

SAMPLING IN VETERINARY ONCOLOGY - A REVIEW

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Summary

Oncology, the study of tumors and cancer, is an expanding field in veterinary medicine, with an important impact for both researchers and clinicians. Tumors (benignant or malignant) are for sure one of the biggest challenges for the veterinary clinician (cancer is the worldwide leading cause of death in pets, being responsible for the death of 47% of dogs aged over 10 years). The most important step when it comes to these conditions is a correct and comprehensive diagnosis. The practitioner plays a big part in the success of this: by evaluating the patient, the tumor itself and by sampling it, so the pathologist can determine the exact nature of the tumor and its behavior. The most common diagnostic tools are cytology (using fine needle aspiration (FNA) to collect samples) or histopathology (using biopsy tools to collect samples). Sampling is not a difficult procedure at all, but it has some rules, to be accurate and precise. Sedation or anesthesia may be necessary. The risks should be evaluated by the veterinarian and discussed with the owner; but, in all cases, sampling should not be stressful or painful for the animal. FNA is a technique that involves a thin hollow needle (23-25 gauge) that is inserted in the mass, to remove (withdrawn) a small sample of cells (as the tissue sampled is small, it is possible that the specimen obtained is not sufficient for a confident diagnosis to be made). A biopsy involves the use of a larger needle (or an excision) which removes a solid block of tissue and is therefore slightly more invasive. Since a core of solid tissue is removed, the specimen is excellent and typically is sufficient for a confident diagnosis. The goal of this paper is to make a small guide (using the latest research and the specific literature) for the veterinary clinicians, on how to do a correct and efficient sample in cases of tumors (or suspicion of).

Keywords: veterinary oncology, FNA, biopsy.

IN DEPTH REVIEW OF FELINE PANLEUKOPENIA VIRUS

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Summary

Feline panleukopenia virus (FPV), a highly contagious and deadly pathogen affecting cats, is the causative agent of feline panleukopenia. FPV is a single-stranded DNA virus that belongs to the *Parvoviridae* family. The virus is resilient in the environment, and its eradication is being a real challenge. Despite the significant progress in understanding FPV, ongoing research is focused on improving diagnostic methods, developing novel vaccines, and gaining deeper insights into the virus' genetic diversity and evolution. Our review research is focused on virus epidemiology, immune response, clinical manifestations, pathophysiology, diagnosis and prevention as well as molecular genetics with the latter being the most promising; highlighting the importance of continuing research efforts in combating this deadly virus. We tried to analyze the host as a main source of interest regarding the infective process. In the same time, we tried to answer in questions like: "*Why is the virus only affecting cats?*" or "*What other treatment could be used?*" and most importantly "*Can the contact with the host itself be stopped?*". The review research provided useful insight about cytotoxic factors released by T cells and also about TfR1 and TfR2 expression regarding their role in the infection. In order to conclude, our work was meant to deeply understand the mechanisms behind the action of this deadly pathogen as well as speculate new perspectives regarding the approach medical science could have towards it.

Keywords: panleukopenia, felines, future perspective, TfR1, TfR2-

STUDY ON THE EFFICACY OF SUPPLEMENTING BROILER CHICKS' DIET WITH PARSLEY, CINNAMON, AND TURMERIC

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Summary

This study aimed to investigate the effects of dietary supplementation with parsley (*Petroselinum crispum*), cinnamon (*Cinnamomum verum*), and turmeric (*Curcuma longa*) on the growth and health of Ross 308 broiler chickens. A total of 51 one-day-old chicks were divided into four lots: Lot A (supplemented with parsley), Lot B (supplemented with cinnamon), Lot C (supplemented with turmeric), and a control lot (no supplementation). Various growth parameters, including body mass and feed conversion rate, were monitored over six weeks. Significant differences were observed in the third week between the control group and the groups supplemented with parsley and turmeric in terms of carcass mass. However, these differences were not sustained in the sixth week. In the fourth week, only the turmeric-supplemented group (Lot C) showed statistically significant improvements in body mass distribution. No significant differences were found in other zootechnical parameters or in biochemical analyses across the lots. The study suggests that while turmeric had a notable effect on body mass distribution in the fourth week, overall, the dietary supplements did not significantly improve the evaluated zootechnical parameters. The findings align with existing literature and indicate the need for further research to fully understand the potential applications of these supplements in the poultry industry. Limitations of the study include the lack of individual weighing in the first three weeks and the absence of successive weighing, which could have provided more nuanced insights into weight fluctuations.

Keywords: dietary supplementation, Ross 308 broiler chickens, zootechnical parameters, growth parameters.

