

A DIAGNOSTIC ALGORITHM FOR THORACOLUMBAR SPINAL CORD PATHOLOGIES IN DOGS: A SYSTEMATIC REVIEW

BORCEA D.G., MUSTEAȚĂ M., ȘTEFĂNESCU R., SOLCAN G.

University of Agricultural Sciences and Veterinary Medicine "Ion Ionescu de la Brad" from Iasi, Faculty of Veterinary Medicine, 700489,
Aleea Mihail Sadoveanu, nr.8, Iasi, Romania
E-mail: borceadega@yahoo.com

Summary

The most common neurological spinal cord injury in dogs is between the third thoracic and third lumbar vertebrae (T3-L3). Using the PubMed database, a systematic review was designed to develop a diagnostic algorithm for the most frequent pathologies in this segment. The algorithm was created by following criteria: the way of evolution - acute and progressive, acute and non-progressive and chronic; the patient's age (young, adult, geriatric); presence or absence of pain; symmetry or asymmetry of lesions; best imaging protocol (radiography, myelography, C.T., M.R.I.). Every data was materialized in an algorithmic table. The acute and progressive evolution is present in intervertebral disc extrusion (IVDE type 1) and meningoencephalitis of unknown origin (MUE). Acute non-progressive nucleus pulposus extrusion (ANNPE), compressive hydrated nucleus pulposus extrusion (HNPE) and ischemic myelopathy (IM) evolution is acute and non-progressive. Intervertebral disc protrusion (IVDP) type 2, neoplasia, degenerative myelopathy (DM), spondylosis deformans (SD) and discospondylitis are chronic diseases. Canine patients were grouped by age in: young (IVDE type 1), adult (over 7 years - ANNPE, HNPE, SD, DM) and geriatrics (IVDP type 2, neoplasia). Pain is always present in IVDE type 1 and SEE. The asymmetry of lesions is constant in ANNPE, HNPE and IM but also can be found in neoplasia. Native radiography is a useful diagnostic method for SD, neoplasia, vertebral fractures or luxations and discospondylitis, but it is not recommended for MUE, SEE, ischemic and degenerative myelopathy diagnosis. Advanced imaging like myelography and computed tomography is a more reliable method of diagnostic for IVDE (type 1), ANNPE, HNPE, IVDP (type 2), ischemic myelopathy, neoplasia, DM, SEE, discospondylitis and spondylosis deformans. However, MRI is the golden standard for every spinal cord pathology. This algorithm is a useful guideline for everyday veterinary medical practice concerning the thoracolumbar spinal cord diseases in dogs.

Keywords: dog, spinal cord, T3-L3, algorithm, diagnostic

COMPARATIVE RESEARCH ON THE EFFICACY OF OCLACITINIB AND OF METHYLPREDNISOLONE IN DOGS WITH ALLERGIC DERMATITIS

CUCERZAN A., IMRE K., MORAR A., CZISZTER, L.T., TÎRZIU E.

Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timisoara, Faculty of Veterinary Medicine, 300645, 119 Calea Aradului, Timisoara, Romania
E-mail: alexandra_cucerzan@yahoo.com

Summary

In recent years, the incidence of allergic dermatitis in dogs has increased greatly, and the causes that favor these type of dermatitis are multiple. We mention that in these animals the therapeutic course is laborious, the animals in many cases needing treatment throughout the rest of their lives. In our study we aimed to evaluate the effectiveness of two products that have the role of reducing the severity of the clinical signs, respectively the reduction of pruritus in dogs with allergic dermatitis. The research was performed on 20 dogs, which were divided into two groups: group 1 received methylprednisolone 1-2 mg / kg (Medrol[®]; Zoetis Inc.), and group 2 received oclacitinib 0.4-0.6 mg / kg (Apoquel[®]; Zoetis Inc.) for 28 days. Subsequently, pruritus was monitored using an analogue scale from 0 to 3 (0 - absent pruritus, 1 - mild, occasional pruritus, 2 - moderate, constant or intermittent pruritus that does not disturb sleep, 3 - severe pruritus, annoying which disturbs the sleep) both by the owner and the veterinarian, at the beginning of the experiment, 4-6 hours after the treatment, then the dogs were reassessed on day 7, 14 and 28, after the treatment. Also, the evolution of the status of skin lesions was monitored during the 28 days. Significant improvement was observed in both groups of animals after treatment, both in terms of pruritus intensity and a reduction in clinical signs. It should be noted that in dogs treated with oclacitinib, showed an improvement in the otitis media associated with *Malassezia*. Also, at the half-dose of treatment, better results were observed for the oclacitinib-treated group. Thus, oclacitinib can be considered a very good alternative, instead of glucocorticoids, in reducing the clinical signs associated with allergic dermatitis.

