaver 1999). This article descries a case of genital self-mutilation as an unusual clinical manifestation of separation anxiety, and is, to the author's knowledge, the first such case reported in veterinary medicine. A two-year old sexually intact male cross-bred dog was presented for evaluation of hemorrhagic preputial discharge. The owner had noted excessive vocalization and intermittent episodes of licking of the penis, when it left alone. The owner had reported that he had a car accident and hospitalized, so he had no chance to meet the dog. During this time, the behavior then would progress to frequent episodes of licking and biting of the penis. The dog lick, bite and severely self-mutilate his penis resulting in ulcers with secondary bacterial infection. Three weeks of treatment with Amitriptyline appeared to produce a considerable degree of improvement. Episodes of biting behavior were reduced and wounds healed gradually. Owner-recorded audiotape tried concomitant to Amitriptyline therapy in the first week of treatment. In the second week after beginning of treatment the dogs brother who kept in another apartment, had brought to the dogs living place. It seemed to be more effective and reported behavior occurred less than first week of treatment.

A CASE OF CARNASSIAL ABSCESS FOLLOWING COMPLICATION WITH CELLULITIS IN A YOUNG DOG

J.-H. Kim, J.Y. Lee, T.-S. Han, G. Kim, S.H. Choi

Veterinary Medical Center, San 12 Gaeshin-dong Heungduk-gu, Cheongju, South Korea

Periapical abscess is a common condition, which usually developed as a complication of the infection of the root of the tooth. The cases originated from periodontal disease have been reported. Facial injury may also cause tooth root infections. The clinical presentation is seen as a swelling or drainage tract near the involved root of the tooth. Diagnostic methods available for evaluating periapical abscess include physical examination, dental examination and X-ray. Most periapical abscess is treated with extraction of the involved tooth. In some cases, endodontic procedure may also be used. Prompt diagnosis and treatment are necessary to allow drainage and prevent recurrence of infection. An 11 months old, female Maltese dog with recurrent facial cellulitis below the left eye was referred for further investigation to the Veterinary Medical Center, Chungbuk National University. There were no visible dental problems, but left maxillary third and fourth premolars showed periapical bone lyses on extraoral radiographs. In this case, the dog was young and had no clinically significant dental problems like, gingivitis or periodontal pocket. It could be suspected that carnassial abscess might be secondary to cellulitis. Left maxillary third and fourth premolars were extracted by the closed extraction technique. Communication between some extraction sockets and the facial lesion was confirmed using periodontal explorer. The facial lesion was treated as open wound. During the follow-up of 3 weeks, the extraction site and the lesion reveal normal healing after procedure.

ANTIOXIDANT EFFECTS OF ASCORBIC ACID ON RENAL ISCHEMIA-REPERFUSION

M.C. Kim[1], J.M. Kim[1], C.S. Park[2]

[1]Coll. of Vet. Med., Chungnam Natl. Univ., 220 Kungdong, Yoosung-gu, Daejeon, South Korea; [2]Div. of Animal Sci. & RCTCP, Chungnam Natl. Univ., 220 Kungdong, Yoosung-gu, Daejeon, South Korea

Introduction: Tissue subjected to a period of ischemia undergoes damage (1,2). The purpose of the present study is to clarify the effects of ascorbic acid on renal I/R injury in rabbits.

Materials and methods: Fifteen New Zealand white rabbits weighing 2-4 kg were used for the experiments. In group 1 (n = 3), only the right kidney was removed. In group 2 (n = 3), the left kidney was freed from the perirenal tissue and fat after the right nephrectomy. A bolus of 150 IU/kg of heparin was given IV 3 minutes before ischemia and the left renal vessels were clamped with an atraumatic vascular clamp. After ischemia for 30 minutes, the clamp was removed and the blood reflows. In group 3 (n = 3), ascorbic acid 50 mg/kg IV before the operation. After ischemia during 30 minutes, then the renal vessels were unclamped. The right nephrectomy was performed. In group 4 (n = 3); ascorbic acid 100 mg/kg IV before the operation. In group 5 (n = 3); ascorbic acid 200 mg/kg IV before the operation.

Results: The levels of SOD were significantly increased in the group 4 and 5 at the 24 hours

after reperfusion compare to group 2. The levels of GSHPx activities (nmol/min/ml) were measured. They were 143.20 ± 12.23 (group 1), 118.01 ± 2.81 (group 2), 125.268 ± 15.80 (group 3), 150.24 ± 13.77 (group 4) and 163.76 ±13.28 (group 5) followed by 24h reperfusion. The levels of CAT activities (nmol/min/ml) were measured. They were 9.19 ± 0.74 (group 1), 4.15 ± 1.49 (group 2), 5.74 ± 1.10 (group 3), 8.06 ± 0.77 (group 4) and 10.80 ± 1.79 (group 5) followed by 24h reperfusion.

Conclusion: Antioxidant enzyme activity suggests that premedicated ascorbic acid alone may have roles on the attenuation of I/R injury and recovery of renal function in rabbits.

INTERSEX ANOMALIES IN THREE DOGS

N.S. Kim[1], M.R. Alam[1], Y.G. Cho[2], I.S. Kim[1], S.H. Shin[1], J.H. Kim[1], K.C. Lee[1], I.H. Choi[1]

[1]College of Veterinary Medicine, Chonbuk National University, Jeonju, South Korea; [2]Medical School, Chonbuk National University, Jeonju, South Korea

Three Cocker Spaniel dogs, 2-3 moths old weighing 3-4 kg were presented to the Animal Medical Centre, Chonbuk National University with intersex anomalies. Physical, radiological, gross, histological, hormonal and cytogenetic studies were performed. Physical examination of the external genitalia revealed dogs possessed vulva with an enlarged clitoris protruding from the vulvar juncture and the scrotum with an undescended testis in case 1 and 2, and both testes remained undescended in case 3. Hyperestrogenemia and low testosterone serum concentrations were found. Laparotomy revealed persistant Müllerian ducts (PMD) in case 1 and 2, and abdominally located testicle(s) in all the cases. Histological examination of the gonads revealed inactive seminiferous tubules. Cytogenetic analysis showed a 78XY male karyotype in case 1 and 2, whereas case 3 showed 79XX female karyotype. The congenital defects were diagnosed as male pseudohermaphroditism (MPH) and PMD in case 1 and 2, and XX sex reversal MPH in case 3.

LIVER DISEASES IN PETS AND THE HOMEOPATHIC REMEDY CHELIDONIUM MAJUS

G. Kirkilesi, K. Loukaki

Private Veterinary Clinic, Protopapa 29, Helioupolis, Athens, Greece

The liver is the largest organ that is located in the body, a testament to its importance. It is involved with almost all biochemical processes and there are many different diseases that affect it. Nevertheless the liver has the ability to regenerate. This regenerative ability allows a diseased liver to return to normal function in some cases.

Homeopathy is a complete diagnostic and therapeutic method. Homeopathic remedies are made from over 2000 substances derived from plants, minerals and animals. The process of producing the homeopathic remedies is called potentisation and includes serial dilution and succussion. The basic principle of homeopathy is the law of similars, which states that a substance, which produces symptoms in a healthy organism, can cure these symptoms in a sick organism, if it is prepared and administered as a homeopathic remedy. Chelidonium majus is a plant, which belongs to the Papaveraceae family. As a homeopathic remedy it acts mainly on the liver and on the gallbladder. In 10 cats and dogs with liver disfunction caused by various agents (Ehrlichia canis, Leishmania, cancer, hepatic lipidosis, conventional medicines like phaenobarbital, carprofen) one capsule of Chelidonium majus 30CH was given per os every 7-14 days. The results were: improvement of the clinical signs (anorexia, vomiting, diarrhea, emaciation) and of the biochemical values in different degrees. The most important was the improvement of the animals' quality of life despite the serious and sometimes incurable diseases, from which they were suffering. The use of Chel. majus in dogs and cats with liver diseases has given encouraging results. Further research is needed to investigate the efficacy of Chel. majus in comparison and in combination with the idiosyncratic (constitutional) homeopathic remedy, the efficacy of lower and higher potencies, the combination of its use together with special diets and other conventional or/and alternative therapeutic methods.

ENDOSCOPIC DIAGNOSTICS AND SURGICAL TREATMENT OF FOREIGN OBJECTS IN STOMACH AND DUODENUM IN CANINES

V. Krstic, S. Filipovic, M. Calic

Faculty of Veterinary Medicine, Bulevar Oslobodjenja 18, Belgrade, Serbia

Foreign objects in stomach may be found in canines of all age groups. Most frequently those are bones, stones, balls, plastic objects and cellophane bags. A four-year male Labrador was taken to the dispensary of the Belgrade School of Veterinary Medicine. For several days, the dog vomited everything eaten. The semi-digested food contained plenty of whitish mucus. The general examination did not show any deviation of the triad from physiological range. Abdomen palpation in the epigastria region showed tenderness with marked muscular rigidity. As a foreign object was suspected to be in the stomach, gastroscopy was carried out. The endoscopic examination of the stomach showed hyperemic and edematous mucosa with small dotted strongly manifested hyperemic fields. A foreign item which fully closed the pylorus was noted in the pyloric part of the stomach. It could not be taken out by means of any accessorial instruments used in endoscopy so that the surgery was performed. The dog was anesthetized and the surgery started. The initial incision on the skin was made in the region of linea albi, from the xyphoid to umbilical region. After the incision of the stomach, two sutures were placed on each side in order to lift the stomach from the abdominal cavity. The foreign object was taken from the stomach by means of tongs for foreign objects. After gastrotomy, the initial incision was extended to the pubic region. Palpation detected a foreign object within the duodenum lumen, too. Therefore, enteretomy was performed and the foreign object (a cellophane bag with bones leftovers) removed. Intestines and abdomen were then closed as per standard surgical procedure.

DIAGNOSTICS AND SURGICAL TREATMENT OF PERSISTENT RIGHT AORTIC ARCH IN DOGS – A CASE REPORT

V. Krstic, N. Krstic, M. Macanovic-Lazarevic, V. Magas, D. Ristanovic, R. Srejic, T. Stefanovič

Faculty of Veterinary Medicine, Bulevar Oslobodjenja 18, Belgrade, Serbia

A four-month old female dog, an Epagneul Breton, was taken to the out-patients dispensary of the Small Animals Clinic with the Belgrade School of Veterinary Medicine. The dog breathed heavily, coughed occasionally and regurgitated undigested food from esophagus. These symptoms were more obvious after intake of solid pelleted food. X-ray test result: the special neck and thorax x-ray showed round, baggy shadow of barium mush, size of lemon. Endoscopy test result: The tip of the endoscope could not pass through this dilation towards cardia due to severe esophageal stricture. We decided to perform the surgery: after the preparation the operative field, thoracotomy was done in the area of the fourth intercostal space on the left side. Esophagus diverticulum was noted, and then incision of esophagus carried out followed by preparation of esophagus at the stricture, insulation of lig. arteriosum and its ligating. The surgery ended in routine procedure of closing the chest cavity and placing a thoracic drain. The endoscopic finding in the course of the surgery: The endoscope tip passed through to cardia and entered the stomach rather easily. The x-ray test result ten days after the surgery: still shows a contrast path, immediately in front of the heart shadow, the size of a plum. X-ray test result 30 days after the surgery: diverticulum filled with contrast, anterior to the heart shadow, is still noticeable. The contrast meal is passing posterior towards the stomach.

STRATEGIES OF DOGS IN OBJECT HIDDEN FOOD TASKS

F. Kuhne

Institute of Animal Welfare and Behaviour, Veterinary Department, FU Berlin, Oertzenweg 19b, 14163 Berlin, Germany

The strategies of dogs to get food, when an, until then, unknown object hiding the food is used, was taken into account in this study. 16 dogs took part in this study. The food was hidden in three tests by a “Pylon”, a “Knepig”™ and a “Klurig”™ (Figs. 1-3). Dogs had to scratch the objects in the first 2 tests and pull a wooden stick with their mouth in the third test.Each test was repeated in a series of 5 trials. The dog owner attended the experiment.

Fig.1: Pylon

Fig.2: KnepigTM

Fig.3: KlurigTM

The whole test was videotaped. The main parameters were the preferred strategy and latency of reaching the food, the frequency and duration of looking at and making contact with the experimenter or owner, as well as the frequency of coping strategies. The average latency of reaching the food in the five trials improved from 93 - 7 s. The dogs were not necessarily faster in the last of the five trials. Nevertheless, the correlation between the mean time of reaching the food and the trial number was negative for all three tests; but just for the "Pylon" significant (Spearman, p=-1.0, P<0.000). Sniffing at the experimenter hands was shown by the dogs in each trial once. The frequency of looking at and making contact with the experimenter was exhibited significantly different by the dogs among the tests (Friedman, P<0.05). On average the dogs made contact with the experimenter 0.33 - 2 times in the trials. The duration of looking at and making contact with the experimenter varied from 0.52 - 7.57 s. The longer the whole experiment went on, the more direct contact the dogs tried to make with their owners. Blinking and licking of the own nose and mouth were behaviour patterns which the dogs displayed only in interaction with the experimenter or owner. Sniffing and looking around as less effective problem-solving abilities reached from 4.67 - 0.33 times with an average duration from 0.81 - 16.72 s in the single tests. The dog owner attendance was chosen in dependence on the need of dogs to look at their owners when they encounter difficulties. Positive affiliation behaviour with the experimenter was mainly displayed by the dogs because the owner was sitting passively on a chair. Dogs which were able to solve all three hidden food tasks rapidly have excellent relearning abilities and a high frustration tolerance level.

FELINE IMMUNODEFICIENCY VIRUS (FIV): DEVELOP OF QUANTITATIVE COMPETITIVE POLYMERASE CHAIN REACTION (QC-PCR) TO EVALUATE VIRAL LOAD DURING ASYMPTOMATIC CARRIER AND AIDS STAGE

J.C. Lalia, M.A. Gisbert, A.C. Bratanich, M.J. Huguet, N.V. Gomez

Buenos Aires University, Chorroarin 280, Buenos Aires, Argentina

Feline Immunodeficiency Virus (FIV) infection in domestic cats results in an acquired immunodeficiency syndrome (AIDS) similar to that caused by Human Immunodeficiency Virus (HIV) infection in humans. The infection stages, disease progression and therapy efficacy are monitored based on CD4+ cell counts in blood samples by use of flow cytometry. In Argentine, FIV-infected cats are treated with oral Zidovudine (AZT) and Valproic Acid because using drug cocktails enhances the therapy efficacy. The aforementioned therapy showed statistically significant differences in infected cats, with regards clinical parameters and increase of the CD4+ cells counts. FIV antiviral therapy in Argentine is limited due to the unavailability of adequate techniques to evaluate *in vivo* viral kinetics. We developed and optimized a qc-PCR for the quantitative detection of FIV. This method consist of the reverse transcription and amplification in the same tube of two similar RNA templates, the wild-type template and a known internally deleted synthetic template, both with identical primer recognition. In gel electrophoresis, the two targets must be clearly distinguishable to allow densitometric evaluation and further quantitation of the relative band intensities. In this work, a 594 bp fragment (wild-type template) of the highly conserved FIV gag gene, was amplificated by primers FIV-771-f (AGAACCTGGTGATATACCAGAGAC) and R2-r (TCTGCTTGTTGTTCTTGAGTT) from blood samples of a naturally FIV-infected cat. The synthetic template (competitor) was constructed by deleting 100 bp from the internal sequence of wild-type template. Both templates were inserted into a plasmid vector and *in vitro* transcribed. The RNA concentrations were determined by measuring absorbance at 260 nm in a Gene Quant spectrophotometer. Serial dilutions of

both RNA templates were submitted to qc-PCR amplification, starting at 10^6 copies/ml and ending at 10^9 copies/ml. We detected a analytical sensitivity of approximately 10^6 copies/ml for 494 bp template (competitor) and 10^8 copies/ml for 594 bp (wild-type template). The sensitivity of this technique in our hands allows us to distinguish the transition from the asymptomatic carrier stage to the AIDS stage, according to studies reported by other authors. In summary, this methodology allow determinate viral load, disease progression and therapy efficacy in advance stages of the FIV infection.

DETECTION OF MICROSPORIDIA SPORES IN STOOLS AND URINE OF DOGS

M.A. Lallo, E.F. Bondan

University Paulista, Rua Caconde 125/51, São Paulo, Brazil

Dogs may play an important role on the emergence and dissemination of zoonotic parasitic diseases, including microsporidiosis. Microsporidia have emerged as important opportunistic protozoan parasites in immunocompromised individuals, such as HIV-positive patients. In this study, we performed a survey of occurrence of Microsporidia species in faecal and urine samples of dogs (n=250) from São Paulo city, Brazil. The samples were ramdomly selected from dogs housed in a university veterinary hospital (group I, n=150) and private kennels (group II, n=100). Urine sediment was obtained by centrifugation (1,000g for 20 minutes). Thin smears of stool and urine were screened for the presence of microsporidian spores by using Gram-Chromotrope. Futhermore, the presence of microsporidia was confirmed by their typical staining pattern with use of Weber´s modified Chromotrope-based stain. A smear was considered positive only if microsporidian spores were identified by both staining methods. It was observed 5 positive cases for microsporidia from faecal specimens, 3 from group I and 2 for group II. Using the polymerase chain reaction (PCR) technique, the spores were identified as *Encephalitozoon cuniculi* spores. No parasites were found in urine samples. By light microscopy, microsporidia spores were seen as purple and ovoid structures, in a green background, ranging from 2.4–3.2 micrometers of length to 1.0-1.6 micrometers of width. In this investigation, a prevalence of 2% for microsporidia was found in canine stools, showing that pets like dogs could be a potential source of these protozoans to humans.