HISTOLOGICAL AND PHYSICO-CHEMICAL CHARACTERISTICS OF TRADITIONALLY AND INDUSTRIALLY PREPARED FILLET MUSCLE – A SYSTEMATIC REVIEW

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Summary

The most powerful method of meeting the nutritional needs of humans remains the consumption of food products of animal origin. The rate of animal consumption per capita is constantly increasing, but for the 8 billion people consumption is becoming highly selective. The FAO of the United Nations predicts that dietary preferences will shift towards alternative sources of protein which will lead to a decrease in meat consumption. However, over the next decade, meat consumption will not be affected, consumer choice will continue to be influenced by the nutritional content of meat compared to protein substitutes. Due to the accelerated deterioration dynamics of meat products, preservation technologies are increasingly attractive and suitable for preserving quality, organoleptic and physico-chemical properties. In our study we aim to identify the impact of preservation methods on the histological and physicochemical properties of fillet muscle and also the benefits for human health. A search of the PUBMED/MEDLINE, EMBASE, Google Scholar, Web of Science and SCIEDIRECT databases was carried out for the period from 2000 to 2023. A total of 908 articles publications were initially identified. After exclusion of duplicates and application of inclusion criteria, 50 studies were selected for analysis. The development in processing strategies such as freezing, smoking, dehydration, salting, hedging, preservation with oils, influences the histological aspect and the physico-chemical properties and also showed the differences. The sustainable safety of meat is maintained by methods based on the control of temperature, available oxygen, water activity, which stop microbial growth, oxidation and enzymatic autolysis. Traditional meat preparation methods preserve the histological architecture as well as the physico-chemical properties compared to the industrial ones.

Keywords: fillet muscles, histological characteristics, physico-chemical characteristics, preservation.

USE OF CANNABIDIOL IN THE MANAGEMENT OF STRESS-RELATED ACRAL LICK DERMATITIS - CASE REPORT

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Summary

Acral lick dermatitis (ALD) is a chronic skin disease of canine patients that present behavioral issues such as excessive licking of specified skin areas, mainly the legs. The licking behavior leads to a localized alopecic, hyperpigmented, hyperplastic or even ulcerated single or multiple lesions, predominantly located in the carpal or hocks area. Repetitive licking is viewed as compulsive behavior suggesting that ALD is the canine equivalent of the human obsessive-compulsive disorder (OCD). The interest in using phytocannabinoids in veterinary medicine has seen an increase in the past 5 years especially in terms of treatment of various pathologies such as pain, epilepsy, anxiety and skin lesions. Nevertheless, studies are scarce and there is an increased need for research on the utility of these products. The present case report is focused on the use of a CBD (cannabidiol) and L-tryptophan commercially available oil (CroniCare®) for relieving stress and anxiety in a 6 year-old American Staffordshire terrier mix and to improve skin lesions caused by the compulsive licking behavior subsequent to stress. The dosage employed for the case was according to the product label, namely 2 drops/kg given twice daily *per os*. The clinical signs improved within three weeks of administration due to a decrease in intensity of the obsessive-compulsive licking behavior. A low maintenance dose of 1 drop/kg given once daily has been maintained in order to avoid recurrence of signs until the cause that has led to this behavior can be properly managed.

Keywords: dog, veterinary medical use, cannabidiol, acral lick dermatitis.

**COMPARATIVE STUDY ON THE ANTIHELMINTIC EFFICACY OF
SOME MEDICATIONS IN GASTROINTESTINAL NEMATODE
PARASITISM IN SHEEP**

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Summary

One of the most common problems in ovine farm management encountered by farmers is represented by parasitological control. The effects of parasitological infestation in sheep are animal productivity losses and even animal deaths. In this study, the efficacy of some commonly used antiparasitic drugs against gastrointestinal nematodes infestation (*Vermitan 10%*, *Levaverm 10%*, and *Evomec Plus*), as well as the incidence of parasites' chemoresistance to the active substances, were noted. For this study, 3 sheep farms were taken into account. The sheep were raised in a free-range environment in Timiș County. A different type of anthelmintic drug was administered in each farm. For the efficacy determination, the initial infestation level was evaluated on day 0, followed by the infestation level evaluation on days 7, 14, and 21 post-treatments. The infestation level was rated via the quantitative method McMaster by assessing the number of parasitic eggs/gram of fecal matter (EPG). The efficacy was calculated with the FECRT formula. The efficacy of antiparasitic drugs against gastrointestinal nematodes determined during this study was 97,16% for *Levaverm 10%*, 96,51% for *Evomec Plus*, and 95,52% for *Vermitan 10%*. No chemoresistance phenomena were noted for the antiparasitic drugs evaluated in this study.

Keywords: sheep, nematodes, treatment efficacy.

