To assess the safety and efficacy of PALFACE® (Dextromoramide) for sedation prior to euthanasia, a clinical study was performed. Forty-two dogs which were about to be euthanatized were included by 7 veterinary practices. Patients were sedated with an i.m. dose of Dextromoramide (0.4, 0.6 or 0.8 mg/kg) or the combination of Dextromoramide (0.6 mg/kg) with Acepromazine (0.1 mg/kg). Degree of sedation was assessed using the Ramsay sedation scores every minute during 15 minutes after the first injection. Adverse events occurring during sedation and euthanasia were recorded.

A Dextromoramide dose of 0.4 mg/kg gave unsatisfactory sedation. Sedation was satisfactory for most of the patients treated with the other dosages. Mean time to reach a sedation score of 4 or 5 decreased with higher dosages. In three (heavy overweighed) patients a supplemental dose of 0.2 Dextromoramide/kg had to be given. Mean time to reach a sedation score of 4 did not differ considerably between the dose of 0.6 mg Dextromoramide/kg and this dose in combination with 0.1 mg Acepromazine/kg. Mean time to reach a score of 5 was however shorter with the combination. Severe excitation occurred in 2 small and relatively old dogs. Involuntary defecation and flatulation occurred occasionally. PALFACE® in a dose of 0.6 to 0.8 mg Dextromoramide/kg is safe and effective for sedation prior to euthanasia. A higher dose may be considered in very heavy or overweighted dogs. Comedication with Acepromazine may give a more profound sedation and may decrease the incidence of side effects.

Skin ulcers occur in cats by fighting, injuries, surgery, infections and etc. Wound healing is an important phase of skin treatment; therefore, use of drugs is important for management of skin wounds. Benzoyl peroxide has been shown to be absorbed by the skin where it is converted to benzoic acid. Benzoyl peroxide is a keratinoplastic agent that has other effects such as local anesthesia, anti-pruritic, anti-bacterial, anti-inflammatory action and follicle flushing. With attention to benzoyl peroxide skin effects, promotion of wound healing seems to occur.

In this study we used fifteen healthy stray cats. After skin examination and rollout of presence of skin parasites, we used anti-helminthic therapy. One day after shaving, we make three surgery sections in the thoracic region. After creation experimental wounds, we used 3% and 5% benzoyl peroxide lotion for stimulation of wound healing. Pathologic specimens acquired in first, 5th and 14th days of study. All cats wore an Elizabethan collar and were examined for wound healing every day. In the clinical study, complete wound healing with benzoyl peroxide was seen earlier than the natural healing (figure 1-2).

Pathologic study peruses inflammation, angiogenesis and collagen production. Collagen production with 5% dilution shows significant differences and there is a significant difference in inflammation with usage of 5% dilution in 5th days of our study.

With attention to the results, we think benzoyl peroxide is a benefit agent for promotion of wound healing and this effect seems to be occurring with keratinoplastic and angiogenesis effects and prevention of inflammation.

The Anti-emetic Efficacy of Maropitant (Cerenia®) in the Treatment of Ongoing Emesis Caused by a Variety of Underlying Clinical Aetiologies in Canine Patients in Europe.

Maropitant (Cerenia®, Pfizer Inc.) is a new anti-emetic for dogs and the first veterinary NK1-receptor-antagonist. Presented are the results of a randomised masked controlled European patient-study assessing in two phases the efficacy of maropitant compared to metoclopramide.

In phase I, 32 dogs were treated with maropitant (1 mg/kg s.i.d.) and 34 with metoclopramide (1 mg/kg/day divided into 3 administrations), hospitalised and video-recorded. In phase II, 77 dogs were treated with maropitant and 40 with metoclopramide (0.5 to 1 mg/kg/day divided into 2 to 3 administrations reflecting different national labels), and hospitalised or discharged from hospital according to veterinary needs. Efficacy assessment was based either on the number of vomiting events observed on the videos or observations by clinic personnel and/or owners.

In phase I, 97% of maropitant-treated dogs did not vomit compared with 71% of metoclopramide-treated dogs (P<0.01) and the least squares mean number of emetic events following maropitant was significantly reduced compared with metoclopramide (0.002 vs 0.314, P=0.01). In phase II, 87% of maropitant dogs did not vomit compared with 50% of metoclopramide dogs (P<0.0001).