Key words: canine, allergic dermatitis, oclacitinib, methylprednisolon

THE RELEVANCE OF ULTRASOUND EXAMINATION IN FORESTOMACH DISESES IN CATTLE

DUTULESCU A., POPA (CRISTIAN) A., CODREANU M.

University of Agronomic Sciences and Veterinary Medicine of Bucharest,
59 Mărăști Blvd, District 1,
011464, Bucharest, Romania,
E-mail: valentin_dutulescu@yahoo.com

Summary

In veterinary medicine, abdominal ultrasound in cattle for gastrointestinal diseases is not widely used in Romania. The limitation of this investigation technique is determined by the co-operation of the animal, the time required for a complete examination, the impossibility of carrying out prior preparation for the ultrasound examination, the presence of large amounts of adipose tissue and abundant hairline.

Clinical and ultrasound investigations in this study were conducted in Ilfov county and Bucharest during March 2019 - July 2019 on a number of 7 cattle for full evaluation.

The ultrasound was performed using the Aquila (Pie Medical) ultrasound with a convex probe with a frequency of 5-7.5 MHz

The result included various conditions as biochemical indigestion (n=1), rumenal acidosis (n=2), rumenal tympany (n=1), reticulitis (n=2) and traumatic reticuloperitonitis (n=1).

The increased relevance and specificity of the ultrasound changes, recommends this imaging technique, as an alternative of choice (complementary to the other clinical, hematological and biochemical investigations), in the diagnosis of diseases in cattle.

Keywords – forestomach, ultrasound, cattle

In veterinary medicine, abdominal ultrasound in cattle for gastrointestinal

INTERACTIVE TEACHING METHOD WITH APPLICABILITY IN VETERINARY MEDICINE

FUAREA B.G., RIZAC R.I., FURNARIS M.M., MILITARU M.

University of Agronomic Sciences and Veterinary Medicine of Bucharest, Faculty of Veterinary Medicine, 050097, 105 Splaiul Independenței, Bucharest, Romania
E-mail: bogdan.fuerea@gmail.com

Summary

Technology has invaded most domains through various methods, becoming necessary in certain situations. Whether it replaces repetitive steps, performs complicated calculations, or helps to expose ideas more clearly by displaying complex schemes in a simpler way, technology will always be a very useful tool. In education this is found, for example, in PowerPoint presentations using projectors and special laser remote controls. Many teachers have been looking for new ways to increase classroom activity, so researchers are studying ways to improve teaching-learning methods. A useful technique for this purpose was defined by the periodic interruption of the presentation using electronic voting technologies. These technologies have been studied in different countries on different subjects, having several names such as SRS (Student Response System) or CCS (Classroom Communication System) and have been proven as practical methods that have improved teaching methods involving students directly. This paper presents some alternatives, their advantages and disadvantages. The electronic voting technologies can be classified, from the point of view of the used equipment, in those that use only the computer or the laptop from which it is presented, together with the smartphones of the audience (which we will call simple technologies), or those that require special equipment. The special equipment consists of remote controls (called "clickers") assigned to each auditorium, a device that will receive the remote control signal (infrared, radio, wireless) and a computer that will process the data and display the response on the display (either the screen or the projector). In case of using the simple technologies, the presenter (the teacher) only has to install a software specially developed for the PowerPoint application, or can open a web page specially designed for presentations that will contain the online system for electronic voting, and the auditor (students) will use their smartphone to answer questions by accessing a web page, by opening a mobile application or by SMS. Both options will require technical support, noting that a simple system will benefit from online support. Every technology benefits from its own advantages or disadvantages, and they are usually connected to the costs, ease of use, number of devices needed, and speed of the process.