THE USE OF CYCLOPHOSPHAMIDE AND LEVAMISOLE IN THE TREATMENT OF CANINE MALIGNAT MAMMARY TUMOURS

M.A. Lallo, E.F. Bondan

University Paulista, Rua Caconde 125/51, São Paulo, Brazil

Previous studies showed that various imune stimulants in CaD2 mammary adenocarcinomas were effective in controlling tumour growth. The objective of this study was to evaluate the efficacy of cyclosphophamide (CY) in combination with levamisole (LE) as an adjuvant therapy to surgical resection of canine mammary tumours. Thirty bitches of various breeds presenting malignant mammary tumours were attended at a public veterinary hospital (São Paulo, Brazil) and randomly divided into 2 groups - those submitted to surgical procedure alone (group I, n=15) and those in which was used the association of surgery and a combination of CY and LE (group II, n=15). Mammary tumours were assigned based on the WHO Tumour-Node-Metastasis (TNM) classification. Depending on the specific case, the surgical procedure consisted of regional or complete unilateral mastectomy. Chemotherapy was done using CY (50mg/m^2, twice a week, v.o.) and LE (2,5mg/kg, three times a week, v.o.) during 2 months. For a period of 2 years each bitch was regularly monitored by laboratory tests and clinically for local recidives and metastases. In all cases, mammary tumours were detected by the owner one month to one year before the first clinical examination. The mean age of the dogs at diagnosis was 9 (±1,5) years and there was no statistical association between these tumours and history of pseudopregnancy, parity, estrus irregularity and anticonceptional therapy. Group I presented 4 bitches with tumours assigned as TNM stage I, 8 with TNM stage II and 3 with stage III. Histopathological classification of these tumours resulted in 9 cases of tubulopapillary carcinomas and 6 cases of solid carcinomas. Lymph node or lung metastases were not found in none of these patients before surgery, but one year after surgical resection, 7 animals (46,7%) presented local recurrences and metastases, and euthanasia was demanded by the owner. In group II, 3 bitches had tumours with TNM stage I, 9 with

stage II and 3 with stage III. Histopathological analysis showed 10 tubulopapillary carcinomas and 5 solid carcinomas. One female dog presented severe leucopeny, demanding the interruption of treatment. Only 2 animals (14,3%) presented local recurrences and metastases. Thus the present study showed that a combination of surgery and use of CY/LE revealed to be a better method of therapy for malignant canine mammary neoplasms than tumour resection alone.

EPIDEMIOLOGICAL ASPECTS IN TOXOPLASMOSIS IN DOGS FROM A SMALL COMMUNITY OF SÃO PAULO STATE, BRAZIL

H. Langoni, L.C. Souza, B.D. Menozzi, R.C. Silva

São Paulo State University, Distrito de Rubião Júnior, s/n, Botucatu, Brazil

Toxoplasmosis is a parasite zoonosis caused by *Toxoplasma gondii*, a coccidian protozoan, whose life cycle alternates between an intermediate and definitive host. In intermediate hosts, herbivorous or omnivorous, the parasite multiplies in several cell types, forming tissue cysts. In definitive host, species of Felidae family the sexual phase causes the formation of oocysts in the gut. The aim of this study was to verify the seroprevalence of anti-*T.gondii* antibodies in sera samples of dogs from Vitoriana, a small community from São Paulo state, Brazil, and the correlation of some epidemiological variables. A total of 245 sera samples of dogs was collected and tested in Laboratory of Zoonosis Diagnosis, and assisted by Botucatu City Hall. Sera were tested for Indirect Fluorescent Antibody Test (IFAT) to research of anti-*T.gondii* IgG antibodies, using a canine anti anti-IgG antibody conjugated to fluoresceine isothiocyanate, kindly supplied by Center of Zoonosis Control of São Paulo City Hall. The reading was realized in fluorescent Zeiss microscope, SH 250 model, considering positive the sera reacting at dilutions equal or higher than 1:16. In positive cases, some epidemiological variables were studied, like breed, age, sex, access to the street and ingestion of homely food. From 245 sera samples, 98 (40.00%) showed anti-*T.gondii* antibodies. The most frequent titer was 16, in 70 (71.43%) dogs, followed by titer 64, in 27 (27.55%), and titer 256, in 1 (1.02%) dogs. From positive dogs, 76 (77.55%), ingest homely food fact that can be considered as an infection route to this disease, and 45 (45.92%) dogs had access to the street, where they can ingest oocysts from feces of infected cats, presents in environment, or contaminated water. Thus, we can affirm that toxoplasmosis is present in Vitoriana, characterized for a high consumption of homely food for these animals or the contact with the agent from soil or contaminated water, being necessary sanitary and health education about the importance of food sanity and the prevention of these and others important diseases.

SURGICAL THREATMENT OF FEMORIS DISTAL FRACTURES IN YOUNG CATS USING TWO HYPODERMIC NEEDLES

A. Lavrenčič, J. Koren, I. Princes

Vet. ambulance Vipava, Gradiška cesta 10, Vipava, Slovenia

The distal fractures of femoris frequently happen to young animals. Due to spacing between the fragments, a surgical treatment is necessary. In our work, we describe a simple technique of fixation supracondilar fractures of femoris using two hypodermic needles. The easiest access to the distal side of the femoris is from the lateral side, the orientation points being femur, patela in tuberositas tibiae. After anatomical reposition we did osteosynthesis using two hypodermic needles with the perimeter 1,2mm X 38mm. The hypodermic needles were inserted in way from the trochanter area by manually pushing to the plastic part of the needle in the direction of the diaphfisis area. We pushed one needle from the lateral and the other fromthe medial side, thus they intersected. Then we pinched off the plastic part and the rest of the needle we pushed in the periost. After that we closed the wound in the routine manner. We let the bandages on all the cats for three weeks after the treatment. Using this approach we performed osteosynthesis to eight cats of the age between five and seven months. The cats did not use the operated leg for two weeks after the operation, they started to use the leg in a normal way between the sixth and the eight week after the treatment, when the pain in the handicapped joint diminished. Only in one case, the needle could be felt through the skin in the area of the knee joint; we removed this needle from the medial side of the knee. In all other cases we did not remove the needles. Due to its simplicity, speed, and success of the treatment, we propose to use this technique to treat the supracondilar fractures of femoris in young cats until the age of seven moths. We propose not to use this technique during the treatment of older cats, since the bone tissue is too hard, which makes the manual fixation of the needles in the broken fragments too difficult.

WHAT HAPPENED TO RODENTS DURING RENOVATION OF AN ANIMAL FACILITY?

B.H. Lee, H.D. Jung, B.N. Lee, K.S. Park, D.H. Kim

Laboratory of Animal Research, Asan Institute for Life Sciences, Asan Medical Center, Seoul, Korea

Rodent animals are adversely affected by noisy environments of construction work. The 16-year-old laboratory animal research facility at Asan Institute for Life Sciences was remodeled. The institute is 5-story building and the facility was on the top floor. The renovation was designed to improve the old facility on the fifth floor (1,386 m^2) partially and to expand a new animal facility on the fourth floor area (1,162 m^2) which had been in use as in vitro laboratories previously. The fifth floor consisted of SPF zone (247.5 m^2) and Semi-SPF rooms (181.5 m^2) for rats and mice only, and the forth floor BioSafety Level 3 Laboratory (139.9 m^2), middle to large animal rooms (155.4 m^2) and small animal rooms (123.8 m^2). However, users of the old facility did not want to stop studies with animals during the renovation. For this reason, the expansion work for the new facility on the fourth floor had been given priority. After finished the work, housed animals on the fifth floor moved to the fourth floor, and then the remodeling to the old facility started. Therefore, the remodeling had divided by two stages. During the remodeling, the noise, vibration and dust of construction by drilling and hammering concentrated in the early of every stage. The noise levels ranged from 50-90 decibels (dB) (A) (average: 70-80 dB). Housed rodent animals were adversely affected by the construction environment. Some users expressed complaints about increase of skin injuries by self-biting, mortality, killing and eating young, blood sugar levels and infertility, and decrease of litter sizes. The complaints were localized when remodeling on the fourth floor. In conclusion, an animal facility where planning renovation need to start construction work after moving housing animals to a safety area for preventing from a construction environment, and if not, the facility should begin the work after stopping all of animal experiments.

CHANGES OF TARTRATE-RESISTANT ACID PHOSPHATASE IN SYNOVIAL FLUID IN THE DOGS WITH RUPTURE CCL

H.B. Lee[1], M.R. Alam[1], S.Y. Park[2], J.H. Kim[1], S.Y. Heo[1], Y.H. Lee[3], I.S. Kim[2], H.S. Kang[2], K.C. Lee[1], N.S. Kim[1]

[1]College of Veterinary Medicine, Chonbuk National University, Jeonju, South Korea; [2]Center for the Development of Healthcare Technology, Chonbuk National University, Jeonju, South Korea; [3]School of Dentistry, Chonbuk National University, Jeonju, South Korea

Objective: The objective of this study was to determine whether activity tartrate-resistant acid phosphatase (TRAP) in synovial fluid (SF) and serum is a useful marker for induced osteoarthritis (OA) secondary to experimental rupture cranial cruciate ligament in the dogs.

Methods: Ten skeletally mature beagle dogs underwent unilateral surgical transection of cranial cruciate ligament, medial collateral ligament and medial menisectomy. 23 normal dogs served as controls. SF was collected from the femoropatellar compartment of the affected stifle joint by direct arthrocentensis every a month during 4 month. The TRAP activity in stifle joint SF and serum was determined using spectrophotometer with p-nitrophenylphosphatate (pNPP) substrate. An addition, the presence of TRAP positive cell in synovium and CCL were identified by enzyme histochemistry.

Results: The activity of TRAP in SF of induced OA was increased when compared with SF of normal dogs during 3 month ($p<0.05$), but there is not significant in serum. Macroscopically visible surface fibrillation, cleft and focal erosions appeared 1 month after postoperative in the femorotibial joint; predominantly on the medial tibial plateau and medial femur. On histochemistry, increased cellular of TRAP positive cell was detected in synovium and cranial cruciate ligament.

Conclusion: In this induced OA, activity of TRAP in SF appears to provide a useful marker of the degenerative changes.

ORTODONTIC CORRECTION OF INCISORS POSITION BY DURABLE ARCH AND COMPOSITE LOCKS

Z. Lonsky

Veterinární Ošetřovna, Počátecká 5, 140 00, Praha, Czech Republic

What is goal of this orthodontic method? There is manipulation by incisors to demanding position. Incorrect positioning of incisors is one of the most often defects, limited demonstration dogs at the dog show. Not always is this fault cause by hereditary factors and such handicapped individual is layed off breeding without rational arguments. Just thinking about faults caused by positioning of teeth, not by length and width of dog jaws.

About method: This method is built on action of mechanical forces between tooth and durable arch, transmitted by rubber puller. Basicly we can use this method for moving incisors labialy or lingualy on maxilla and mandibula too. It means we use four types of durable arches for two jaws and two directions of movement. Placement of composit locks can be on labial or lingual surface of incisor. For the start of procedure is essential make a precise imprints of both jaws. Author is used make imprints so called „from hand method", convenient for majority sizes of jaws. Next step is laboratory work. This part of procedure consider very important and needs skilled laboratory, because methods using durable archs are not usually used in present human orthodontics. Step number three is fixing arch on canines and marginal incisors, creation of composite locks on incisor or incisors and apparatus completing by rubber puller. Active phase of orthodontic moving needs regular checking by vet and owner too. Passive phase necessary for remodelation of alveolar bone should take minimum two times longer time than active phase. Usual time of whole procedure can take about two month. Procedure lasting is depend on many factors like age and size of dog, pulling power, homecare and possibility of checking by veterinarian. Author uses this orthodontic minimum invasive method several years with great success. More you can see at photos.

MR IMAGING OF SYRINGIMYELIA: THREE CANINE CASES

B. Lörincz, R. Garamvölgyi, Z. Petrási, Á. Hevesi, Ö. Petneházy, Z. Vajda, I. Repa

Institute of Diagnostic Imaging and Radiation Oncology, University of Kaposvár, Guba S. u. 40, Kaposvár, Hungary

The term syringomyelia means the formation of syrinx (i.e. cavitation) in the spinal cord. Although several mechanisms for the development of syrinx have been postulated, the exact pathogenesis is still unknown. Syringomyelia can be associated with congenital malformations of the skull base, or can be secondary to lesions involving the spinal cord, such as tumor, trauma or infections, resulting in corticospinal-fluid (CSF) flow obstruction. The symptoms are variable, according to the location of the syrinx in the spinal cord. Among others chronic pain, increased sensitivity to touch, scoliosis, hindlimb weakness, ataxia, facial nerve paralysis, deafness, seizures and/or loss of bowel/bladder control might be present. Nonsymptomatic cases are reported as well. The diagnosis is based on Magnetic Resonance Imaging (MRI). Conservative therapy includes the use of analgesics, corticosteroids and drugs reducing CSF production. In the veterinary practice, surgery is rarely a therapeutic option. In this study, we present three cases of syringomyelia: a 7 years old Cocker Spaniel and two Yorkshire Terriers, aging 2 and 2,5 years. The patients presented with different symptoms (multiple neurological deficits, ataxia, hindlimb weakness, epilepsy). In all three cases, syringomyelia was diagnosed by using a 1,5 T Siemens Magnetom Vision Plus, and Siemens Magnetom Avanto MRI scanner. To our knowledge, this is the first report in Hungary on the diagnosis of canine syringomyelia using MRI.

EVALUATION AND COMPARISON OF CLINDAMYCIN AND MONENSIN ON OOCYST SHEDDING IN EXPERIMENTALLY TOXOPLASM

A. Malmasi[1], B. Mosallanejad[2], M. Mohebali[3], A.H. Tabatabaie[4]

[1]Tehran University, Azadi, Tehran, Iran; [2]Shahid Chamran Ahvaz, Golestan, Ahvaz, Iran; [3]Tehran University, Azadi, Tehran, Iran; [4]Tehran University, Azadi, Tehran, Iran

Toxoplasma gondii is an obligate intracellular coccidian parasite that can infect virtually all species of warm-blooded animals and humans. Domestic cats and other Felidae are the definitive hosts. All nonfeline hosts are intermediate hosts. The importance of this parasite is due to

the fact that it causes congenital *toxoplasmosis*, abortion and mortality in both human and animals. *Toxoplasmosis* is a major cause of death among patients with AIDS. The efficacy of Clindamycin and Monensin were evaluated in the prevention of oocyst shedding of kittens with *Toxoplasma gondii* (Tehran strain). In this study 28 healthy kittens aged 1.5 – 2 months old divided randomly into 4 groups of seven. In group 1, that fed infected brain tissues of mice, all of seven kittens (100 %), shed oocyst, nearly 1 week after infection, which lasted for 8 to 9 days. In group 2, which fed infected brain tissues of mice and Clindamycin at dose of 20 mg/kg from day -3 to + 21 after infections, none of seven kittens, shed any oocyst. In group 3, that fed Clindamycin at dose of 10 mg/kg, same as group 2, two of 7 kittens (28/6%), began to shed oocyst from day 11 to 18 after infection. Kittens of group 4 that fed Monensin at dose of 0.02% incorporated in dry food didn't shed any oocyst. Data analysis revealed that Clindamycin 20mg/kg and Monensin 0.02% had a 100% inhibitory effect against *Toxoplasma gondii* (Tehran strain). No adverse reactions were observed during the experimental period.

DETERMINATION OF CONJUNCTIVAL MICROBIAL FLORA IN CLINICALLY NORMAL FELINE CONJUNCTIVA

S. Mashhady Rafie

Islamic Aazad University, Science and Research Branch, Poonak, Tehran, Iran

Introduction: This study focused on the determination of conjunctival microbial flora in normal cats for investigating relations between factors like old, environment and breed that predispose conjunctivitis.

Material and Methods: Samples were obtained from both conjunctival sacs of 35 household cats for aerobic and anaerobic cultures by moist sterile swabs. Any cats suffered from eye diseases previously.

Results: No bacteria were seen in 45/7%, while a single isolate was obtained from 17% and in 31/5% of cases two species and in 5/8% of cases three kind of bacteria were isolated. These bacteria were include: Staphylococcus epidermis 47%, Staphylococcus aureus 23/5, Staphylococcus saprephyticus11/7% unknown Staphylococcus 17/8%, alpha hemolytic Streptococci 21%, beta hemolytic Streptococci 11%, non hemolytic Streptococci 10/5%, Corynebacterium Spp. 10/5%, Coliform 15/8%, Bacillus spp. 10/5% and Moraxella catarhalis 5/2%. No anaerobic was isolated in this study.