A single daily dose of maropitant was significantly more effective than metoclopramide administered two or three times daily.

Results of radioactive iodine (I-131) treatment of cats with hyperthyroidism

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Feline hyperthyroidism can be treated by thyroidectomy, antithyroid drugs, or radioactive iodine. The aim of this study was to evaluate treatment with iodine-131 (I-131) of feline hyperthyroidism. This retrospective study comprised 83 hyperthyroid cats. Blood samples for determination of plasma thyroxine (T4, reference range 10-50 nmol/L), urea, and creatinine concentrations were collected before, 10 days after, and several months after treatment. In addition, arterial blood pressure was measured before and 10 days after treatment.

The median plasma T4 concentration 10 days after I-131 treatment (27 nmol/L, n=64) was significantly lower (P<0.001) than that before treatment (123 nmol/L). Ten days and several months after I-131 treatment, plasma T4 concentration had decreased below 50 nmol/L in 64 (77%) and 72 cats (87%), respectively. In 6 of the 83 cats, plasma T4 concentration remained above 70 nmol/L. In 4 cats the plasma T4 concentration had decreased below 10 nmol/L, but only 1 cat showed clinical signs of hypothyroidism. Plasma urea and creatinine concentrations had not increased 10 days after I-131 treatment, but the median plasma creatinine concentration was significantly higher (P<0.002) several months after treatment. Before treatment 28 cats had an arterial blood pressure >180 mmHg, whereas after treatment 25 cats had a high arterial blood pressure. The median arterial blood pressure after treatment did not differ significantly from that before treatment.

The results of this study indicate that I-131 treatment is a highly effective therapy in most cats with hyperthyroidism. In addition, the results illustrate that a high proportion of cats with hyperthyroidism has arterial hypertension.
Dirofilariasis is widely distributed in tropical areas, being recognized in our previous study on blood parasites in this region. Heartworm disease may vary from asymptomatic to severe life-threatening disease. In order to determine the prevalence of heartworm infection in shepherd dogs, the total number of 129 dogs have entered into the study in a period of March till June 2006. The dogs were mostly mongrels, with different age (vary from 1 to 10 years) and sex (male = 116, female = 13). After history taking the complete clinical examination were recorded. Blood samples were collected from the cephalic vein transferred in ice to parasitology lab of the faculty of Veterinary Medicine of Urmia University. Thin and thick blood smears were prepared to detect the microfilaria. Modified knott's test was used to confirm the results. The results indicated that 32 (%24) samples infected to dirofilaria immitis. Clinical examination of the dogs revealed no severe life-threatening feature of the disease. There were no significant differences in Dirofilaria infection among different gender, age and area the samples collected. High prevalence of asymptomatic Dirofilaria in shepherd dogs in this area underlines the needs for further studies and using preventive and yearly controlling programs.
The use of sotalol in Dobermanns
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Sotalol, a class III antiarrhythmic drug and a beta-blocker, may retard but not prevent sudden death in Dobermanns. Side effects of sotalol are due to the beta-blocking effect and the possible development of torsades de pointes. Careful attention of dose, ventricular function and presenting arrhythmia can diminish the risks of sotalol.

A 10 year old Dobermann male was presented with a heart rate exceeding 180 beats per minute (bpm). Electrocardiography (ECG) showed 72 ventricular premature complexes (VPC) per minute which is indicative for the occult stage of dilated cardiomyopathy (DCM). Syncopes did not occur. Echocardiography showed a left ventricular internal diastolic dimension (LVIDd) of 44 mm and a fractional shortening (FS) of 30 percent. The dog was treated with furosemide and an ACE inhibitor. Sotalol (40 mg PO q12h) was used to reduce the VPC.

Echocardiography after six months showed a FS of 21 percent and a hypo kinetic septum. For this reason pimobendan was added. After 12 months the FS was 30 percent again. The LVIDd did not change. ECG showed no VPC after 6 and 12 months, the heart rate was 120 bpm. The dog is still in good health and does not show any syncopes, dullness or dyspneu.