Keywords: electronic voting devices, e-conference, teaching, SRS, ARS

DNA BARCODING METHOD USED FOR RUPICAPRA SPECIES IDENTIFICATION

HOFFMAN D.F., TULCAN C., BOLDURA O.M.

Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timisoara, Faculty of Veterinary Medicine, 300645, Calea Aradului, No. 119, Timisoara, Romania
E-mail: oanaboldura@usab-tm.ro

Summary

The identification of the areas populated by the species protected by law is essential for the establishment of their protected areas. The classical methods of identification are time consuming requires highly specialised human resources; sometimes they are invasive and can easily fail in providing accurate results. Molecular biology forensic methods have been developed to overcome all the issues that may appear when applying those classical methods. The most used DNA based methods is the species identification through DNA barcoding. In the study presented here, the mitochondrial COI gene was sequenced to determine the species using dried feces, collected from *Rupicapra rupicapra* specie protected areas from Retezat Mountains. The feces were harvested from different four locations and feces of domestic goat were used as negative control in the study. The DNA sequencing results reveled that all the collected samples were belonging to *Rupicapra rupicapra* species. The results of this study represents a first step in establishing a protocol for wild species identification and also it study highlights the need for accurate wildlife reference material from each country in order to convict wildlife cases.

Keywords: Wildlife forensics, COI-like sequences, Cytb, DNA barcoding

SMALL RUMINANTS PIROPLASMOSIS IN THE BALKAN AREA: REVIEW FOCUSED ON *BABESIA* AND *THEILERIA* SPECIES

KIZGIN A.D., GIUBEGA S., ORGHICI G., ILIE M.S.

Banat's University of Agricultural Sciences and Veterinary Medicine „King Michael I of Romania” from Timisoara, Faculty of Veterinary Medicine, 300645, Calea Aradului, No. 119, Timisoara, Romania
E-mail: kizgindenis@gmail.com

Summary

Haemosporidiosis are non-contagious parasitic diseases, produced by piroplasms, protozoa of the blood or of the lymphoid system with endoglobular localization. This category includes babesiosis, parasites that infect red blood cells and theileriosis which affects the erythrocyte and lymphatic system.

The disease is transmitted through the *Ixodidae* ticks. The systematic classification is the *Protozoa* branch, *Sporozoa* class, *Haemosporidia* subclass and *Achromatorida* order that includes two important families: *Babesiidae* and *Theileriidae*.

The etiology of small ruminants' piroplasmosis in the Balkan area includes *Babesia* and *Theileria* species. The etiological agents of babesiosis in small ruminants are: *Babesia ovis*, *B. motasi*, *B. crassa* and *B. spp.*; while theileriosis in sheep and goats is produced by: *Theileria ovis*, *T. sp. MK*, *T. sp. TO3*, *T. annulata*, *T. luwenshuni*, *T. uilenbergi*, *T. sp. TO1*.

The prevalence of piroplasmosis is between 21.5% and 86.12%. The most prevalent species are *T. ovis* (17.0-67.7%) and *B. ovis* (0.44-70.81%). In the case of coinfections with 2 or more species of haemoparasites the prevalence registered was 30.6 -52.24%. The most common association in mixed infection was between *Babesia ovis* and *Anaplasma ovis* or *Theileria ovis* and *Anaplasma ovis*.

Regarding the susceptibility of the host it was observed that sheep are more receptive to develop piroplasmosis than goats.

The vectors of babesiosis and theileriosis are ticks which belong to the *Ixodidae* family. Its species are included in the following genera: *Rhipicephalus* (*R. bursa*, *R. turanicus*, *R. sanguines*), *Ixodes* (*I. ricinus*, *I. gibbosus*), *Hyalomma* (*H. marginatum*, *H. anatolicum*, *H. detritum*, *H. excavatum*, *H. plumbeum*, *H. dromedarii*, *H. rufipes*, *H. impeltatum*), *Haemaphysalis* (*H. sulcata*, *H. conccina*, *H. parva*, *H. punctata*). The most common species of ticks identified as vectors of piroplasmosis in small ruminants were *Rhipicephalus bursa* and *Ixodes ricinus*.