Conclusion: No significant difference was seen between both eyes. The most accumulation of bacteria was seen in mixed cats (66%) and minimum level was in Siamese (20%). Also in regard to keeping manner, the great number of bacteria was seen in cats can go to garden (83.3%) Also the most number of bacteria was seen in cats above 2 years old (97%).

EFFICACY OF CEPHALEXIN TABLETS IN THE TREATMENT OF LOWER URINARY TRACT INFECTIONS IN CATS

L. Maynard[1], A. Sanquer[1], C. Medaille[2], I. Villard[1]

[1]VIRBAC, 13e rue LID, Carros, France; [2]VEBIOTEL, 41bis avenue Aristide Briand, Arcueil, France

A study was performed to evaluate the clinical and bacteriological efficacy of Cephalexin tablets on cats which were presented with a lower urinary tract infection (UTI) clinically diagnosed and confirmed by positive cytobacteriological urine examination (CBUE) on D0 (bacterial counts >1,000 CFU/ml for cystocentesis or urethral catheterisation, >10,000 CFU/ml for palpation-pressure). Cephalexin-based tablets (Rilexine®, Virbac) administered at a dosage of 15 mg/kg body weight twice daily for 10 days were compared to Amoxicillin-Clavulanic acid (ACA) tablets (Synulox®, Pfizer) administered at a dosage of 12.5 mg/kg twice daily for 10 days. Cats were examined on 3 days: D0, D7 and D14 (5 days after the end of treatment). At each visit, a total clinical score (CS) was calculated by adding the severity scores of 11 different clinical signs. On D10, a second urine sample for CBUE was performed. Efficacy of each product was assessed by the percent bacteriological recovery calculated on D10 (bacterial counts lower than the reference threshold value of the urine sampling method) and the percent reduction of the CS on D14.

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CLINICAL EFFICACY OF CEPHALEXIN TABLETS IN THE TREATMENT OF CUTANEOUS WOUNDS AND ABSCESSES IN CATS

L. Maynard[1], V. Skowronski[1], A. Sanquer[1], C. Medaille[2]

[1]VIRBAC, 13e rue LID, Carros, France; [2]VEBIOTEL, 41bis avenue Aristide Briand, Arcueil, France

A multicentre, controlled, randomised field trial was performed in France to evaluate the efficacy of Cephalexin administered *per os* at a dosage of 15 mg/kg twice daily for 5 days in the treatment of cutaneous and subcutaneous infections in the cat. A total of 114 cats were included in the study. Fifty-seven cats were treated with Cephalexin-based tablets (Rilexine®, Virbac) at the recommended dosage; 56 cats were treated with Marbofloxacin-based tablets (Marbocyl® P, Vetoquinol) at the recommended dosage of 2 mg/kg body weight SID. Both treatments were administered for 5 days. Cats were clinically observed on 3 days: D0, D5 and D0 (5 days after end of treatment). On D0, a cutaneous swab was taken from each enrolled animal for bacteriological analysis. Efficacy of the products was assessed by the percent clinical recovery (total disappearance of local signs: suppuration, oedema, pain, redness/heat) on D10 and percent relapses. On D0, there was no significant difference between groups for demographic characteristics, clinical signs or for bacteriological results. Approximately 68.1% of enrolled cats presented with an abscess; 21.2% presented with an infected wound; 10.6% presented with both a wound and abscess. *Pasteurella multocida* represented 42.9% of the isolated pathogens. Gram-negative bacteria represented 67.2% of the total isolates and Gram-positive bacteria (*Staphylococcus* spp, *Streptococcus* spp) represented 32.8%. Out of the 113 cats treated on D0, 78 (69.0%) no longer had local clinical signs after treatment (41 (71.9%) in the Cephalexin-treated group and 37 (66.1%) in the Marbofloxacin-treated group (p=0.5007)). Only one cat from the Cephalexin-treated group relapsed. (p=1.0000). Based on these results, Cephalexin administered orally at a dosage of 15 mg/kg twice daily for 5 days is at least as effective as Marbofloxacin administered at the recommended dosage of 2 mg/kg once daily for 5 days in the treatment of cutaneous wounds and abscesses in cats.

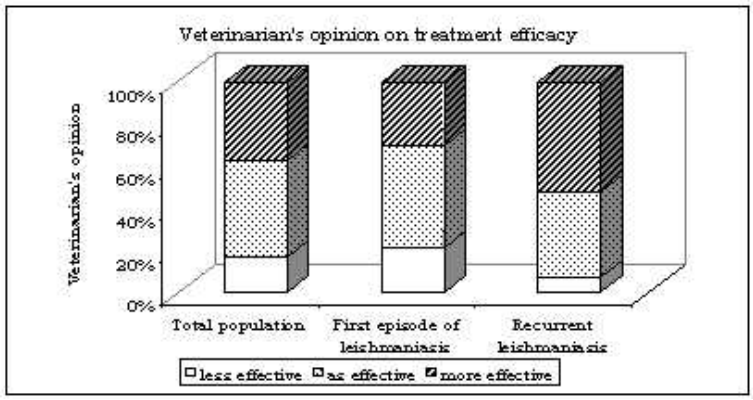
CLINICAL EFFICACY OF MILTEFOSINE ORAL SOLUTION IN THE TREATMENT OF CANINE LEISHMANIASIS

L. Maynard[1], V. Woerly[1], A. Sanquer[1], C. Medaille[2]

[1]VIRBAC, 13e rue LID, Carros, France; [2]VEBIOTEL, 41bis avenue Aristide Briand, Arcueil, France

This study was performed to evaluate the efficacy of a recent oral antiprotozoal agent, Miltefosine, in the treatment of canine leishmaniasis due to *Leishmania infantum*. A multicentre field trial was conducted in 20 veterinary practices in France, Spain and Italy. Eighty-two dogs were included in the study with a canine leishmaniasis, based on clinical examination and confirmed by positive serology, myelogram and/or PCR analysis. Dogs were treated with a Miltefosine-based oral solution at 2 mg/kg body weight once a day for 28 days. They were clinically observed

6 times: V1 (pre-inclusion and sampling), V2-Day 0 (inclusion and start of treatment), V3-Day 14, V4-Day 28 (end of treatment and sampling), V5-Day 42 and V6-Day 56. Efficacy was assessed by the percent reduction of the clinical score, veterinarians' opinion, the time course of the clinical score, the percent parasitological cure, the albumin/globulin ratio and serology. On average, Miltefosine treatment reduced the clinical score by 61.2 ± 44.9% in 8 weeks. In 82.7% of cases, veterinary investigators considered treatment with miltefosine retrospectively as or more effective than conventional antileishmanial treatment (Meglumine antimoniate – Allopurinol association). The clinical score decreased significantly over the 2-month follow-up period ($p<0.0001$). Clinical response was markedly visible during the 4 weeks of treatment and continued to improve in the 4 weeks after completion of treatment. 51.5% of dogs were parasitologically cured on Day 56 according to the myelogram. In 24.1% of cases with an albumin/globulin ratio Ł 0.7 at V1, the ratio became > 0.7 at V6. A decrease of at least one dilution in IFAT titres was recorded in 37.2% of dogs over the 8-week follow-up period. Miltefosine given orally at 2 mg/kg once a day for 28 days proved to be an effective and convenient new alternative to treat canine leishmaniasis.



EVALUATION OF CYTOKINES CONCENTRATION AND PERCENTAGE OF SURVIVAL OF RABIES VIRUS INFECTED MICE

J. Megid[1], C.M. Appolinario[1], A.M. Mazzini[1], M.F. Almeida[2]

[1]UNESP, School of Veterinary Medicine, Botucatu -SP, Brazil; [2]Center of Zoonosis Control, R. Santa Isabel, 181, São Paulo -SP, Brazil

High percentage of survival correlated with low IL6 serum concentration in mice submitted to post exposure treatment with Fuenzalida Palacios Vaccine associated to *Propionibacterium acnes* was described in previous works. Considering the substitution of Fuenzalida Palacios by Vero antirabies vaccine in almost all countries the objective of this work was to evaluate the percentage of survival and cytokines serum concentration of rabies virus infected mice treated with *P. acnes* associated or not to antirabies VERO vaccine in different post exposure treatment protocols. For this swiss mice were experimentally infected with street rabies virus and submitted or not to VERO antirabies vaccine and *P. acnes* as immunomodulator. Animals were killed at different times and serum was collected in order to evaluate cytokines concentration. Highest percentage of survival was observed in animals submitted to *P. acnes* in one or two doses followed by animals submitted to antirabies vaccine alone or with three doses of *P. acnes*. The group that presented the higher percentage of mortality also presented the higher IL6 concentration on the 10th day correlated with clinical symptoms of the animals. These results reinforce the importance of IL 6 concentration on rabies virus pathogenesis.

EVALUATION OF DIAGNOSIS METHODS IN DOGS EXPERIMENTALLY INFECTED WITH LEISHMANIA INFANTUM

J. Miret[1], J. Nieto[1], E. Carrillo[1], J. Saugar[1], M. Flores[1], F. González[2], J. Moreno[3]

[1]Centro Nacional de Microbiología, Instituto de Salud Carlos III, Ctra de Majadahonda-Pozuelo Km 2, 28220 Majadahonda (Madrid), Spain; [2]Department of Toxicology and Pharmacology, Faculty of Veterinary, Universidad Complutense de Madrid, Avda Puerta de Hierro s/n, 28040 Madrid, Spain; [3]Centro de Investigaciones Biológicas, CSIC, Ramiro de Maeztu, 9, 28040 Madrid, Spain

Dogs are the main reservoir of *Leishmania infantum*, the causative agent of zoonotic visceral leishmaniasis (ZVL). Early diagnosis constitutes a good strategy to control ZVL. In order to compare different diagnostic techniques for canine leishmaniasis we have carried out the experimental infection of beagle dogs and follow up the infection by immunological and parasitological methods. Six beagle dogs were infected intravenously with 10^8 *L. infantum* promastigotes and the clinical, immunological and parasitological status of the animals were monitored monthly during a period of 32 weeks. *Leishmania infantum* specific serum levels of antibodies were measured by the Indirect Immunofluorescence Antibody Test (IFAT), and the soluble *Leishmania* antigen (SLA) and rk39 ELISA (IgG, IgG1, IgG2); the cellular immunological response was studied by the *in vitro* lymphoproliferation assay with SLA antigen. The parasitological status were determined by the lymph node, bone marrow aspiration, spleen aspiration helped with a ecography, skin biopsy and peripheral blood mononuclear cell subsets by culture in NNN medium and Ln-PCR. Specific *Leishmania* antibodies could be detected in the all dogs from the first month. It was observed high levels of antibodies by IFAT and SLA and rk39 ELISA in the dogs; the symptomatic dogs showed higher levels of antibodies by rk39 ELISA during the follow-up. All the dogs showed lymphoproliferative response to SLA at the first month after the infection. Parasites were found in five out of six dogs by culture and Ln-PCR (83.3%) at the fifth month. The clinical signs of diseases: exfoliative dermatitis, ulcerations, peripheral popliteal lymphadenopathy, dry hair, weight loss, onychogryphosis, hepato and splenomegaly, ocular symptoms were observed from the third month of the infections in 66.6% of dogs. This experimental model of infection has proved to be useful to study the evolution of the disease, for the establishment and standardization of early diagnosis methods, and the development of control strategies against ZVL Funded by ISCIII (MPY-1014).

Jorge Miret holds a fellowship from MAE-AECI, Javier Moreno is supported by a RyC contract from MEC

A HISTOPATHOLOGICAL STUDY ON THE SIDE EFFECTS OF LARGE DOSES OF DEXAMETHASONE ON DOG'S KIDNEY

D. Mohajeri, A. Samavatian

Veterinary Faculty, Islamic Azad University, Tabriz, Iran

In this limited study a total of 18 stray dogs divided into one control (n=6, 3 male and 3 female) and two experiments groups (n=6). The two experiments groups were administrated daily dose of 40 and 125 microgram/kg bw of Dexamethasone intramuscularly for 16 weeks, respectively. In order to eliminate probable pathologic lesions, animals of less than a year old were used. The nutritional conditions and care were similar for all the dogs. During the treatment no changes were observed on food intake. Decreased body weight gain was observed in all treated dogs. One of the low dose treated dog died during the study (not related to treatment). At post-mortem examination extreme macroscopic changes including inflammation and paleness of kidneys were seen in dogs receiving a dose of 125 micrograms/kg bw. The renal specimens were prepared for routine histopathological study after fixation (in formalin 10% and alcohol) and staining by H&E and P.A.S method respectively. Microscopically, glomerular lesion including of mild mesangial hypercellularity, synechiae, thickened basement membranes were seen. The cause of this lesion is unknown; however, hypertension, because of its occurance due to increased plasma glucocorticoid concentrations has been postulated.

FAILURE OF CRYOSURGICAL TREATMENT FOR PERIANAL GLAND ADENOMA IN HYPER-ADRENOCORTICISM CONDITION

S. Mohit Mafi

Faculty of Veterinary Medicine, Islamic Azad University, Karaj branch, Karadj, Tehran, Iran

Cryosurgery is an effective method for treatment of perianal gland adenoma (PAGA) and we had several successful treatments in our teaching hospital using this method. However, this article reports a failure of cryosurgical treatment of PAGA and severe complications in a dog suffering from hyper adrenocorticism."Pooh Pooh" was a nine year old intact male standard poodle taken to veterinary teaching hospital with signs of constipation and dyschezia. The owner reported a firm lump near by anus which bleeds occasionally. Clinical examination reveals an obese animal with slightly poor hair coat having a large multi focal and two smaller tumors around the anus. Biopsy was taken from lesions and after histopathology confirmation of PAGA, cryosurgery was done using a Liquid nitrogen spray apparatus and three freeze-thaw cycle performed on the lesions. Tissue temperature were monitored using Needle Thermocouples and Electronic Tissue Temperature Indicator. Classic sequences of cryo-lesions healing process were observed on follow up examinations during the first week. But in second week, abnormal exuberant granulation tissue, purulent discharge and soft tissue swelling were seen. Histopathology report for second biopsy specimen showed suppurative inflammation, exuberant granulation tissue and hepatoid texture of tumoral cells in several sites. After antimicrobial therapy the second cryosurgical operation was done but regrowth of abnormal exuberant granulation tissue and exacerbation of swelling and severe cellulitis were seen again. Review of the history and clinical findings led us to probable systemic disorders affecting wound repair process and Para clinic test results evidenced that "pooh pooh" is suffering from hyper adrenocorticism. The owner had no agreement with further tests and treatments and "pooh pooh" had put on sleep by his owner request. Three sequential phases (Rapid, Delayed and Immunological) are described for tissue cell death mechanism in cryosurgery. Laboratory animal studies have shown importance of immunological phase in tumors cryosurgery and some clinical reports have shown failure of cryosurgery in animals receiving exogenous corticosteroids, simultaneosly. However, in this case, it seems endogenous corticosteroids not only had a negative effect on wound healing process but also affect the cryobiological behaviors of tumoral tissue exposing to cryogenic substance and led into failure of cryosurgical treatment.

COMPARATIVE STUDY OF THE PITUITARY-ADRENAL AXIS IN CATS INFECTED WITH FELINE IMMUNODEFICIENCY VIRUS (FIV)

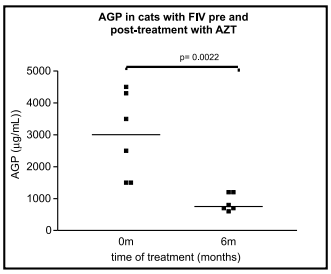
C. Moltedo, A. Fontanals, V. Castillo, M. Gisbert, A. Suraniti, A. Márquez, N. Gómez

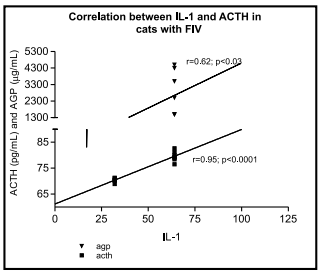
Buenos Aires University, Chorroarín 280, Ciudad de Buenos Aires, Argentina

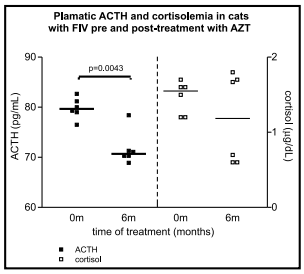
The neuroendocrine and immune systems are bidirectionally communicated. The neuro-immune-endocrine interface is mediated by cytokines such as IL1, TNFα and IL6. These cytokines play a variety of roles in stress, behaviour; sensory processing and cognition. The immune system is partially regulated by the hipothalamus pituitary adrenal axis (HPA) and the sympathetic nervous system. Cortisol is the key effector glucocorticoid synthesized via the HPA axis. This hormone has been associated with the development of several retroviral diseases and their pathogenesis, such as Feline immunodeficiency. FIV is a lentivirus that causes a progressive disruption of the immune function in cats.