Reference

Perianal Neoplasia in Dogs: 33 cases
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Tumors of the perianal area of dogs are common and include multiple tumor types. The aim of the study was to present clinical, surgical and histopathological results of the perianal neoplasia. Thirty three dogs with perianal neoplasia were presented at Department of Surgery Faculty of Veterinary Medicine Ankara University. 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 case, complete resection were carried out in the operation. In histopathologic examination perianal gland adenoma (n=15), hepatoid gland epithelioma (n=3), hepatoid gland carcinoma (n=1), lipoma (n=2), squamous cell carcinoma (n=3), rhabdomyosarcoma (n=1), sebaseose carcinoma (n=1), fibromyosarcoma (n=1), basal cell carcinoma (n=1), hemangiosarcoma (n=1), perianal gland adenocarcinoma (n=3) and rhabdomyoma (n=1). Recurrence were seen in four cases which were diagnosed as fibromyosarcoma, sebaseose carcinoma and perianal gland adenocarcinoma. Permanent faecal incontinence was seen in none of the dogs.

The objective of the study was to report electrodiagnostic findings of cervical disc disease of 24 dogs. Medical record of dogs admitted for cervical pain and/or tetraparesis were reviewed, and cases having cervical disc disease which was diagnosed by MRI between November 1997 and June 2006 were included in the study presented here. Spin echo T1 and T2 weighted images on transverse and sagittal sections were evaluated regarding to intervertebral discs, vertebral canal and spinal cord. Extrusion (n=7), protrusion (n=2) and bulging (n=1) at the single intervertebral disc space (IVD) was diagnosed. In the other dogs extrusion and/or protrusion with bulging, extrusion and/or protrusion with disc degeneration at more than one IVD was diagnosed. The extruded disc material was located at the central (n=7), right (n=5) and left (n=1) and the protruded disc material was located at the central (n=8), left (n=4), right (n=2). The most frequently affected IVD was C2- C3 (n=11), followed by C5-6 (n=9), C6-7 (n=9), C3-4 (n=8), C4-5 (n=5), C7-T1 (n=3). Besides diagnosing disc disease, edema of spinal cord (n=11 dogs), epidural hemathoma (n=2 dogs) hydromyelia (n=3 dogs), syringohydromyelia (n=3dogs) were also observed on MRI examination.

In conclusion, precise diagnosis of disc disease and concomittant disorders can be revealed by the Magnetic Resonance Imaging technique.


Electrodiagnostic Evaluation of Traumatic Disease of the Brachial Plexus

The objective of the study was to report electrodiagnostic findings of the traumatic disease of brachial plexus (TDBP) in dogs and cats. Standard motor nerve conduction and/or sensory nerve conduction studies, somatosensory evoked potentials (SEP) and needle electromyography in forelimb and paraspinal muscles were performed for diagnosis. Injured areas were examined in 3 cases (1 dog, 2 cats) after euthanasia and in 10 cases (4 dogs, 6 cats) during the operation. The types of lesions identified by electrophysiological examination were avulsion of isolated radial nerve roots in 7 cats and 5 dogs, and injury of isolated radial nerve in 2 dogs and 4 cats. Rest of the cases had avulsion (8 cats, 7 dogs) or injury (3 cats) of radial nerve concomitant to nerve involvement of the other forelimbs. In conclusion, the possibility of involvement of associated nerves in addition to the radial nerve should be kept in mind, while avulsion-type injuries are also dominant in dogs and cats with TDBP.

**THP, PANTARSAL ARTHRODESIS IN ONE DOG**
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A Doberman was visited three days after a collision. The dog showed a coxofemoral luxation, medial malleolus fracture with avulsion of the medial collateral ligament and loosenig of the soft tissue of the medial tarsal joint compartment and tibio-tarsal joint luxation; all on the right leg. After 24 hours tibiotarsal surgery was performed; the medial collateral ligament rupture was treated with screws and wire; it was impossible to reduce coxofemoral luxation manually (1,2). One month after the first surgery a Zurich cementless THP was performed because of a cartilagineous lesion of the femoral head and dorsal acetabolar rim with an osteoarthrosis evolution. Post-operative X-ray showed the correct implant positioning even if the surgery was very difficult because the contracture of the mass muscles was very strong. Two months later the dog showed a tarsal implant’s severe infection due to owner’s carelessness so it was performed a pantarsal arthrodesis. During the last clinical examination (6 months ps) the dog hasn’t any signs of lameness; radiographic control showed osteointegration of the prosthesis and a good consolidation of the arthrodesis but a delayed surgery of the hip leaded to muscular contracture, periarticular fibrosis and muscular atrophy.