The clinical signs describe: fever, inappetence, icterus, haemoglobinuria and the modifications of the haematological parameters such as anaemia, pancytopenia, thrombocytopenia, leukopenia, correlated to the parasitaemia level. In coinfections the severity of the clinical signs increases.

Diagnosis in babesiosis and theileriosis is made by the following methods: microscopical techniques - microscopic examination of thin blood and lymph smears, serological methods - indirect immunofluorescence test (I.F.A.T.) and molecular assay - polymerase chain reaction (P.C.R.) methods by conventional and nested PCR form, reverse line blotting (R.L.B.)

Treatment of diagnosed animals is made with imidocarb dipropionate 1mg/kg body weight dose, administered by intramuscular injection.

LUCRĂRI ȘTIINȚIFICE MEDICINĂ VETERINARĂ VOL. LIII(1), 2020, TIMIȘOARA

The current review processing publications retrieved from the PubMed and Google Academic database regarding sheep and goat babesiosis and theileriosis. A lot of evidence is needed regarding the current situation of small ruminant piroplasmiasis in the Balkan area to know the distribution of the involved pathogens in limiting the spread.

Key words: *Babesia*, *Theileria*, sheep, goats, Balkan area

**USE OF THE BURSAL INDEX FOR DISCRIMINATION OF THE
AVIAN BURSAL INFECTION DISEASE VIRUS STRAINS**

**MITRICA-MARACINE D.C.¹, POPA V²., TESLICI JURCA L.¹, MOZOS C.¹,
IANCU I.¹**

¹Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timisoara, Faculty of Veterinary Medicine, 300645, 119 Calea Aradului, Timisoara, Romania

²S.N. Institutul Pasteur S.A. Bucuresti, Romania
E-mail: dominic.cdvet@gmail.com

Summary

Infectious avian bursal disease or Gumboro's disease, is an infectious-contagious disease, produced by a specific virus, which affects chickens in the first 3-6 weeks of life, being characterized anatomically-clinically by altering the general condition, diarrhea with cretaceous white feces, decubitus, immunosuppression, catarrhal or catarrhal-hemorrhagic inflammation of the Fabricius bursa, hemorrhagic myositis and nephrosis-nephritis.

Keywords: Infectious avian bursal disease, bursal index, very virulent strains plus

INCIDENCE OF HEMATURIA IN SMALL COMPANION ANIMALS

POPA (CRISTIAN) A.M., IACOBESCU M., CODREANU M.

University of Agronomic Sciences and Veterinary Medicine of Bucharest, 59
Mărăști Blvd, District 1, 011464, Bucharest, Romania,
Email: alexandrapopa613@gmail.com

Summary

Hematuria can be undetectable on gross examination of urine samples, or the red blood cells (RBCs) can impart a variety of colors to urine and must be distinguished from other components that discolor urine.

This study was conducted in the Università Degli Studi Di Perugia, Dipartimento Di Patologia, Diagnostica E Clinica Veterinaria, in the period between 23.09.2019 – 25.11.2019, using IDEXX UA dipstick ad IDEXX VetLab UA.

The study recorded 34 animals with gross and microscopic hematuria. In case of hematuria prevalence by species, felines obtained the percentage of 67.65% and canine of 32.35%. Based on gender, hematuria prevalence registered the percentage of 29,41 % for females and 70,59 % for males.

Of the 34 samples analyzed 47,06 % were diagnosed with macroscopic hematuria and 52,94 % with microscopic hematuria.

Hematuria is a common problem encountered in feline and canine medicine. There are many possible causes, ranging from infections to infiltrative cancers. A logical and thorough diagnostic investigation is needed to ensure an accurate diagnosis and the most appropriate therapies are initiated.