Objective: The main objective of the present study is to compare neuro-immune-endocrine parameters (ACTH, Cortisol, AGP and Evoqued potentials) in cats infected with FIV along 6 months of antiretroviral therapy. Material and Methods: Sera and plasma of cats were analyzed for: IL1 (Elisa, Lehmann, 1992), Acute Phase Protein (Alpha-Glycoprotein acid) (Immunoprecipitation, Ecos, Japan), endogenous ACTH (RIA), and cortisol (RIA). In addition, neurological manifestations of the patients were studied through auditory and visual evoked potentials (AEP; VEP). FIV infection was confirmed by nested PCR. The samples were obtained at two times: one in the beginning of therapy and the other after six months of treatment with antiretrovirals: Zidobudine (AZT 5mg/kg/day) and Valproic acid: 10 mg/kg/day). Statistical results were analyzed with Mann-Whitney test ($p < 0.05$). In order to compare IL1, ACTH and AGP, Chi-Square test and Contingency tables were used. Correlation was estimated with Pearson-test.

Results:







References: Values are represented as median and range. Mann-Whitney test significance $p<0.05$. There were not significant differences in cortisol levels and there were not correlation between ACTH and cortisol. IL1 decreases significantly after 6 months of treatment (p 0.03). Correlation between IL1 vs ACTH and IL1 vs AGP was found. VEP showed latencies higher than 162 mseg in the p100 in 75% of cats. Alterations of AEP were observed only in 30% of the patients and there were not significant differences between both times of evaluation.

Discussion: The results at the beginning of the therapy showed a compromise of the neuroimmune-endocrine axis. High levels of ACTH, IL1 and AGP were observed, due to chronic stress, inducing an alteration of normal regulation of the HPA axis. The comparison with the results after 6 months of treatment showed a lesser activation of axis. Positive correlation beteween IL1, ACTH and AGP is related to the improvement of the disease. It is well known that IL1 stimulates the axis, with other cytokines, and induces liberation of Acute Phase Proteins (AGP). The therapy, as the present results show, could produce an improvement of the disease, diminishing IL1 levels and consequently ACTH and AGP levels slow down. There were not correlation between Cortisol and ACTH levels and this could be explained because of the abnormal regulation of the axis in this patients.

Conclusions: Feline Immunodeficiency produced by a Retrovirus, Lentivirus, causes a similar condition to Human Immunodeficiency (AIDS) and it is being intensively studied worldwide. It is particularly relevant to study auditory and visual evoked potentials, since FIV produces a slowing down of the conduction of the nervous impulse but this al least did not showed amelioration after six month of therapy. The treatment of the disease with Zidobudine and Valproic acid during 6 months shows in the present results a normalization of HPA axis, diminishing the chronic stress

RADIOGRAPHIC FEATURES OF ACEPROMAZINE – INDUCED SPLENIC ENLARGEMENT AND ITS RELATIONSHIP WITH HEMATOCRIT AND TOTAL PROTEIN CHANGES IN CATS OF IRAN

B. Mosallanejad, R. Avizeh, A. Ghadiri, M. Ezzati

Shahid Chamran University, Golestan, Ahvaz, Iran

Splenomegaly is commonly seen as a consequence of sedation or anesthesia, Portal hypertension, or splenic vein thrombosis. Splenic enlargement can be sever, because up to 30% of the blood volume can be pooled in the spleen. This research attempted to verify and quantify size changes associated with acepromazine splenic enlargement in cats. Radiographic images of the spleen in normal cats were collected to determine the maximum diameter in the minimum dimension prior to, and 15 min after, administration of acepromazine in cats. In this study 5 cats (DSH), 4-6 months of age and weighing 0.8 – 1.1 kg were used. Significant splenic enlargement was seen after administration of acepromazine ($P<0.01$). Acepromazine was injected to cats with dosage 3 mg/kg IM. These results indicate that measurable splenomegaly occurs after acepromazine administration and a condition causing measurable diffuse increased attenuation in the spleen of cats. Also, hematocrit and total serum protein (TSP) were measured before and after induction. Hematocrit decreased significantly in all cats after induction, but changes of Total protein were no significant. Correlation between decrease of hematocrit and increase of spleen size following the anesthetic protocols studied suggests sequestration of red blood cells in splenic sites. In this survey, prominence of spleen and prevention of diagnosis mistakes following prescription of tranquillizer were confirmed.

PARVOVIRUS AS A PREDISPOSING FACTOR FOR INTESTINAL INTUSSUSCEPTION IN 3 DOGS OF IRAN

B. Mosallanejad, R. Avizeh, A. Ghadiri, A. Moarrabi

Shahid Chamran, Golestan, Ahvaz, Iran

Parvovirus is a serious, deadly threat to the unvaccinated dog population. Parvovirus is capable of causing two different sets of clinical problems. The first to be recognized, and most common, is the "intestinal" form, which is manifested by diarrhea; often bloody vomiting, loss of appetite, depression, fever, and sometimes death. The second syndrome, the "cardiac" form, occurs in very young pups and is manifested by an acute inflammation of the heart muscle. Parvovirus can be caused illeus in dogs. In this study intestinal intussusceptions were diagnosed in 3 dogs with hemorrhagic gastroenteritis, due to canine parvovirus. They were with age of 1 – 2 years and their breeds were Doberman pinscher (2) and German shepherd (1). In history, they were affected to Parvovirus in 3 – 6 months. As the other causes of the disease were excluded, Parvovirus was considered to be the most likely predisposing factor for the intestinal intussusception. Ileocolic intussusception was found in all of dogs. Of the 3 dogs that underwent surgical resection and anastomosis of the intestine, 2 dogs recovered completely and one died due to complications. CBC was abnormal (Leucopenia and Neutrogena) in dogs. Supportive treatments were done for them. The objective of this investigation was to detection whether Parvovirus in young dogs can be a predisposing factor for intussusception in higher ages.

RELATION OF CLINICAL INFECTION DEVELOPMENT IN DOG-TO-DOG BITE WOUNDS WITH BACTERIAL CONTAMINATION

S. Mouro[1], C.L. Vilela[1], L.M. Cavaco[2], M.M.R.E. Niza[1]

[1]CIISA/FMV, Faculdade de Medicina Veterinária, Av. Universidade Técnica, Lisboa, Portugal; [2]Presently at KVL University, Institut for Pathobiology, Copenhagen, Denmark

This study aimed at relating the development of clinical infection in dog-to-dog bite wounds with the type of bacterial contamination present, from environmental, oral or skin microbiota sources. The study comprised 48 untreated dog bite wounds, 23 of which clinically infected (48%). Infection identification was based on the presence of pus, fever, leukocytosis or when 3 or more of the following minor criteria were present: erythema, oedema, subcutaneous emphysema, tissue necrosis, and malodor. Samples, collected before any wound manipulation, with cotton swabs or by needle aspiration, were submitted to bacteriological analysis. All wounds bear aerobic bacteria: from a total of 125 isolates, the most frequent isolates were *Pasteurella multocida* (16.8%) and *Staphylococcus intermedius* (14.4%). Strict anaerobes were only isolated from infected wounds. The most common isolates from infected wounds were *streptococci* (23.2%), *Enterobactereaceae* (20.3%) and *P. multocida* (17.4%). Anaerobic cultures were positive in 26% of infected wounds, being *Clostridium perfringens* present in 3 samples. The most common isolates from non-infected wounds were Gram-negative oxidase-positive bacilli (42.8%), including *P. multocida* (19.6%), and *staphylococci* (21.4%). The results suggest that both environmental and animal microbiota contamination occur in dog-to-dog bite wounds. Environmental pathogens may represent an important source of infection. The presence of skin and mouth microbiota of dogs, frequently found in both types of wounds, may also represent an important factor for the development of infection. Further studies are required on microbiota virulence factors, in order to deeply understand their role in the outcome of wound contamination.

DOG BITES TO CHILDREN IN THE CZECH REPUBLIC - A SURVEY

J. Náhlík[1], E. Baranyiová[1], M. Tyrlík[2]

[1]University of Veterinary and Pharmaceutical Sciences, Palackého 1-3, Brno, Czech Republic; [2]Faculty of Arts, Institute of Psychology, Masaryk University, Arne Nováka 1, Brno, Czech Republic

The aim of the survey was to study the circumstances of dog bites to children, and their outcomes in terms of medical help sought. Data were obtained from a questionnaire completed with children. A total of 103 bites were documented; 58 were inflicted on boys and 45 on girls. Results were evaluated using chi2 and F tests. Family dogs bit at home (57.6%), dogs belonging to friends bit outside (62.2%), and unknown dogs bit only outside (100.0%),

(chi2=24.796, df=2, p<0.001). Bites by small dogs were more frequent at home (51.5%), those by medium size (73.1%) and large dogs (80.5%) outside (chi2=9.022, df=2, p<0.011). Of 101 responses, 32 bites happened at home; in 2 cases (6.3%) medical assistance was sought; 69 incidents happened outside, 21 of them (30.4%) were treated. Assistance was sought when the bite occurred outside (91.3%) rather than at home (8.7%), (chi2 =7.271, df=1, p<0.009). The age of children bitten and medically treated was 2-11 years, mean age 5.6 years (F = 11.155, df=1, p<0.001). Of 102 responses, broken skin and bleeding was in 58 cases, of which 23 were treated (39.7%). Medical help was related to the type of injury (chi2 =22.528, df=2, p<0.001). Of the bites 57 were inflicted on boys, 7 were given medical help (12.3%); among 45 girls bitten help was given to 16(35.6%) of them. Girls were treated more often (69.6%) than boys (30.4%), (chi2 =7.8, df=1, p<0.008). Children were more often treated when an adult was present at the time of incident (56.5 %). In 66.7% cases no medical help was given despite the presence of an adult at the moment of the incident (chi2 = 4.029, df=1, p<0.054). Most bites in the head area were by small dogs (boys 80.0%, girls 50.0%); (boys, chi2=4.302, df=2, p<0.122; girls chi2 =6.2, df = 2, p<0.038). Dog bites to children seem underestimated in terms of medical care given. Bites at home were rarely treated, bites with broken skin in less than a half of the incidents, and bites inflicted on boys were treated less frequently than those inflicted on girls.

A SURVEY ON HELMINTHIC INFECTION OF GASTROINTESTINAL TRACT IN STRAY DOGS AT URBAN AREAS IN TABRIZ

A. Nematollahi

University of Tabriz, 29 Bahman, Tabriz, Iran

This study was done to determine the prevalence of gastrointestinal helminthes infection of stray dogs in Tabriz. Within eight months in six areas susceptible to infection in the vicinity of Tabriz, one hundred and two stray dogs (between 1-4 years old) were caught by strychnine poisoned meat and were necropsied. Fifty nine dogs were male and forty three dogs were female. For preventing to zoonotic aspects, after necropsy, digestive system of the dogs (from esophagus to rectum) were separated from body and were placed in formalin for three months. All of parasites in their digestive system were isolated. After fixation of the samples in 10% formalin their identification were performed based on parasitological characteristics. Total infection rate in stray dogs was 64.5%. In parasitological study four nematode: Toxocara canis (26.9%), Ancylostoma caninum(0.8%), Toxocara leonine(20%) and Uncinarian stenocephala (35.6%) and two cestod: Echinococcus granolosus (48%) and Taenia hydatigena (3.6%) and one Acantocephal: Macrocanthorynchus hiradinaceus (13.9%) were identified. Maximum number of parasites in one animal belonged to Echinococcus granolosus (23.2 worms). There was not any significant difference in infection rate between males and females. However, with regard to age, it seem that older animals are more prone to acquire the infection. Furthermore, results of the study showed that because of high prevalence of digestive helminthes in stray dogs and the risk of human and livestock animal's infection a control program must be carried out for controlling and collecting of these animals to improve hygiene.

CONTROL STRATEGIES AGAINST GIARDIA INFECTION IN KENNELS

A. Ortuño, J. Castellà

Facultat de Veterinària, Universitat Autònoma de Barcelona, Bellaterra, Barcelona, Spain

Giardia is a protozoan flagellate which is found in the intestinal tract of human and animals. It is one of the most common parasites in dogs. The infection is clinically important due to its high prevalence, clinical symptoms - especially in puppies-, its difficulty in control and its zoonotic potential. Giardiasis can be transmitted by direct contact or by fomites. Cysts are passed from the host to the environment through feces. One particular condition of *Giardia* is that cysts are intermittenly shed in the feces. Outside, cysts survive for months in moist conditions but are extremely susceptible to drying. This parasitoses occurs far more frequently in kennels or shelters since young animals and crowded environments constitued important risk factors. Protection against Giardia in kennels needs more complex measures than in household with individually kept dogs. In this report, it is presented two cases of giardiasis in kennels: The first one was a breeding kennel where puppies where clinically affected, showing diarrhea, weight loss and growth

retardation; adult dogs were assymptomatic. The other one was a shelter, where most dogs were adults with chronic diarrhea. In some animals, feces were malodorous and steatorrheic. Faecal specimens were collected and were analised using zinc sulphate flotation/centrifugation technique. In some cases, at least three fecal fresh samples had to be examined due to intermitent shedding cysts. The main approaches to control giardiasis were focused on environmental decontamination and detection of carrier dogs. Environmental disinfection with quaternary ammonium, decrease environmental humidity, treatment of all animals - even assymptomatic since they may continue to shed cysts - with fenbendazol (50 mg/kg), fomites control and routinely coprological controls of all animals, especially those that were newly acquired or incoming dogs, constitued the main strategies followed up in both communities.

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EFFICACY OF ANTIANGIOGENIC PHOTODYNAMIC THERAPY WITH BPD-MA IN 19 DOGS WITH HEAD TUMORS

T. Osaki, S. Takagi, Y. Hoshino, M. Okumura, T. Kadosawa, T. Fujinaga

Graduate School of Veterinary Medicine, Kitaku, Kita 18, Nishi 9, 060-0818 Sapporo, Japan

PDT was effectively able to treat locally solid tumors without any serious side effects. The purpose of this study was to assess the efficacy of antiangiogenic PDT using BPD-MA in nineteen dogs with head tumors. The tumor was irradiated with 690-nm laser light at 15 minutes after initiating the intravenous infusion of 0.5 mg/kg BPD-MA. In cases that were followed up for more than 1 year after PDT, the median survival time of 6 dogs with oral tumors was 423 days (range, 300–743 days) and the 1-year survival rate was 67%. In 5 dogs with nasal cavity tumors, the values were 533 days (range, 129–694 days) and 60%, respectively. The CT enhancement values before and after PDT were significantly different ($p < 0.001$) and were 54.3 ± 25.8 Hounsfield units (HU) (21 treatments in 15 dogs) and 5.5 ± 5.7 HU (18 treatments in 11 dogs), respectively. The mean CT enhancement value of the tumors in which 19 treatments was effective was 57.2 HU and the one for tumors in which 2 treatments was ineffective was 27.5 HU. The main side effect was temporary edema around the treated area for 1 week after PDT; however, it did not require any particular treatment. Antiangiogenic PDT is a promising method for canine solid malignant tumors without any serious side effects. Angiographic CT plays a useful role in selecting antiangiogenic PDT cases and in determining the therapeutic effect after antiangiogenic PDT. Conversely, antiangiogenic PDT using BPD-MA could be finished at short times and performed repeatedly because of BPD-MA rapid clearance and low accumulation in tissues. It is concluded that antiangiogenic PDT was effectively able to treat locally solid tumors without any serious side effects.

A CASE REPORT OF EXOCRINE PANCREATIC ADENOCARCINOMA IN A TOY BREED DOG

K. Oskouizadeh

Faculty of Veterinary Medicine, Tehran University, Azadi, Tehran, Iran

A 4-year-old female miniature pincher with a 40-days history of weight loss, lethargy and vomiting was referred to Small animal hospital, Faculty of veterinary medicine, University of Tehran. The case also had severe jaundice, chronic diarrhea and steatorrhea. All of the efforts for saving the life of the case were not successful and finally the signs deteriorated and animal died because of hypovolemic shock and electrolyte imbalances. At necropsy, the body was cachectic, edematous and severely icteric. A bloody ascetic fluid, lacking fibrin strands was also noticed in the abdominal cavity. Firm tumor masses originated from pancreas were seeded to peritoneum with multiple attachments to duodenum. There were also some points of metastasis in regional lymph nodes and liver. On the basis of histopathologic characteristics of the tumor, the mass was diagnosed as relatively well-differentiated exocrine pancreatic adenocarcinoma.