**TOTAL SCAPULECTOMY IN SIX CATS**
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Six cats of different breeds, sex and age were treated with total scapulectomy with a follow up between 1 and 13 months. Total scapulectomy was performed for the treatment of 2 cases of neoplastic shoulder’s diseases, 3 cases of interscapulary fibrosarcoma and one case of serious OA (1). The most important point of this technique is to respect all anatomy structures surrounding the shoulder (muscles, vessels, nerves) to prevent functional and neurological deficit (2). Muscles mass were cutted on their insertion to the bone and both the shoulder and the muscles was removed totally in case of arthrosis and partially or totally in case of tumor. For each patient it was valuated postoperative pain, rom, lameness, motorial and sensorial deficits, muscular atrophy and owner’s satisfaction till 90 days of the postoperative period. All patients feel well immediately and at the first month they improve rom and function of the leg with weightbearing in station and gait. No neurological deficits appeared refer to brachial plexus damage. This surgical technique could be a valid alternative surgery treatment instead of the amputation or the arthrodesis of the joint; this treatment let limb sparing and has an excellent aesthetic result (for the owners).

In this trial, 5 leash of bitches were chosen for inducing of estrus by using the combination of H.M.G & H.C.G. Such bitches were controlled for nutrition and estrus signs in their new home (place) since 2 months before the beginning of trial. To start the trial, H.M.G (H. M.G, 75 IU FSH, 75 IU LH approx NV Organon oss Holland) was injected to all of the bitches (5 leash of dogs) during the first 9 days and by the day of 10th, H.C.G (intervet Holland) was injected I.M to each bitch. Since 1 month before the beginning of treatment and also during the period of treatment and 1 month after the end of treatment, blood progesterone concentration was detected in such bitches and vaginal smears was obtained to recognize the changes in vaginal cytology. The results showed that all of the bitches show the signs of proestrus and serosanguinous discharge from their vulva 8±0.7 days after the beginning of treatment. These signs were continued up to 9.8±1.6 days. In 2 leash of such bitches breeding was seen 2 days after the end of vaginal bleeding and in other 3 bitches the signs of estrus was appeared in the state of split heat. In 2 leash of bitches, that have matted, the progesterone concentration increased by the beginning of estrus and have risen above a critical plateau (>1ng/ml) and reached up to >20 ng/ml, one month later. But in 3 other bitches the progesterone concentration didn’t rise above the 1.5 ng/ml. A cytology of vagina was interpreted as superficial intermediate cells after the end of treatment. These results show that the combination of H.M.G & H.C.G can facilitate induction of proestrus in the bitches which have no previous history of parturition.

Key words: HMG, HCG, dog, estrus, proestrus

Different strains of feline calicivirus (FCV) exist with varying antigenicity. FCV vaccines incorporate cross-protective strains although no FCV vaccine appears to neutralise all field isolates in vitro. As FCV evolves over time the question has arisen as to whether current vaccine strains are able to protect against current field strains. The aim of this in vitro study was to compare the ability of antisera raised against two different strains (F9 and a combination of 431 and G1) to neutralise a panel of 40 randomly selected UK field isolates.

F9 antiserum was raised by vaccinating 2 cats 4 times via the s.c. and the i.n. route with an F9 strain. The antiserum against 431 + G1 was raised by vaccinating a cat 4 times via the s.c. route with an inactivated vaccine against 431 + G1. Isolates were collected from 62 randomly selected practices. FCV was isolated from 117 (9.7%) of 1211 samples received. Forty of these isolates were randomly selected and examined in virus neutralisation tests using antisera raised against strains F9 and 431 + G1.