Keywords: hematuria, incidence, dogs, cats

THE EVALUATION OF THE THERAPEUTIC RESULTS APPLIED IN CASE OF DIFFERENT DERMATOPHYTOSIS EPISODES

SIMION A., ȚUGHIN G., MARIN A.M., ORGHICI G., MEDERLE N.

Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I
of Romania" from Timisoara, Faculty of Veterinary Medicine, 300645, Calea
Aradului, No. 119, Timisoara, Romania
E-mail: ais9219@yahoo.it

Summary

Dermatophytosis is a superficial, contagious skin infection produced by the genera *Microsporum* and *Trichophyton*. It is an important skin disease because it is contagious, infectious and can be transmitted to people. In the therapeutic protocol the offer is generous, treatment being possible topically with itraconazole 1% gel, clotrimazole, miconazole, lime sulfur, enilconazole and systemic with griseofulvin, ketoconazole, itraconazole. 22 dogs (12 out of 22 dogs with clinical signs), 45 cats (34 out of 45 cats with clinical signs) and 2 goats (only one goat with clinical signs) diagnosed with dermatophytosis were treated topically twice weekly with enilconazole 2% solution. The environment was disinfected weekly with antibacterial and antifungal solution. Despite the enilconazole recommendation for cattle, horse and dog, the skin lesions of cat and goat were cured after treatment with enilconazole without side effects.

Keywords: dermatophytosis, cat, dog, goat, therapy

HEART RHYTHM DISORDERS IN DOGS WITH RENAL FAILURE MONITORED BY THE HOLTER METHOD

ȘTEFĂNESCU A., VIȚĂLARU B.A., CODREANU M.D.

Faculty of Veterinary Medicine Bucharest
050097, Splaiul Independenței, no. 105, Bucharest, Romania
E-mail: alina_stefanescu9@yahoo.com

Summary

Holter monitoring is useful to correlate arrhythmias with clinical signs, given that renal failure is frequently associated with electrolyte imbalances that have direct correlations with changes in heart rhythm. In patients undergoing hemodialysis, monitoring the electrical changes are associated with the electrolytic disorders. Holter monitoring also tracks changes in cardiac output to correlate intensive therapy with the hemodynamic response. Holter monitor records heart rate through electrodes.

Keywords: hemodialysis, dogs, rhythm disorders, holter

PERFORMANCE CHARACTERISTIC EVALUATION OF FOLIN-CIOALTEU MICRO-METHOD FOR TOTAL POLYPHENOLS DETERMINATION FROM PLANT EXTRACTS

TRIPON R., REPONE C., ȚURAI M., CHIȘ C., OIEGAȘ S., BOLDURA O.M., TULCAN C.

Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timisoara, Faculty of Veterinary Medicine, 300645, Calea Aradului, No. 119, Timisoara, Romania
E-mail: tulcancamelia@gmail.com

Summary

This paper aims to describe the standard operation procedure for performance characteristic evaluation of Folin-Ciocalteu micro-method for total polyphenols analysis from vegetal matrices. The key of this method consists in the use of a microplate reader due to multiple advantages: using small amounts of extract and reagent as well, assuring a good repeatability and a considerable reduction of the total analysis time. Besides that, it is an accurate and easy to accomplish method. Standard calibration curve was performed using concentrations of 0, 0.25, 0.50, 0.75, 1 mg/ml of gallic acid and a microplate reader TECAN Infinite M1000 Pro at 750 nm was used. Statistical evaluation of linear calibration function was performed through following parameters: the standard deviation and coefficient of variation with simple and repeated analysis, the repeatability and reproducibility, the limit of detection (LOD) and the limit of limit of quantification (LLOQ).

Keywords: polyphenols, micro-method, method validation, UV/VIS, Folin-Ciocalteu

WILDLIFE REHABILITATION: TRIAGE AND COMMON PATHOLOGIES

VASILIU O., MITREA I.L., IONITA M.