STUDY IN PREVALENCE AND DETECTION OF BARTONELLA HENSELAE (CAT SCRATCH DISEASE AGENT) FROM DOMESTIC CAT IN IRAN

K. Oskouizadeh

Faculty of Veterinary Medicine, Tehran University, Azadi, Tehran, Iran

Bartonella henselae is the causative agent of cat scratch disease (CSD) in human. Cat is considered the reservoir of the bacterium. Blood samples were collected between April-September 2005. From 100 domestic cat (indoor-outdoor) living in Tehran-Iran tested for Bartonella henselae bacteremia&seroprevalence. Cultural and IFA method for serology were used. The IFA cutoff titer was ≥1:64. All blood samples from cats were cultured on fresh sheep blood agar for 4 weeks. For the comparison seroprevalance between groups, SPSS12 software and pearson Chi-square were used with CI=95% and odd ratio determination. Bartonella was not isolated from these cats and no bacterial growth were seen. 23% (23 of 100) of cats had antibodies to B. henselae, detected by IFA at a titer ≥1:64.In our study there were no significant differences statistically in seroprevalence between cats and their owner. 18% of cat owners had antibodies to bartonella henselae. Seroprevalence in control group (individuals which own no cat) was 5%, and in statistical comparison between cat owner and control group there were significant differences. Seroprevalence in cats more than 6 months and in outdoors cats were higher than the cats under 6 months and indoor cats. Our study confirm that indoor cats are less frequently infected than outdoor or stray cats and seroprevalence in cats as compare with their owner showed that contact with cats is a risk factor to infected with Bartonella henselae.

EFFECT OF VITAMIN C AND E ON RENAL INJURY IN PIG AUTOTRANSPLANTATION MODEL

C.S. Park[1], M.J. Kim[2], M.H. Jun[2], J.Y. Lee[2], S.W. Cho[2], S.M. Jeong[2], M.C. Kim[2]

[1]Div. of Animal Sci. & RCTCP, Chungnam Natl. Univ., 220 Kungdong, Yoosung-gu, Daejeon, South Korea; [2]Coll. of Vet. Med., Chungnam Natl. Univ., 220 Kungdong, Yoosung-gu, Daejeon, South Korea

Introduction: Ischemia-reperfusion (I/R) injury is a major cause of renal failure and renal graft rejection (1,2). The purpose of this study is to determine that antioxidants vitamin C and E therapy provides protection against I/R injury in pig kidney during kidney transplantation.

Materials and methods: In control group (n=3), after the left kidney was removed, all arteries are perfused using hepa-saline (heparine 1000 IU + saline 500 ml) followed by autotransplantation. And then right nephrectomy performed. In treatment group (n=3), vitamin C (1,000 mg/head/day, IM) and vitamin E (100 IU/head/day, PO) combination were given for 2 days before operating. After the left kidney was removed, all arteries are perfused using hepa-saline including vitamin C 1,000 mg. After implantation of the renal autograft, right kidney was removed.

Results: The level of BUN increased to 81.0±5.57 mg/dl at day 1 the control group, and then increased gradually and was not normalized until 7 days after renal autotransplantation. While in the treatment group, the level of BUN went up to 53.50±16.23 mg/dl at day 1 and then slightly decreased. In the control group, serum creatinine levels increased to 6.80±2.22 mg/dl after 1 day of renal autotransplantation and then decreased slightly and were not normalized until 7 days of operation. The serum creatinine level in the treatment group increased 4.00±0.28 mg/dl after 1 day of renal autotransplantation and then slightly decreased to 3.05±0.07 mg/dl by 7 days of operation.

Conclusion: It was considered that antioxidants vitamin C and E therapy may have roles on the attenuation of I/R injury and recovery of renal function in the renal transplantation model in growing pigs.

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REPLANTATION OF COMPLETELY AMPUTATED PENIS IN A DOG

J. Park, K.-R. Cho, T.-S. Han, D. Chang, S.H. Choi, G. Kim

Veterinary Medical Center, College of Veterinary Medicine, Chungbuk National University, 12 Gaeshin-dong Heungduk-gu, Cheongju, Chungbuk, South Korea

Objectives: To report a rare case of replantation of traumatically amputated penis in a dog and experimentally to elucidate the importance of the anastomosis of the dorsal veins of the penis by performing cavernosography.
Materials & Methods: A 2-year-old, mixed-breed hunting dog was presented with the history of penile amputation and laceration of femoral and inguinal area during wild boar hunting. Replantation of the penis was done by performing anastomoses of the urethra, cavernous body, and the left and right dorsal veins of the penis. The other injuries were treated with the routine surgical treatment. To identifying the dorsal veins of the penis, as the main venous drainage vessels from the bulbus gladis, experimental cavernosograms were done on 3 beagle dogs.
Results & Discussion: The continuity of the transected penis was recovered anatomically and functionally. Postoperatively, there were no evidences of necrosis and edema at the distal portion of the penis. In addition to, no fistulas and stenosis were found on urethrogram 20 days after the surgery.
On the experimentally performed cavernosograms, the contrast media (iohexol) which was injected into the bulbus glandis drained by the left and right dorsal veins of the penis, then converged into one vessel at the ischial arch and diverged into the left and right internal pudendal veins.
Conclusion: The reanastomosis of the left and right dorsal veins of the penis in transected canine penis is important factor to improve the postoperative prognosis.

EFFICACY OF A RECOMBINANT FELINE OMEGA INTERFERON IN THE PREVENTION OF INFECTIONS IN KITTENS

D. Pechereau[1], L. Gardey[2], K. de Mari[2], P. Mahl[2]

[1]Veterinary Clinic des Pyrénées, Pau, France; [2]Virbac SA, Carros, France

Vaccines generally are not protective before 7 to 20 days after administration. Morbidity and mortality due to viral infections may be recorded in kittens during this period and represent major risks in crowded shelters. The efficacy of a recombinant feline omega interferon (rFeIFN) was evaluated for the prevention of infections in kittens recently introduced into a shelter. Recently vaccinated kittens were allocated into 2 groups: 36 cats were injected with 1 MU of rFeIFN (group T), while 52 cats remained untreated (group C). The cats were observed over a 15-day follow-up period. Treatment preventive efficacy was evaluated from morbidity over 15 days following the 1st veterinary consultation (V1). Animal characteristics were compared between the groups using the Wilcoxon rank sum test. The percentage of diseased cats was compared between groups using Fisher's exact test. At V1, the 2 groups did not differ for any of the parameters. After 15 days, 10 cats had shown clinical signs of infection. Four cases of panleucopenia confirmed by PCR (with 1 fatal outcome) and 3 cases consistent with a coryza-like infection were observed in group C. Only 1 cat showed signs of coryza in group T. Fewer infectious episodes were thus recorded after rFeIFN preventive treatment (p=0.0429). These results show the interest of rFeIFN in reducing the risk of viral infection in the few days following vaccine injection, while the animal is not yet protected by the immune response.

PERIANAL NEOPLASIA IN DOGS: 23 CASES

Z. Pekcan[1], O. Besalti[2], S.A. Vural[3], Y.S. Sirin[2]

[1]Kirikkale University Faculty of Veterinary Medicine Department of Surgery, Yahsihan, Kirikkale, Turkey; [2]Ankara University Faculty of Veterinary Medicine Department of Surgery, Diskapi, Ankara, Turkey; [3]Ankara University Faculty of Veterinary Medicine Department of Pathology, Diskapi, Ankara, Turkey; [4]Ankara University Faculty of Veterinary Medicine Department of Surgery, Diskapi, Ankara, Turkey

The aim of the study was to present clinical, surgical and histopathological results of the perianal neoplasia. Twenty four dogs presented at Department of Surgery Faculty of Veterinary Medicine Ankara University with perianal neoplasia were included. The breed dispersion of the dogs were Terriers (n=12), Mixed (n=4), Cocker (n=2), Boxer (n=1), Shitzu (n=1), Collie (n=1), Tibetian Spanial (n=1) and Pekingese (n=1). The ages were between 6 and 15 years old.

Two of the 23 dogs were female and the others were male. Perianal swelling, faecal tenesmus, itching, hemorrhage, pain and dyschezia were the clinical symptoms. Three of them had tumors in tail, one had in abdomen and one had in auricula in addition to perianal mass. Except for cytoreductive surgery in one cases complete resection were carried out in the operation. Orchiectomy was performed in all male dogs. Perioperative analgesia was achieved by epidural morphine preoperatively. In histopathologic examination perianal gland adenoma (n=11), hepatoid gland epithelioma (n=3), lipoma (n=2), squamose cell carcinoma (n=2), rhabdomyosarcoma (n=1), sebaseose carcinoma (n=1), fibromyosarcoma (n=1), perianal gland adenocarcinoma (n=1) and rhabdomyom (n=1). Lipoma was the histopathologic results of the females. Circular resection was carried out in 2 cases with mucocutaneus involvement. Tail amputation were performed in cases had tail neoplasia addition to perianal masses. Recurrence were seen in three cases which were diagnosed as fibromyosarcoma, sebaseose carcinoma and perianal gland adenocarcinoma and permanent faecal incontinence were seen in none of the dogs. In conclusion surgical management was found favourable in this case series.

MULTIFACTORIAL TREATMENT TO OBSESSIVE-COMPULSIVE DISORDERS IN DOGS

M. Pifarré i Olivé, L. Centrich i Pons

ETOVET S.C., C/ Francesc Jofre, St. Feliu de Guíxols, Spain

Poor welfare can cause the execution of abnormal behaviour and it can appear compulsive disorders. They are more difficult to solve when they are chronic, when the animal spends many time carrying out the abnormal behaviour, when the environmental attention is reduced or when it separates the abnormal behaviour from the initial trigger. Usually, the treatment of these disorders is symptomatic because in many cases we don't know the trigger or if we know them, we can't remove them. To treat these cases we propose five points where we can make an incision in: (1) Pharmacologic treatment: it can help us to maintain the dog less reactive to exterior trigger stimuli. (2) To prevent the conflict situation: the approach of the cause, the hour of the day, the place, the previous behaviour and change the situation. (3) To stop conflicting situations: adverse stimuli or stimuli which hinder the abnormal behaviour. (4) Don't promote conflicting situations: prevent the relation between abnormal behaviour and positive stimuli. (5) General habits: to create a fixed routine of life, stable life environment, walk and food habits. To optimize the treatment of obsessive disorders the trigger should be removed. As this can't be possible, we can see results in the interaction between all the parts of the palliative treatment. In chronic cases the application of just one point doesn't cause long-term improvement. For this reason the owner's implication is essential to carry out the conjunction of all the points, otherwise the treatment is doomed to fail.

CANINE IATROGENIC HYPERADRENOCORTICISM AS COMPLICATION IN HYPOTHYROIDISM OF THE DOG

S. Počta

Specializovaná veterinární ambulance Nové Město nad Metují, Czech Republic

In one year old dog was diagnosed hypothyroidism. The treatment lasting for two months was finished as a result of an owner's decision. He changed the veterinarian and we haven't had any information about this dog for a long time. The patient appeared in our office again in the age of five years. Dog was suffering from an extensive alopecia, pendulous abdomen, polydipsia, polyuria and calcinosis cutis as a result of prolonged corticosteroid administration (0.9 mg/kg SID for a period of three years). The result of this treatment was iatrogenic Cushing's syndrome.

STUDY ON CARDIAC IMAGES FOR DIAGNOSIS OF *DIROFILARIA IMMITIS*

S. Ranjbar-Bahadori[1], A. Veshgini[2]

[1]Veterinary Collage, Islamic Azad University, Garmsar Branch; [2]Clinical Sciences of Veterinary Collage, Tehran University

Diagnosis of heartworm disease in dogs may be made by identification of microfilaria in the blood, by observation of thoracic radiographic abnormalities and two-dimensional echocardiography can project images of adult heartworms.

Two hundred of stray dogs were studied by modified Knott method for *Dirofilaria immitis* and six dogs were infected. Results of CBC indicated absolute eosinophilia (4254/µl) and results of serum biochemical analysis were normal. Radiographic signs included enlargement of right side of heart and mix alveolar and interstitial densities in the caudal lobes of the lungs. Echocardiography revealed the presence of heartworms as hyperechoic densities within the right atrial and ventricular cavities. Adult worms were easily identified as parallel echogenic lines separated by a hypoechoic region. Therefore echocardiography appears to be a sensitive procedure, which can be used in combination with thoracic radiography to improve accuracy of diagnosis of heartworm disease in dogs.

LABRADOR RETRIEVERS' PROBLEM-SOLVING STRATEGIES: A COMPARISON BETWEEN THEIR 8TH AND 16TH WEEK OF LIFE

N. Reitz, F. Kuhne

Institute of Animal Welfare and Behaviour, Veterinary Department, FU Berlin, Oertzenweg 19b, Berlin, Germany

The problem-solving abilities of Labrador Retrievers at 2 different life stages were taken into account. The dogs had to solve 2 test sequences of 5 hidden food/ toy tasks. The development of behaviour patterns between the end of the weaning and socialisation phase were assessed. 25 Puppies at their 8th and 16th week of life from 5 litters took part. The food was hidden by diverse objects: under a wheeled wooden board, a pylon, a "Knepig"™, behind chairs and in the hand of the experimenter. The puppies had to find out by their own, how they could reach it in 4 trials. The tests were videotaped and analysed frame-by-frame. The main documented parameters were coping strategies, e.g. licking or yawning, the latency of reaching the food as well as the strategies which the dogs used to solve the hidden food task. The frequency and duration of these parameters were analysed. The puppies at the age of 8 weeks have shown the tendency of fewer problem-solving strategies. The average latency of reaching the food in the 4 trials of the test with the wooden board improved with each attempt. The dogs were not necessarily faster in the 4th trial. Thus, the correlation between the mean time of reaching the food and the trial number was negative or positive for all 5 tests; but just for the wheeled wooden board test significant (Spearman, $p = -0.9$, $P<0.000$). The problem-solving strategies in the 8th and 16th week were tendential equal, but the older puppies have shown behaviour patterns characterised by more persistence. Dogs which mainly reached the food through a problem-solving strategy also preferred these behaviour patterns at the age of 16 weeks. Licking intentions and yawning etc. were behaviours which were assessed with a huge individual diversity. When the dogs solved the task in the 1st or 2nd attempt, the object which hid the food was fixed more. Thus, the correlation between the mean time of reaching the food and the trial number was sometimes negative or positive.

Dogs of the same litter have mainly borne resemblance in the behaviour patterns while the comparison of dogs of different litters has revealed a huge diversity. This diversity was mainly assessed for motivation and problem-solving abilities as well as for displacement activities. The motivation problems of the puppies at the age of 8 weeks led to the assessment that behavioural tests of dogs have to begin later at the end of the socialisation phase.

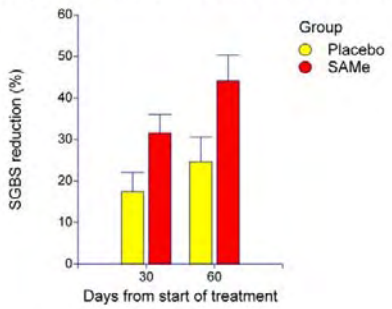
EFFICACY OF STABLE SAME TOSYLATE TABLETS TO REDUCE SIGNS OF AGE-RELATED BEHAVIOUR PROBLEMS IN DOGS

C. Rème[1], V. Dramard[2], L. Kern[3], J. Hofmans[4], C. Halsberghe[5], D. Vida Mombiela[6]

[1]Medical Department Virbac SA, 13e rue LID, Carros, France; [2]Veterinary Clinic, 16 rue Jeanne d'Arc, Lyon, France; [3]Veterinary Clinic, 6 place Léon Deubel, Paris, France; [4]Veterinary Clinic, Avenue des Martyrs 173, Fléron, Belgium; [5]Veterinary Clinic, Deken Camerlyncklaan 14, Kortrijk, Belgium; [6]Veterinary Centre Poble Sec, Passeig de Montjuic 26, Barcelona, Spain

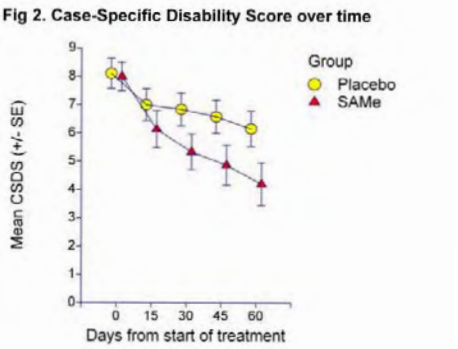
A double-blind placebo-controlled trial evaluated whether oral stable S-adenosylmethionine tosylate (NoviSAMe$_{TM}$) supplementation (Novifit® tablets, Virbac) could be useful in the management of age-related mental decline in dogs. Thirty-six dogs over 8 years that had displayed for at least 1 month signs of cognitive dysfunction were included in the study. Exclusion criteria were incapacitating disease, hypothyroidism, recent administration of psychotropic drugs. The dogs were administered NoviSAMe$_{TM}$ 18 mg/kg (n=17) or identical placebo tablets (n=19) for 2 months. Concurrent behavioural treatment was forbidden. Examinations were performed on D0, D30 and D60. A codified grid with 12 items evaluated disorientation, learning deficits, decreased awareness or activity, social interactions, altered sleep-wake cycle, inappropriate toileting and anxiety. The scores were added together to give a Standardised Geriatric Behaviour Score (SGBS). Ability of the dogs to perform 4 observable daily activities selected by owners was rated every 2 weeks to give a Case-Specific Disability Score (CSDS). Decreased purposeful activity (75% of dogs), diminished reaction upon verbal command (77.8%) and increase of the period of sleep over 24h (83.3%) were the most frequent signs on D0.Greater SGBS reduction was recorded with NoviSAMe$_{TM}$ than with the placebo (P=0.016 on D30, P=0.037 on D60) Fig1

Fig 1. Reduction of the Geriatric Behaviour Score



Eleven (64.7%) and 7 dogs (36.8%) responded favourably to NoviSAMe$_{TM}$ and placebo therapy respectively.NoviSAMe$_{TM}$ supplementation produced clinically meaningful improvement in the level of activity (57.1%), awareness (59.5%) and elimination disorders (57.1%). NoviSAMe$_{TM}$ proved more effective than placebo to reduce the CSDS as scored by owners (P=0.004 on D30, P=0.013 on D60) Fig2

Fig 2. Case-Specific Disability Score over time



Tolerance to the supplementation was recorded as good in 16/17 dogs. One dog exhibited transient diarrhoea. Novifit® tablets proved safe and effective to improve signs of age-related mental decline in dogs.