The F9 antiserum neutralised 33 (82.5%) of 40 isolates tested, the 431 + G1 antiserum neutralised 21 (52.5%). Seven isolates were not neutralised to any degree by either of the two antisera thus confirming that current FCV vaccines are unlikely to protect against all field isolates.
A 5 year old spayed female German shorthaired pointer was presented with exercise intolerance, anorexia, laboured respiration and cyanosis. At physical examination dyspnoea, tachycardia and increased lung sounds were found. Echocardiography showed a decreased shortening fraction (SF) of 17%. These results were considered compatible with dilated cardiomyopathy. Therefore twice daily 0.25 mg Digoxine was prescribed. The condition of the dog improved and after two months the SF had increased to 23%. After six months the dog was presented at night as an emergency with very severe dyspnoea. The ECG showed no abnormalities except sinus tachycardia. The arterial PO2 was decreased (6.31 kPa). The thoracic radiographs showed pulmonary oedema and pleural effusion due to left heart failure. Echocardiography was performed showing a SF of 47%, cardiac changes compatible with pulmonary hypertension and pleural effusion. Ultrasound guided pleurocentesis yielded serous fluid which was examined by a qualified clinical pathologist. Carcinoma cells were identified (fig. 1) compatible with an intra thoracic malignant process. Because of the dog’s very poor condition and the indication of malignancy, the owner declined further examinations and decided to choose for euthanasia. At necropsy primary bronchoalveolar carcinoma was found (fig. 2) affecting most of the lung tissue.

To identify LPCs immunohistochemical staining on cytokeratin 7 (CK7) and CK8 was used. For identification of (activated) HSC/MF, immunohistochemical staining on glial fibrillary acidic protein (GFAP) and α-Smooth Muscle Actin (αSMA) were used. Preliminary results show that the highest degree of LPC proliferation occurs in LDH and coheres in all groups with fibrosis. CK8-expression is primarily associated with differentiated LPCs. Both αSMA and GFAP are increasingly expressed in LDH, PVH and chronic hepatitis, whereas in acute hepatitis only GFAP staining increased compared to healthy tissue, suggesting that GFAP is a marker of early HSC/MF activation. These results will be used in studies towards the development of novel strategies for (therapeutic intervention in) liver regeneration.

Regeneration of the liver results from a complex interplay between cell-types, cytokines, and stroma. When hepatocyte loss and increased extra cellular matrix (ECM) deposition occurs during liver disease, the liver specific stem cell (liver progenitor cell, LPC) is activated. This activation is mediated by cells that make up the microenvironment or ‘niche’ of the LPC. The (activated) hepatic stellate cells and myofibroblasts (HSC/MF) are important ECM producing cells in the liver and are thought to play a critical role in establishing the microenvironment of the LPC. The aim of this study is to determine the make up of the LPC and its niche in an immunohistochemical and morphological way. Therefore, serial sections of canine liver tissue with different pathologies (acute hepatitis, lobular dissecting hepatitis, active cirrhosis, portal vein hypoplasia) and healthy tissue were immunohistochemically stained.
The biomechanical flexion and extension forces were determined in cadaver lumbosacral spine specimens of 12 mature, intact, healthy Labrador retrievers, before and after dorsal laminectomy with partial discectomy, and following dorsal pedicle screw-rod fixation of L7 and S1. Cadaver lumbosacral spine segments were subjected to a constant bending moment from L6 to S3. The bending moment was applied in a hydraulic 4-point bending materials testing machine. Force and displacement were recorded at 10 Hz during each series of 5 loading cycles. One loading cycle constituted one complete flexion-extension cycle of the spine. Each spine segment underwent 3 series of recordings: 1) intact spine, 2) after dorsal laminectomy and partial discectomy, and 3) after dorsal pedicle screw-rod fixation (Figure 1).

After dorsal laminectomy and partial discectomy, the neutral zone and range of motion were not different from those in the native spine specimen. After pedicle screw-rod fixation, the neutral zone and range of motion of the instrumented spine specimen significantly (P<0.0001) decreased compared with the native specimen and the specimen after dorsal laminectomy. It is concluded that in normal canine cadaveric lumbosacral spine specimens dorsal laminectomy and partial discectomy does not lead to significant spinal instability in flexion and extension motions whereas pedicle screw-rod fixation effectively stabilizes the lumbosacral spine. Pedicle screw-rod fixation of L7 and S1 may be used to stabilize the instable L7-S1 junction in dogs with degenerative lumbosacral stenosis.