University of Agronomic Sciences and Veterinary Medicine of Bucharest, Faculty of Veterinary Medicine, Department of Parasitology and Parasitic Diseases, Splaiul Independenței 105, 050097, Bucharest, Romania
E-mail: oana.c.vasiliiu@gmail.com

Summary

More than ever, wild animals are adapting to live in cities or close to human settlements. Therefore, the number of casualties affected by anthropic factors has become a real issue. Wildlife rehabilitation is defined as the professional treatment and care of sick, injured or orphaned wild animals with the final goal of releasing them back into their natural habitat. Whether an animal can be rehabilitated or not is the first decision that needs to be made on admission, to prevent further suffering. The most common pathologies, the recommended medical approaches and the expected recovery rates will be presented in the forthcoming article. Wildlife casualties all over Romania suffer from lack of veterinary care and rehabilitation facilities. Communication between finders, local small animal practices and the existing rehabilitation centers is essential in order to provide the animals with specialized care and the best chances of returning to the wild.

Keywords: wildlife rehabilitation, euthanasia, trauma, pathology

ASSESSMENT OF THE RESISTANCE OF SUPERFICIAL AND DEEP TOTAL CRACKS TREATMENT THROUGH COMPRESSIVE FORCES

ZAHA C.¹, RUSU L.², IGNA C.¹

¹Banat's University of Agricultural Science and Veterinary Medicine, "King Mihai I of Romania" from Timisoara, Faculty of Veterinary Medicine, 300645, Calea Aradului, no 119, Timisoara, Romania

²Politehnica University Timisoara, Department of Mechanics and Strength of Materials, 300222, Mihai Viteazu Street, Timisoara, Romania
E-mail: zahacristianvasile@gmail.com

Summary

There are many types of hoof affections that involve chipping, tearing, and cracking of the hoof wall. Among these the cracks require regular treatment and evaluation. Depending on the depth the cracks are classified into deep and superficial one and can present different position on the hoof wall: solear area, coronary band, total, heel and quarter crack. The treatment is done according to the location and depth and involves stabilization of the cracks margins for providing time to growing a healthy wall from the coronary region. In the study was compared two methods of treatment for superficial and deep total cracks to determine the resistance by using the compression test. The results that we obtain help us for choosing the best method of treatment.

Keywords: horse, hoof cracks, treatment, compressive test.

EPIDEMIOLOGIC AND THERAPEUTIC CONSIDERATIONS IN CANINE PARVOVIROSIS

**ORGHICI G., GIUBEGA S., KIZGIN A.D., ILIE M.S., MARIN A.M., MOZOȘ C.,
HERMAN V.**

Banat's University of Agricultural Sciences and Veterinary Medicine "King
Michael I of Romania" from Timisoara, Faculty of Veterinary Medicine, 300645,
119 Calea Aradului, Timisoara, Romania
E-mail: gabrielorghici@gmail.com

Summary

Canine parvovirus (CPV) infection is a contagious viral disease and an important cause of serious and often fatal gastrointestinal disease in puppies worldwide. The disease is caused by a virus CPV-2, belonging to the group of parvoviruses from which two distinct parvoviruses are now known to infect dogs, namely CPV-2 and CPV-1. For this study we surveyed 132 dogs, treated at University Veterinary Clinics (57 cases /15 +CPV / 3 dead) and one veterinary private clinic from Timisoara (75 cases / 50 +CPV / 15 dead) during March to November 2018. CPV disease was suspected in young (7 weeks – 8 months), unvaccinated, or incompletely vaccinated dogs with relevant clinical signs (haemorrhagic gastroenteritis). Confirmation of diagnosis was performed by CPV Ag, based on a chromatographic immunological method for qualitative detection of parvovirus antigen. Of the 132 dogs, 65 (49.24%) were positive and 67 were negative for CPV-2. The overall reported death rate was 27.69% (18/65). Geospatial analysis revealed large numbers of CPV-2 cases in urban areas comparatively with rural areas near Timisoara. Therapy consists in the administration of antibiotics, antiemetics, antidiarrheics, intravenous fluids, enema and hyperimmune serum. The therapy lasts between 7 and 14 days, and in some cases remission of clinical signs can be observed after 3 days of treatment. For a comprehensive epidemiological investigation of canine parvoviral disease is necessary for the study to be continued on a larger number of cases.

Keywords: canine, parvovirus, prevalence, treatment, gastroenteritis