THROMBOEMBOLISM DUE TO ANTITHROMBIN III DEFICIENCY IN A DOG WITH LEISHMANIASIS ASSOCIATED TO NEPHROTIC SYNDROME

M.M. Rodeia Niza, N. Felix, S. Mouro, C.L. Vilela, M.C. Peleteiro, A.J.A. Ferreira

CIISA/Faculty of Veterinary Medicine, Rua Prof. Cid dos Santos, Lisbon, Portugal

A 3-years-old male Boxer was referred with a history of weight loss, anorexia and lethargy for two weeks. On admission the dog was lethargic, thin, anorectic, showing pd/pu. Laboratory abnormalities comprised leucocytosis, total protein increase, hypoalbuminaemia and hyperglobulinaemia, high values for BUN, creatinine, cholesterol, phosphorus and potassium, and proteinuria. Leishmaniasis was diagnosed by IFI and bone marrow aspirate. Urine protein-creatinine ratio was elevated. The dog was medicated with intravenous fluid, amoxicillin/clavulanic acid, cimetidine, prednisolone and alopurinol. On day 3 the animal showed lumbar pain and paraparesis, absent femoral pulses, cold extremities and hindlimb pain. Ultrasonography showed a thrombus in the aortic bifurcation. Aortic thromboembolism associated to leishmaniasis with nephrotic syndrome was diagnosed. Antithrombin III was severely diminished and fibrinogen increased. Heparin was then associated to the therapy. Fifteen days later, an extensive necrosis developed from both hind limb extremities, and owner request euthanasia. Necropsy revealed extensive thrombus, from distal aorta, through the iliac bifurcation, the right iliac artery until both femoral arteries. Another thrombus extended from the posterior vena cava to the femoral vena. Histology revealed lesions of glomerulonephritis. Aortic thromboembolism leading to occlusion of the distal aorta and often the iliac and femoral arteries with subsequent ischemia of hindlimbs is a cause of posterior paresis and paralysis rarely observed in dogs. In visceral leishmaniasis, renal failure is a common feature, being nephrotic syndrome associated to thromboembolism very rare. Nephrotic syndrome leads to urinary antithrombin III losses, due to its low molecular weight, and consequently to thromboembolism. Aortic thromboembolism should be added to the list of leishmaniasis complications.

LEPIDOPTERISM IN A DOG – AN UNUSUAL TWO-STAGE DEVELOPMENT OF LESIONS

M.M. Rodeia Niza[1], R.L. Ferreira[2], I.V. Coimbra[2], H.M. Guerreiro[2], C.L. Vilela[1]

[1]CIISA/FMV, Faculty of Veterinary Medicine Lisbon, Rua Prof. Cid dos Santos, Lisbon, Portugal; [2]AZEVET, Clínica Veterinária de Brejos de Azeitão Lda, EN10 nº453, Brejos de Azeitão, Portugal

Exposure to larvae of pine processionary caterpillar (Thaumetopoea pityocampa), usually by direct contact, leads to a rapid and exhuberant allergic response to caterpillar's hairs, rich in thaumetopoein. In dogs, clinical signs include lingual, sublingual and submandibular oedema, facial pruritus, ptyalism, vomiting, and sometimes ocular signs. The most frequent sequel is partial lost of the tongue, following a necrotizing process. In the present case, the lesions developed in two-stages, with 4-days interval. A 10-months old bitch was presented five hours after contact with *Thaumetopoea pityocampa* with a history of sudden ptyalism, vomiting and facial pruritus. She showed lingual necrosis and severe discomfort. Oral cavity was flushed with pressurized water, to eliminate the majority of urticating hairs. Methylprednisolone sodium succinate and amoxicillin/clavulamic acid were administered. By the third day, the necrotized portion of the tongue was lost and the animal apparently recovered, eating normally. By the fourth day, she stopped eating and lesions of labial and *mentum* necrosis were noticed, accompanied by conjunctival hyperemia and corneal ulceration. Muzzle clipping and local disinfection were performed, treatment was maintained and the animal was fed through a nasogastric tube. A topical ointment of chloramphenicol was applied TID in the eye. Necrotized tissues were gradually eliminated. The animal was discharged 5 days later, with labial and lingual lost. This case's evolution is very atypical, with lesions developing in two-stages, with a 4-day interval. The late labial and *mentum* involvement is consistent with a continuous liberation of thaumatopoein persisting in the long hair of the animals' muzzle.

DIAGNOSTIC TOOLS IN RENAL DYSFUNCTION IN GUINEA PIGS

M.L. Ruelokke, J. Koch, A.L. Jensen

Dept. of Small Animal Clinical Sciences, Dyrlaegevej 16, 1870 Frederiksberg C, Denmark

20 guinea pigs, 10 of which were reported polydipsic by the owners (PD group) and 10 with normal water intake (C group) were examined for renal disease. After clinical examination the guinea pigs were anaesthetised, blinded and randomized and underwent renal ultrasonography, urine and blood sampling. The ultrasonographic findings were classified as 0 for no abnormalities indicative of renal dysfunction and 1 for abnormalities indicative of renal dysfunction. The C and PD group were subdivided into a C0, C1, PD0 and PD1 group according to these findings. Blood was analysed for urea, creatinine, glucose, fructosamine and PCV. Urine was analysed on urine dipstick for pH, blood, protein, glucose and density and a microscopic examination was done. The results were analysed and the groups were tested against each other for statistic significance by a Kruskal-Wallis and a Dunn's test ($p<0.05$). 2 animals from the PD group were euthanised and the kidneys sent for histopathology. 4/10 animal had renal changes on ultrasonography, all from the PD group, giving 3 groups: C0 (n=10), PD0 (n=6) and PD1 (n=4). Blood test results showed no stastistic significance between groups for all tested parametres. Urine test results showed pH >8.5 and no glucose in 20/20 samples. For density and protein no statistic significance between groups were found. Blood was found on dipstick in 12/20 urine samples evenly distributed between groups. On microscopy red blood cells were found only in 4/20 samples, all 4 were positive for blood on dipstick. Histopathology of kidneys showed bilateral chronic nephrosclerosis in both cases, which correllated well with the ultrasonographic findings. In conclusion blood and urine tests do not seem as good diagnostic tools as in dogs and cats. Other parameters as serum amylase could be considered. Ultrasonography seems useful for diagnosing renal disease in guinea pigs, but further investigation is needed.

SEROPREVALENCE OF TOXOPLASMA GONDII ANTIBODIES IN CATS

S. Savic-Jevdjenic[1], B. Vidic[1], Z. Grgic[1], E. Misic[2]

[1]Scientific Veterinary Institute "Novi Sad", Rumenacki put 20, Novi Sad, Serbia; [2]Private practice "Misic", MAtice Srpske 16, Novi Sad, Serbia

Cats are the only species that pass the environmentally resistant oocyst in feces and sporulated oocysts are infectious to humans and other animals. This is the reason why cats were always accused to be the main source of Toxoplasma gondii infection and very often they have no clinical signs. A seroprevalence study of Toxoplasma gondii antibodies was performed in household and stray cats (92 cat sera were examined: 60 household cats and 32 stray cats). The survey for the determination of antibodies for Toxoplasma gondii was done by the usage of complement fixation test technique. The overall seroprevalence was 17.3%. The infection rate in stray cats was higher (35.8%) than in household cats (15.2%). Last serum positive dilutions varied from 1:40 to 1: 640, for the both groups of cats. All of the cats were adult ones, so the correlation between the age and the rate of infection was not observed and most of them were females (90%), so the difference between sexes was not significant. None of the cats had any clinical signs. Gained seroprevalence results among the cats are significant, especially among stray cats, since they usually live close to humans or other animals, and can be the source of toxoplasmosis.

AN UNUSUAL CASE OF CONCURRENT METAPLASTIC OSSIFICATION ASSOCIATED WITH SERTOLI CELL TUMOR AND PARAPROSTATIC CYST IN A GERMAN SHEPHERD DOG

M. Selk Ghaffari[1], N. Khorami[3], O. Dezfolian[2], M. Massodifard[3]

[1]Department Of Clinical Science, Faculty of Veterinary Medicine, Islamic Azad University Karaj-Branch, Karaj, Iran; [2]Department of Veterinary Medicine, Faculty of Agriculture, Lorestan University, Khoramabad, Iran; [3]Department of Clinical Science, Faculty of Veterinary Medicine, University of Tehran, Tehran, Iran

A 9–year–old male German shepherd dog was referred for investigation of a two- months history of progressive straining during defecation, and intermittent hematuria. Complete series of laboratory tests performed. Hyperestrogenism was the main paraclinical finding. Based on plain and Contrast radiographic studies, a provisional diagnosis of paraprostatic cyst was

made. Exploratory laparotomy was performed. Histopathologic examination of specimens obtained following the surgery confirmed an exceptional finding of bone metaplasia in sertoli cell tumor and paraprostatic cyst. Although osseous metaplasia has been reported in paraprostatic cyst, but concurrent similar metaplastic changes associated with sertoli cell tumor have not been described in veterinary literature.

EFFECTS OF A FASCIAL REPLACEMENT TECHNIQUE FOLLOWING INTERCONDYLAR NOTCHPLASTY IN DOGS

A.L. Selmi, J.G. Padilha Filho, B.T. Lins, G.M. Mendes, J.P. Figueiredo

Universidade Anhembi Morumbi, Rua Conselheiro Lafaiete, Sao Paulo, Brazil

Rupture of the cranial cruciate ligament (RCCL) is a common orthopedic problem in dogs. Several techniques have been described for the treatment of stifle instability following RCCL, but scarce information is available concerning the effects of intercondylar notchplasty (IN) on intra-articular fascial replacement of the cranial cruciate ligament. Eighteen stifle joints were operated, where 9 joints comprised the control group and 9 joints were submitted to IN. Dogs were evaluated prior to surgery and at days 1, 30, 90 and 180 postoperatively regarding the degree of lameness, stifle stability, thigh circumference, and degree of extension, flexion, range of motion, tibial rotation and degree of degenerative joint disease (DJD). Data were analyzed by means of ANOVA for repeated measures followed by an appropriate post-hoc test. Lameness was significantly greater following surgery in both groups, and decreased thereafter. Thigh muscle circumference was significantly decreased at days 30 and 90 post-op in both groups when compared to pre-op values, however at 180 days, thigh circumference was similar to pre-operative values in both groups. Stifle stability increased over time in both groups following surgery, however during stifle flexion, an equal number of joints showed some degree of instability. Maximum degree of extension, flexion, range of motion and tibial rotation was not affected by surgery in any group. Radiographic signs of DJD increased in both groups after surgery, however statistical significance was not observed between groups. It is concluded that IN does not cause any detrimental effect on stifle joint following intra-articular repair.

INTERCONDYLAR STENOSIS AFTER FASCIAL REPLACEMENT IN DOGS WITH CRANIAL CRUCIATE LIGAMENT RUPTURE

A.L. Selmi, J.G. Padilha Filho, BT. Lins, G.M. Mendes, J.P. Figueiredo

Universidade Anhembi Morumbi, Rua Conselheiro Lafaiete 64, Sao Paulo, Brazil

Rupture of the cranial cruciate ligament is a common orthopedic condition in dogs treated by several different surgical techniques. Stenosis of the intercondylar notch following transection of the cranial cruciate ligament has been studied in dogs but the effects of intercondylar notchplasty (IN) following intra-articular stabilization of the stifle has not been described. We determined the effects of IN prior to intra-articular stifle stabilization in dogs. Macroscopic and radiographic indexes for intercondylar notch width and notch height were evaluated in 18 stifle joints, where 9 joints comprised the control group (CG) and 9 joints were submitted to IN. Dogs were evaluated radiographically prior to surgery and at days 1, 30, 90 and 180 postoperatively. Data were analyzed by means of ANOVA for repeated measures followed by an appropriate post-hoc test. Following IN, notch width indexes were significantly greater, both radiographic and macroscopically, when compared to CG at any given time. Stifles in GC presented a progressive decrease in notch width indexes; however this was not statistically significant when compared to baseline values. In the stifles undergoing IN, a decrease in notch width index was observed over time from day 1 through 180, however mean values were significantly greater at any time in comparison to preoperative values. Notch height indexes did not vary over time in any group. It is concluded that IN caused an increase in notch width indexes following intra-articular fascial repair, although stenosis of the intercondylar fossa was not observed in the control group, which suggests that stability might be responsible for prevention of stenosis in the cranial cruciate ligament-deficient stifle.

IS BRUSH CYTOLOGY TRUSTABLE METOD FOR DETECTION OF DOG'S HELICOBACTER LIKE ORGANISMS?

A. Shabestari Asl[1], A. Bahadori[2], M.H. Soroush[3], A.T. Eftekhar Sadat[4]

[1]Islamic AZAD University Tabriz branch, Tabriz, Iran; [2]Islamic AZAD University, Tabriz, Iran; [3]Tabriz University, Tabriz, Iran; 4Tabriz EMAM med hospital, Tabriz, Iran

Helicobacter are spiral-shaped or curved Gram negative bacteria that inhabit the glands, parietal cells and mucus of the stomach. The large gastric HLO in dogs are indistinguishable by light microscopy, where they are seen as large, 5 -12µ long spirals. H. felis, H. bizzozeronii, H. salomonis, H. heilmannii have been found in the gastric mucosa of dogs. The prevalence of HLO infection in dogs is 67 to 86% of clinically healthy pet dogs, 74 to 80% of dogs presented for investigation of recurrent vomiting, and 100% of healthy laboratory beagles. In this research, we examined 40 healthy stray dogs randomly. Twenty of them were females and 7 of them were immature (table 1). All dogs were healthy and have good appetite. CBC was normal (see table 2). Endoscopic examination was established for taking of brush cytology after 16 hours fasting. All gastric specimens were taken from body and antrum area. They were examined by Gimsa's and gram's staining at the same time by light microscope. HLO were seen in many of these specimens (table3). The percentage of infection was high and even was seen in the immature stray dogs (table 4). By light microscopic taxonomy evaluation, different shapes and co-infection of gastric HLO were detected (figure 1-5). The aim of this study was detecting the rate of gastric HLO infection in dogs with brush cytology. Brush cytology appears an effective method to detection of HLO. This method is safer than biopsy and available. Determination of HLO with this method is simple and seems have a correct results because of large spiral shape of these organisms. But this method only shows the existence of these organisms and we dont able to confirm the presence of ulcers and erosions that will produced by these organisms.

PREVALENCE OF GASTRIC HELICOBACTER LIKE ORGANISMS (HLO) IN IRANIAN STRAY DOGS WITH BRUSH CYTOLOGY

A. Shabestari Asl[1], A. Bahadori[2], M.H. Soroush[3], A.T. Eftekhar Sadat[4]

[1]Islamic AZAD University Tabriz branch, Tabriz, Iran; [2]Islamic AZAD University, Tabriz, Iran; [3]Tabriz University, Tabriz, Iran; [4]Tabriz EMAM med hospital, Tabriz, Iran

Helicobacter are spiral-shaped or curved Gram negative bacteria that inhabit the glands, parietal cells and mucus of the stomach. The large gastric HLO ie, H. felis, H. bizzozeronii, H. salomonis, H. heilmannii have been found in the gastric mucosa of dogs. The reported prevalence of HLO infection in pet dogs is about 67 to 86%. However, this study is first report of natural infection of gastric HLO. In this research, we examined 40 healthy stray dogs randomly. Twenty of them were females and 7 of them were immature (table 1). All dogs were healthy and they have good appetite. CBC was normal (see table 2). Endoscopic examination was established for taking of brush cytology after 16 hours fasting. All gastric specimens were taken from body and antrum area. They were examined by Gimsa's and gram's staining at the same time by light microscope. Specimens also used for urease test too (table 3). HLO were seen in many of these specimens (table 4). The percentage of infection was high and even was seen in the immature stray dogs (table 5). By light microscopic taxonomy evaluation, different shapes and co-infection of gastric HLO were detected (figure 1-5). The occurrence of gastric HLO infection was similar to the prevalence of these organisms in the pet dogs (table5) that suggested for pets in references books. The aim of this study was detecting of the prevalence of natural infection of gastric HLO in stay dogs with brush cytology. With attention to the result; presence of HLO is similar to pet animals (table5). Brush cytology appears an effective method to detection of HLO. This method is safer than biopsy and available. Determination of HLO with this method is simple and seems have a correct results because of large spiral shape of these organisms. Further more, the prevalence of HLO in our stray dogs is high and there are no differences between prevalence of HLO healthy pet dogs (as reported in the references) and our study.

DIAGNOSIS OF MALIGNANT NASOPHARYNGEAL HISTIOCYTOMA IN A DOMESTIC SHORTHAIR CAT

S. Shibly[1], R. Hirt[2]

[1]Institute of Pathology and Forensic Veterinary Medicine, University of Veterinary Medicine Vienna, Veterinärplatz 1, Vienna, Austria; [2]Clinic of Internal Medicine and Infectious Diseases, University of Veterinary Medicine Vienna, Veterinärplatz 1, Vienna, Austria

Malignant histiocytic tumors are rarely seen in cats. To the author´s knowledge, this is the first report of malignant nasopharyngeal histiocytoma in a cat. A 12 years and 10 months old female spayed domestic short hair cat was presented with a history of coughing, retching and loss of appetite. Apart from mildly reduced skin turgor, the clinical examination was unremarkable. Blood tests revealed elevated total protein, all other parameters were within normal limits. X-rays of the skull were taken and showed increased opacity and widening of the nasopharynx (Fig. 1). Retrograde rhinoscopy was performed and a nasopharyngeal tumor located at the level of the soft palate was discovered (Fig. 2). Multiple biopsies were obtained. For the histologic examination the biopsies were fixed in formalin, embedded in paraffin wax, sectioned and stained with H & E. Besides inflammatory infiltration a neoplastic cell population resembling atypic histiocyts could be demonstrated (Fig. 3). Neoplastic cells stained negative for Cytoceratine-Ag, S-100-Ag and Toluidin-Blue. Positive Vimentin- and HLA-immunostaining confirmed the mesenchymal and histiocytic nature of the neoplasm (Fig. 4, 5). The application of immunohistochemical methods assisted the diagnosis of malignant histiocytoma in this case as routine H & E – staining did not yield distinct results.

Conclusions:

•As nasal neoplasia is a common finding in cats, importance has to be placed on accurate and early diagnosis in order to balance prognosis and therapy.

•Tentative diagnosis of nasal neoplasia demands the application of imaging techniques.

•Endoscopy features the advantages of a low stress procedure combined with high visibility and the possibility to obtain biopsy samples.

•Immunohistochemical stainings can be very useful in identification of poorly differentiated, high-grade malignant and uncommon tumors.

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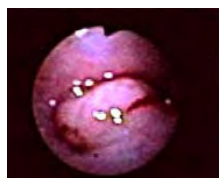

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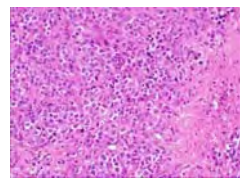

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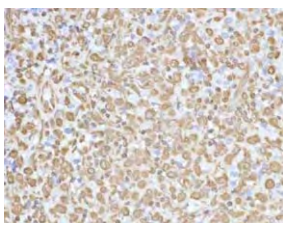

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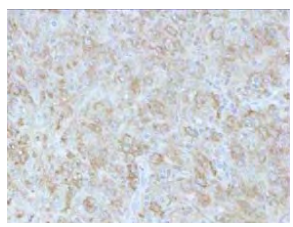

EXAMINATION OF SIDE EFFECTS OF SULFANAMIDE DRUGS CAUSING KERATOCONJUNCTIVITIS SICCA IN RABBIT

D. Shirani[1], A. Ali Asgari[2]

[1]Department of Clinical Science, Faculty of Veterinary Medicine, University of Tehran, Azadi, Tehran, Iran; [2]Private Clinic, Char Bag, Esfahan, Iran

The sulfanamides are one of the oldest recognized group of antibactrial agents. During the recent years sulfanamides have been used in combination with asynergistic compound called trimethoprim to potentiate their antibacterial action. These potentiated sulfanamids belong to the category of bactricidal drugs. Sulfanamides are used in the treatment of pet animal disease and are among the most commonly used drugs. When there is a renal disorder, the clinical side

effects are sedimentation and urinary crystals in dogs. Other side effects are cystic calculus as in dog, renal insufficency and azotemia in cats. One of the most common diseases caused by the long-time use of this drug is kerato conjunctivitis sicca in dogs. The main reason of which is low tear production. This dryness causes conjunctivitis and as a result corneal ulcer and blindness. Material and method: In this study a number of 35 rabbits with an average age of one year were studied in three groups of ten and one group of five as a case control group. Co-trimoxazol is used as 200mg/5cc oral suspension. The first group were treated with a dose of 30 mg /kg for 7days, the second group with 60 mg /kg dosage for 7 days, and third group with 30 mg /kg for 14 days. Schirmer tear test was used to measure the tear volume. Discussion and Result: the statistical test shows the two by two difference of average in all the cases of which there is a significant diffrence between the two averages with a 99% level of confidence and an error probability of 1% increased duration of drug adminstration from 7 to 14 days, caused a significant drop in tear secration rate.

EFFECTS OF CELECOXIB ON GASTRIC MUCOSA, HAEMOGRAM AND BLEEDING TIME IN DOG

A. Shojaee Tabrizi[1], A. Kamrani[2], H. Kazerani[3]

[1]Small Animal Department, University of Tehran, Azadi, Tehran, Iran; [2]Small Animal Department, University of Mashhad, Azadi, Mashhad, Iran; [3]University of Mashhad, Azadi, Mashhad, Iran

Nonsteroidal antiinflammatory drugs (NSAIDs) exert their antiinflammatory, analgesic and antipyretic effects by reducing synthesis of prostaglandins via cyclooxygenase (COX) inhibition. Despite the extensive applications of NSAIDs, both in human and in veterinary medicine, the use of these drugs is limited due to their sever adverse effects especially on gastric mucosa. Classic studies attribute the therapeutic and the adverse effects of NSAIDs to the inhibition of COX-2 and COX-1 respectively. Celecoxib, a COX-2 specific drug, has caused less gastric effects compared to the classic non-specific NSAIDs. However, to the best of our knowledge, gastric effects of this drug has not been studied yet. In this research, dogs (mixed Iranian breed) in groups of 5, received either celecoxib (3mg/kg; twice a day) or placebo (control) orally for 14 days. The haemogram was studies during the treatment and 3d after cessation of celecoxib (day 17). The lesions of gastric mucosa were also graded at days 0, 7 and 14 using standard gastroscopy according to the modified method of Murtaugh and his colleagues. The haemogram results (WBC, RBC and platelet counts as well as the levels of PCV, hemoglobin, MCV, MCH and MCHC) were not statistically different between the two groups. However, celecoxib increased the bleeding time 3d after cessation of the treatment. Besides, significant lesions were observed on gastric mucosa of celecoxib receiving dogs especially at day 14. These results suggest that celecoxib, due to its potential sever gastric effects, should be used cautiously in dogs.

A CANINE PARVOVIRUS TYPE 2 VACCINE PROTECTS DOGS FOLLOWING CHALLENGE WITH A RECENT TYPE 2C STRAIN

N. Spibey[1], N. Greenwood[1], I. Tarpey[1], S. Chalmers[1], D. Sutton[2]

[1]Intervet UK Ltd, Walton Manor, Walton, Milton Keynes, MK7 7AJ, U.K.; [2]Intervet International, Wim de Körverstraat 35, P.O. Box 31, 5830 AA Boxmeer, The Netherlands

Since the emergence of canine parvovirus type 2 (CPV2) in the 1970s, the virus has been evolving. The first variant which appeared was called type 2a, subsequently a second variant appeared and was called type 2b. The original type 2 virus now appears to have been replaced in the field by the type 2a and 2b variants. There is evidence that this evolution is continuing and reports of the emergence of a new variant - type 2c – have appeared over the last few years. The initial canine strain vaccines were based on the original type 2 virus. Concern has already been expressed as to whether these vaccines protect as effectively against the 2a and 2b variants, and the more recent appearance of CPV type 2c has again raised this question. One of the original live attenuated vaccines which is still widely used today was based on a type 2 field strain isolated in the UK (Nobivac® Parvo-C – Intervet). This vaccine has already been shown to protect dogs from both clinical disease and virus shedding following challenge with CPV type 2, 2a and 2b. The following study was set up to investigate whether this type 2 vaccine could also successfully protect

against challenge with a field isolate of the new type 2c variant. Twelve seronegative beagle dogs were divided into two equal groups. One group was vaccinated with Nobivac Pi and Nobivac Lepto at 8-10 weeks of age and Nobivac DHPPi and Nobivac Lepto three weeks later. The control group received no vaccinations. Four weeks following the second vaccination both groups of dogs were challenged with a recent field isolate of canine parvovirus type 2c. Blood samples, in order to monitor antibody response and leucocyte numbers, and rectal swabs, in order to detect any viral excretion post challenge, were taken at various intervals. Dogs were also clinically monitored from two days prior, to 14 days post challenge. In the unvaccinated control group all the dogs became severely ill. Three of the six control dogs had to be euthanised and although the three remaining control dogs survived they required supportive oral administration of electrolytes. In addition all of the unvaccinated control dogs shed parvovirus in their faeces for at least four days post challenge. In contrast all the vaccinated dogs remained clinically normal throughout the course of the study and no virus could be isolated from rectal swabs at any stage post challenge. This study demonstrates that a single dose of the Nobivac CPV vaccine is able to successfully protect against clinical signs of disease and prevent shedding of virus, following challenge with the recent type 2c variant of canine parvovirus.

EVALUATION OF SURGERY IN DOGS WITH DEGENERATIVE LUMBOSACRAL STENOSIS BY FORCE PLATE AND QUESTIONNAIR

N. Suwankong, B.P. Meij, N.J. van Klaveren, S. de Boer, E. Meijer, W.E. van den Brom, H.A. Hazewinkel

Department of Clinical Sciences of Companion Animals, Utrecht University, Yalelaan 8, Utrecht, The Netherlands

Introduction: Degenerative lumbosacral stenosis (DLS) in dogs results in compression of the cauda equina. The main clinical signs are low back pain and pelvic limb lameness. Treatment may consist either of rest and anti-inflammatory drugs or of decompressive surgery. Evaluation of the result of surgery can be done subjectively, through interviews with the owner, or objectively, by force plate analysis (FPA) of the gait of the dogs.

Aim of study: The aim of this study was to investigate the long term follow up after decompressive surgery in dogs with DLS using FPA and questionnaires to owners.

Materials and Methods: Thirty-one dogs with DLS underwent decompressive surgery consisting of dorsal laminectomy. FPA was performed before, and 3 days, 6 weeks, 6 months and ≥ 1.5 years after surgery. Questionnaires were answered by owners before and at 6 months and ≥ 1.5 years after surgery. Force plate data were analysed using the peak braking force (Fy+), the peak propulsive force (Fy-), and the peak vertical force (Fz+). The ratio between the total propulsive force of the pelvic limbs and that of the thoracic limbs (P/Tfy-) was calculated.

Results: The Fy- of the pelvic limbs and the ratio P/Tfy- were significantly smaller in dogs with DLS than those in the control group. The Fy- and P/Tfy- were significantly decreased at 3 days after surgery, and the values increased from 6 weeks to 6 months after surgery. The questionnaires reported significant improvement at 6 months and at ≥ 1.5 years compared with questionnaires before surgery. The majority of owners were satisfied with the results of surgery.

Discussion: Decreased propulsive forces in dogs with DLS and at 3 days after decompressive surgery may be the result from impairment of neural tissues. The Fy- and P/Tfy- increased over a 6 months follow-up period, but remained smaller than those in control dogs. Owners' questionnaires illustrate that decompressive surgery reduces the pain and restores normal companion animal function as experienced by owners. It is concluded that surgical treatment of dogs with DLS may result in restoration of propulsive force of pelvic limbs over a period of 6 months.

DIROFILARIOSIS - NEW DISEASE IN DOGS IN THE CZECH AND SLOVAK REPUBLIC

V. Svobodova[1], Z. Svobodova[1], V. Beladicova[2], D. Valentova[2], P. Forejtek[3], M. Svoboda[1]

[1]Faculty of Veterinary Medicine, University of Veterinary and Pharmaceutical Sciences, Czech Republic; [2]State Veterinary and Food Institute, Slovak Republic; [3]Institute of Wildlife Ecology University of Veterinary and Pharmaceutical Sciences, Czech Republic

The incidence of canine filariosis in Central Europe in the past was rare and associated with import. Movement of dogs across countries has contributed to spreading of filariae to new areas. We investigated occurrence of dirofilariosis in the Czech and Slovak Republic. Finding of microfilariae in blood of two dogs from Slovakia on occasion of haematological testing in May

2005 became an impetus for taking and analysing blood samples of other dogs. In Czech Republic we started investigation in December 2005 and January 2006. Slovak group consisted of 21 dogs and Czech group of 30 dogs. Microfilariae were detected using the Knott test and determinated with the histochemical method based on the activity of acid phosphatase. For serological detection of *D. immitis* antigen we used the PetChek® kit. In Slovak group we found positive 12 out of 21 dogs. We identified microfilariae of *D. repens* in 12 dogs and *D. immitis* in two dogs simultaneously with *D. repens*. Serological testing detected *D. immitis* antigen in 3 dogs. In Czech group we found positive 7 out of 30 dogs. Microfilariae were detected by the Knott test in 4 dogs but only in 1blood smear where agreed with *D. repens*. Serological detection of *D. immitis* antigen was positive in 3 dogs. No microfilariae *D. immitis* were detected. The intensity of infection of dirofilariosis has been still lower than in Slovakia. Dogs were without specific clinical signs only 1 of them from the Slovak Republic and *D. immitis* positive manifested higher weariness. **Conclusions: *Dirofilaria repens* and *Dirofilaria immitis* have colonized the Czech and Slovak Republic.**

IMPORTED EMERGING INFECTIONS OF TRAVELLING DOGS IN THE CZECH REPUBLIC

Z. Svobodova[1], V. Svobodova[1], E. Nohynkova[2], M. Svoboda[1]

[1]Faculty of Veterinary Medicine, University of Veterinary and Pharmaceutical Science, Brno, Czech Republic; [2]Department of Tropical Medicine, Bulovka Faculty Hospital, Prague, Czech Republic

In the Czech Republic, vector borne diseases - leishmaniosis, dirofilariosis, babesiosis and ehrlichiosis are classified as serious imported infections of dogs. In order to identify the risk of travelling and imported dogs to become infected we have examined a group of 97 (Group 1) dogs which were potentially at risk because they either travelled to or were imported from foreign countries endemic for these infections. The second group (Group 2) was set up from 80 non-travelling dogs living in areas of the Czech Republic with a potential risk of *Dirofilaria immitis, D. repens, Babesia canis* and *Anaplasma phagocytophilum* transmission. Vectors of these pathogens are commonly found in Czech Republic. The study was carried out from November 2003 to May 2006. For laboratory tests, samples of whole blood, blood serum and 2 fresh blood smears were obtained from each dog. As the vectors of leishmaniosis are not found in the Czech Republic, only dogs from the first group were examined. 10 (10.3%) out of 97 dogs from Group 1 examined for leishmaniosis were serologically positive using indirect hemagglutination test. Microscopical examination of stained smears from lymph node or bone marrow fine needle aspiration revealed the amastigotes of parasites in 7 dogs serologically positive the other three were free of amastigotes. Seven dogs, which were found positive during microscopical examination of lymph node aspiration, were suffering from serious clinical signs. The mosquito vectors of dirofilariosis are endemic in our country, so not only imported or travelling dogs (Group 1), but also dogs living only in the Czech Republic (Group 2) were examined. No animal out of a total of 97 dogs from Group 1 examined for dirofilariosis was positive. Seven animals (8.8%) out of a total of 80 dogs from Group 2 examined for dirofilariosis were positive. Acid phosphatase staining identified *D. repens* species in all the samples. PCR definitely confirmed *D. repens* diagnosis in these samples. 13 dogs (7.3%) out of 177 dogs examined for babesiosis were positive. All positive dogs were from the Group1. None of 80 dogs living in the area of the Czech Republic, where *Dermacentor reticulatus* ticks with a vector potential occur, was positive for babesiosis. *Rhipicephalus sanquineus* is a vector of *E. canis* which does not occur in the Czech Republic. None of the dogs (Group 1) examined for ehrlichiosis was positive. Intracellular morulae of *Ehrlichia canis* were not microscopically found and serologic tests (IFAT) were also negative in all animals. *Ixodes ricinus* transmits the agent of canine granulocytic ehrlichiosis/anaplasmosis - *A. phagocytophilum* in Europe. It is the most common tick in the Czech Republic. Only animals from the Group 1 were tested for *A. phagocytophilum* using both IFAT and microscopic examination. 8 (10%) out of 80 dogs examined for anaplasmosis were serologically positive. Intracellular morulae of *A. phagocytophilum* were not microscopically found. **All positive animals showed serious clinical signs of the respective disease and were treated accordingly. From our data we conclude that exotic diseases of travelling dogs seem to be important emerging infections in our country which veterinary practitioners must deal with. Methods of diagnosis, treatment and prevention must be discussed to avoid increasing risk of these infections in new regions.**

BABESIOSIS IN FALCONS

W. Tarello
Al Wasl Veterinary Clinic, Al Wasl Road, Dubai, United Arab Emirates

Babesia shortti causes a disease in falcons showing signs such as anorexia, somnolence, weight loss, vomiting, neurological symptoms and blood in stool. Results obtained following imidocarb dipropionate therapy performed on captive falcons from Kuwait and Dubai indicates that Babesia shortti is pathogenic, largerly present in the local population and responsive to imidocarb dipropionate.

TREMATODOSIS IN FALCONS IN THE MIDDLE EAST

W. Tarello
Al Wasl veterinary Clinic, Al Wasl Road, Dubai, United Arab Emirates

Strigea falconispalumbi is the causative agent of trematodiasis in falcons. However, little is known of its incidence and pathogenicity. I therefore reports the results of a survey on 1706 captive falcons from Kuwait, including the response to therapy with ivomec super.

DOPPLER IMAGING OF THE ORBITAL VASCULATURE OF THE NORMAL DOMESTIC SHORT HAIR CATS

D. Vosough, M. Masodifard
Faculty of Veterinary Medicine, University of Bahonar, Kerman, Iran

Introduction: Blood velocity parameters of the orbital and ocular vasculature can be no invasively assessed and measured by Doppler imaging. The purpose of this study was to blood velocity measurement in orbital vasculature.
Methods: A total of 4 (male) previously healthy DSH cats were selected. General Electrics Voluson 730-Pro ultrasound equipment with linear trapezoid 5-12 MHz transducer was applied for all the examinations. Vessels identified a majority of the time, include: external ophthalmic artery (EOA), and internal ophthalmic artery (IOA) and the following Doppler parameters were measured, peak systolic velocity (PSV) and diastolic velocity (EDV).
Results: Mean PSV, EDV, at the EOA were 13.3, 6.1, and the mean PSV, EDV, at the IOA were 12.8, 6.5, and 0.607.
Discussion: Doppler imaging has the potential for determining no invasively and consecutively the blood velocity parameters found in orbital and ocular diseases, including orbital inflammations and neoplasia; intraocular inflammations and neoplasia; vascular diseases including systemic vascular disease (hypertension) vasculopathies, and anemia; the glaucoma; and document able follow-up after medical and surgical treatment of these diseases.

POSSIBILITY OF THE USE OF THREE DIMENSION ULTRASOUNDS AND MEASURMENT OF OPTICAL LONG AXIS OF MIX BREED DOG

D. Vosough, M. Molaei, M. Masodifard
Faculty of Veterinary Medicine, University of Bahonar, Kerman, Iran

Introduction: The purpose of this study was to evaluate the possibility of taking three dimensional (3D) ultrasound images for better visualization of canine eye and also taking the normal values of the optical a long axis by using this technique.
Methods: A total of 16 (8 males and 8 females) previously healthy 2 years old mix breed dogs. General Electrics Voluson 730-Pro ultrasound equipment with "3D small parts" option of a 3D and 4D linear trapezoid 5-12 MHz transducer was applied for all the examinations. Ultimately the normal values of the optical long axis were measured from a line between cornea and optic disc in males and females, lefts and rights. All the obtained data were analyzed by paired sample T-Test statistically
Results: The 3D ultrasonography method was found to be suitable for ophthalmic purposes. The relationships and connections between vitreous membranous, retina, and ocular wall are finely displayed and due to the stored 3D ultrasound tissue information, The values of the optical long

axis in obtained 3D images were measured. There was a significant difference between male and female dogs but there was not any between left and right eye as it was expected (p<0/05).
Discussion: It was so fast that a real-time 4D reconstruction could be performed too. Axial ocular length is significantly longer in the human male than the female. In veterinary medicine, ocular biometry can be used in establishing lens implant size, calculating lens power, and estimating prosthetic globe size after enucleation.

A RARE CASE REPORT OF BILATERAL PATTELAR LUXATION IN A PERSIAN CAT

D. Vosough, M. Molazem

Faculty of Veterinary Medicine, University of Kerman, Kerman, Iran

Introduction: Patellar luxation may result from malformation of the femoral trochela, poor alignment between the distal femur and the proximal tibia or rotation of the proximal extremity of the tibia. This abnormality results in the patellar straight ligament being out of line with the trochlear groove. Lateral luxation of the patellar is occasionally seen in large dogs with valgus deformity(2). In cat patellar luxation is a very rare event and bilateral luxation of that is much more rare(3).
Case report: 5 months old, male DSH cat was refferd to the Small animal Clinic of University of Tehran, which had a history of lameness of both hind limbs. The prior history was unknown but after clinical examination abnormality in both stifles was highly suspected, it also had a painful stifle joint on deep palpation of pattelars. In clinical examination; the patella will often spontaneously relocate when the problem resolves immediately. Then radiography was taken on craniocaudal, mediolateral, and skyline views of both stifles and these radiographs revealed: Medial patellar luxation was more in the left stifle than the right one. Left and right stifle showed grade four patellar luxation according to Anderson's classification(1). Developmental medial patellar luxation is associated with other anatomical abnormalities of the medial bowing of the proximal tibia and medial rotation of the tibia tuberosity. After final diagnosis the case was refferd to surgical treatment.
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RADIOLOGICAL AND PARASITOLOGICAL DIAGNOSIS OF OTITIS MEDIA IN A DOMESTIC SHORT HAIR CAT (DSH)

D. Vosough, S. Norolahifard

Faculty of Veterinary Medicine, University of Kerman, Kerman, Iran

Mange was diagnosed in a male two years old DSH cat with clinical signs of, fever, Anorexia, vomiting, restlessness, ataxia, sever pruritus, tilting of head to right side, popular lesion in ear margin and face and thick mucosal malodorous exudates from right ear referred to Department of Small animal, school of veterinary medicine, Shahid Bahonar University of Kerman. In Paraclinical examination Leococytosis and Eosinophilia was observed. In Ventro-Dorsal position of head and Rostro-Caudal- open mouth radiography an increase of opacity of tympanic bulla and ring of calcification was obvious in right ear. External otitis in left ear was not remarkable in compare with right ear. In parasitological examination the mites were identified morphologically as *Notoedred cati* in exudates after examination microscopically in 10% KOH solution to detect the presence of mites. For treatment Prednisolone, Ivermectin with dose of 400 microg/kg subcutaneously applied together with antimicrobial therapy with chloramphenicol topically and a pre wash of the entire skin surface with sulfurated soap.
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THE HYDATID CYST OF THE LUNG IN A MONKEY - A CASE REPORT

D. Vosough, S. Nourollahi Fard

Faculty of Veterinary Medicine, University of Kerman, Kerman, Iran

A male three years old monkey with clinical signs of, respiratory dyspnea, hemoptysis, cyanosis, anorexia, and diarrhea, referred to Department of small animal, school of veterinary medicine, Shahid Bahonar University of Kerman, in clinical examination respiratory rales in auscultation of respiratory sounds was heard in right and left cranial and caudal lobs of lung because of Bronchpulmonary infection. The diagnosis of pulmonary cysts was established with radiography. In Ventro-Dorsal and Lateral position of thoracic and peritoneal region an increase of opacity of lobular nodules was obvious in cranial and caudal lobes. There was a distention of stomach and intestine by gas. The case died because of severe respiratory dyspnea. In mortem examination of respiratory system diagnosis of pulmonary hydatid cyst confirmed by parasitological examination and detection of protoscolex in cyst.

IMMUNOGENOUS AND PROTECTIVE ABILITIES OF RECOMBINANT VACCINE AGAINST CANINE BORRELIOSIS

V. Vrzal[1], J. Tuháčková[1], J. Nepeřený[1], J. Chumela[1], E. Weigl[2]

[1]Bioveta, a.s., Komenského 212, Ivanovice na Hané, Czech Republic; [2]Faculty of Medicine, Palacky University, Hněvotínská 3, Olomouc, Czech Republic

Ten dogs were vaccinated using an experimental vaccine containing recombinant OspA and OspC proteins of serospecies Borrelia burgdorferi, Borrelia afzelii and Borrelia garinii. Two dogs without vaccination were used as controls. A challenge test was accomplished using the natural way of contact (with infected common ticks – Ixodes ricinus). Blood samples for serological examination were collected after the immunisation prior to and after the challenge. An autopsy was performed 2 months after the challenge and samples were collected for the culture detection of borrelia from the predilection organs. Culture detection was performed also after the challenge prior to autopsy from biopsy skin samples. It was verified that the experimental recombinant vaccine induces specific antibodies against OspA and OspC proteins and results in protection against borrelia during natural infection from common ticks – Ixodes ricinus. Results from project of MPO - FD-K3/100 were used in the presentation.

CASES OF POISONING IN OUR CLINICAL PRACTICE

I. Vucicevic, M. Jovanovic

[1]Faculty of veterinary medicine, Bul. oslobodjenja 18, Belgrade, Serbia

During two years of my practice in hospital for the small animals on Faculty of veterinary medicine in Belgrade there were 25 cases of dogs poisoning. In 13 accidents the cause of intoxication were rodenticides (Warfarin, Brodifacoum). Anticoagulant rodenticides caused internal bleeding. The poisoned dogs had symptoms of bleeding from anus and gums were paled. Sometimes bloody urine or stool is evident or nose bleeding may be seen. Six of the dogs were poisoned with creosol (4,6-dinitro-o-cresol) and their body temperature was over 40 °C. We noticed two cases of poisoning with ethylene-glycol. Dogs exhibited vomiting due to gastrointestinal irritation, polydipsia and polyuria, and neurologic signs (depression, ataxia, etc.). One patient who consumed thinner had a serious injury of tongue and oral mucosa. Drugs should be kept out of the range of pets, because we had two cases of ibuprofen toxicosis and one antidepressant drug overdoses. Vomiting, abdominal pain, hematemesis and diarrhea can be seen within 24 hour of ibuprofen ingestion. Antidepressant drug overdose may cause hypotension, ataxia, restlessness, arrhythmia, respiratory depression and coma. Mentioned in all cases the owners saw when their dogs had taken those poisons. In few cases dogs had symptoms of poisoning, but the owners weren't sure if they had eaten something that could be toxic. In this cases the a suspicion of poisioning was diagnosed. The patient had recovered succsesfuly after they got apropriate therapy, except two dogs who passed away because of consecvenses of cresol poisoning. Dog owner education is the most effective method to prevent toxicosis in dogs.

EFFECT OF BENAZEPRIL ON SYSTEMIC BLOOD PRESSURE IN DOGS WITH HEART FAILURE

S.Y. Wu, H.P. Juany

Department of Veterinary Medicine, National Taiwan University, Roosevelt road, Taipei, Taiwan

The aim of this study was to evaluate the effect of benazepril on the systemic blood pressure in dogs with heart failure. Twenty client-owned dogs presented with clinical signs related to heart failure were investigated. The diagnosis of heat failure of these 20 dogs was based on clinical signs, chest radiographs, electrocardiography, and echocardiography. The systemic blood pressure was measured using by Doppler ultrasonographic sphygmomanometry. For each dog, the systemic blood pressure was measured before and after benazepril administration regularly at 1 to 2 week intervals for 16 weeks. During these 16 weeks (benazepril 0.1 mg/Kg, q 12 hours), improvements of clinical signs, including cough, tachypnea, appetite, and exercise endurance, were evaluated by both the clients and veterinarians regularly. Clinical improvement was clearly recognized toward the end of 16 week-course of benazepril administration in all 20 dogs. The mean systemic blood pressure before benazepirl administered was 142.1 ± 22.6 mmHg. The mean blood pressure after 16 week-course of benazepril was 139.6 ± ± 17.1 mmHg. No significant difference of the mean blood pressure before and after benazepril (P=0.54) was observed. No substantial changes of systemic blood pressure were found to be related to benazepril doses (P = 0.36). The result of this investigation indicated that benazepril (0.1 mg/Kg, q 12 hours) did not affect the systemic blood pressure in dogs with heart failure.

EMERGENCE OF MYCOPLASMOSIS IN DOGS

S. Yadav

Dept. of Epidemiology & Veterinary Preventive Medicine, AGRA ROAD, Mathura, India

In a study on dog mycoplasmas 61 samples collected from 28 street dogs, out of which 15 are normal, 2 were suspected for arthritis, 5 for pneumonia, 3 were infertile and 2 were parvovirus suspected. Samples from 33 domestic dogs were also collected out of which 11 were from infertile dogs, 7 were from pneumonia, 8 were parvo virus suspected, 3 were from fever and digestive problems and one each was suspected for paralysis and abortion. These samples were tested for possible presence of pathogenic mycoplasmas causing pneumonia, arthritis, infertility and abortions. Out of 61 samples two species of mycoplama were detected in present study from german shepherds dogs having genital problems. These mycoplasmas were able to reproduce the disease in control dogs and produced death in control pups. The study also showed the importance of mycoplasmas in breeding and rearing practices in canines.

CLINICAL EFFECTIVENESS OF LLLT IN 100 CANINE PATIENTS WITH ORTHOPEDICS

A. Yasukawa[1], T. Satoh[2], M. Kaneko[3], Y. Koyama[1], M. Nagai[1], K. Takakuda[1]

[1]Institute of Biomaterials and Bioengineering, 2-3-10 Kanda Surugadai, Chiyoda-ku, Tokyo, Japan; [2]Nishiogi Veterinary Medical Hospital, 4-4-5 Nishiogi-kita, Suginami-ku, Tokyo, Japan; [3]Kamishakujii Veterinary Medical Hospital, 1-4-13 Sekimachi-higashi, Nerima-ku, Tokyo, Japan

Following the world's first successful laser emission by Maiman in 1960. Laser technology was first applied to medicine in 1961 for the photocoagulation of detached retinal lesions. Since then, lasers have been used in a variety of clinical fields including selective resection and vaporization of tumor tissues, lithotripsy, vascular anastomosis, irradiation of local infectious agents, pain and inflammation control, photostimulation of nerve fibers and local blood circulation. Clinical applications of lasers are largely divided into thermodestructive therapy and nonthermal phototherapy [6]. The former, generally referred to as high reactive-level laser treatment (HLLT), uses laser-generated heat to obliterate target tissues. On the other hand, the latter low reactive-level laser treatment (LLLT) is based on biostimulation or bioactivation by laser light, although the mechanism of bioactivation by LLLT has not been clearly understood. In veterinary medicine, HLLT has been used for the surgical resection of tumors since the 1980s, while LLLT has become clinically applicable since the early 1990s for pain relief, inflammatory

control and rehabilitation in various surgical and orthopedic disorders, especially wound healing, hip dysplasia, patellar luxation, spondylosis deformans, osteoarthritis, intervertebral disc herniation, bone fracture, contusion and other types of luxation. In this report, we conducted a double-blind trail of LLLT in 100dogs with orthopedic conditions to examine the clinical significance of laser phototherapy

TREATMENT OF CANINE DIABETES MELLITUS USING MOMORDICA CHARANTIA CAPSULE WITH INSULIN HORMONE

S. Yibchok-anun, P. Pusoonthornthum, K. Thungrat, K. Ousilamongkol, L. Chaiyahong

Chulalongkorn University, Henridunant, Bangkok, Thailand

Objectives: The purpose of this study was to determine the effect of the *Momordica charantia* capsule, combined with insulin hormone on the treatment of naturally occurring diabetes mellitus dogs.

Materials & Methods: Twelve client-owned dogs with naturally occurring diabetes mellitus at Small Animal Hospital, Chulalongkorn University were entered into the study. All dogs received subcutaneous insulin therapy and they were fed with a commercially available low-carbohydrate canned canine diet. Eight dogs which were randomly assigned into a treatment group received 1000 mg/10 kg body weight of *Momordica charantia* capsule orally every 12 hour with meals for three months and increased dose to 2000 mg/10 kg body weight for the next 2 months later. Other 4 dogs were randomly assigned into a control group and did not receive *Momordica charantia* capsule. Monthly fasting blood glucose and serum fructosamine concentration were obtained, and used to adjust insulin dosage for individual requirement.

Results: In treated dogs, serum fructosamine concentrations were slightly decreased from 596.00 ± 94.49 µmol/l to 520.88 ± 151.91 µmol/l after receiving 1000 mg/10 kg of MC capsule for three months and they were significantly decreased to 465.75 ± 171.16 µmol/l, after receiving 2000 mg/10 kg of MC capsule for two months. However, the fasting blood glucose concentration was not significantly different in both treatment and control groups. In addition, the MC capsule could not help to decrease the dosage of insulin requirement.

Conclusion: The use of MC capsule improved glycemic control in naturally occurring diabetes mellitus, but could not reduce or replace the exogenous insulin hormone.