LESIONS OF THE BEAK AND CEROMA IN BUDGERIGARS (*MELOPSITTACUS UNDULATUS*)

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Summary

In avian pathology, external lesions or anomalies of the beak and the cere are one of the external causes for a veterinary consultation in budgerigars (*Melopsittacus undulatus*) most common pet birds among bird enthusiasts. The beak is derived from the maxillary and mandibular bones, covered by a thin layer of keratin that continues into the nasal area. Modified beak conformations can affect a parakeet's life, leading to difficulties in feeding and preening, often resulting in untidy feathers and reduced weight. Another structure, the cere or the ceroma is the outer segment of the respiratory system and has a role in sexual dimorphism in budgerigars. Different pathologies, both systemically or locally can affect a parakeet when the nostrils become partially obstructed (sinusitis, rhinoliths) making breathing difficult. The present study was conducted at the department of Pathological Anatomy from the Faculty of Veterinary Medicine of Bucharest and comprised eight cases of budgerigars. The birds were examined for suspected lesions in the ceroma and the beak region and the methods used included macroscopic evaluation, cytopathologic examinations of cutaneous raclates (native slides and M.G.G. stain), microscopic examination of facial regional feathers and also necropsy examinations for three cases to establish the potential lesional link between external lesions and internal pathologies. The results of anamnesis, clinical and macroscopic examination of exclusively indoor, adult budgerigars revealed five females and three males, aged between 2 and 8. One case of a female budgerigar presented overgrowth of cere with a crusty, brown aspect that indicated a brown cere hypertrophy. Two cases presented abundant white, crusts on the cere extending to the beak and lack of surrounding feathers. Cytologic feather examination revealed normal aspects. Cytological examination of raclates were negative for parasites, but the clinical appearance and the favorable therapeutic response indicated parasitic hyperkeratosis. Four budgerigars manifested acute and chronic rhinitis and rhino-sinusitis associated with external tissue loss and wide choanal orifices as manifestation of rhinoliths sequelae or long term cicatrisation, although one case presented acute rhinitis at necropsy and only tissue loss and fibrosis at the exterior. One conformational abnormality of the upper beak valve manifested as upwards curving was diagnosed in an adult bird associated with emaciation and serous atrophy at necropsy examination. In conclusion, beak and ceroma pathologies in budgerigars can include multiple causes and a careful examination associated with complementary tests helps to determine the underlying pathologies.

Keywords: avian pathology, budgerigar, *Melopsittacus undulatus*, beak, ceroma.

**ANATOMO-SURGICAL APPROACH OF TIBIOTARSAL BONE
FRACTURE IN DOMESTIC PIGEON (*COLUMBA LIVIA*): A CASE
REPORT OF A 5-MONTHS-OLD DOMESTIC PIGEON**

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Summary

A domestic pigeon (*Columba livia*) weighing 350 grams with a history of a left pelvic limb stuck in the cage was presented at the clinic for consultation. On presentation, the bird was unable to bear weight on the affected limb. A crepitus was felt on palpation at the tibiotarsal region during physical examination. A radiographic examination confirmed a simple, transverse, distal-diaphyseal fracture of the left tibiotarsal bone. The bird was anesthetized with xylazine and ketamine. Surgery was performed by the introduction of a sterile hypodermic needle intramedullary from distal epiphysis to the proximal extremity of the tibiotarsus for coaptation of the fracture fragments. The needle has been fitted with an intravenous catheter plug to prevent blood leakage and ascending infection. To prevent rotation of the distal extremity of the pelvic limb, a plaster cast was used. The plaster cast serves in one hand for stabilizing the needle intramedullary and in another hand for external fixation of the fracture. The movements were restricted by placing the pigeon in a cage, for six weeks. The postoperative follow-up radiograph after six weeks shows a complete union of fractured ends. The bird recovered uneventfully with complete weight bearing on the affected limb and the intramedullary needle and plaster cast were removed at 6 weeks after surgery. To prevent infections and inflammation, the bird received antimicrobial and antiinflammatory medication for seven days. The intramedullary sterile hypodermic needle in association with a plaster cast under xylazine and ketamine anesthesia is a safe technique for the repair of tibiotarsal fractures in pigeons.

Keywords: avian, pigeon, anatomy, orthopedic.

**THE NUTRITIONAL VALUES DERIVED FROM RED DEER MEAT
ORIGINATING FROM THE WILD AND THAT FROM FARMS
A REVIEW**

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Summary

The consumption of red deer meat has been steadily increasing due to its perceived health benefits. In response to the high demand of red deer meat, farmers have adapted by initiating the farming of this species. This review aims to present the difference and nutritional value between wild-harvested red deer meat and farm-raised deer meat. Due to high market demand and the inability of game-sourced venison to meet it, this has led to the emergence of red deer meat farms.

Keywords: meat, red meat, red deer meat, nutritional value.

DIAGNOSTIC METHODS IN THE MOST COMMON BACTERIAL AND PARASITIC TICK-BORNE DISEASES OF WILD BOAR IN EUROPE – MINI REVIEW

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Summary

Ticks are important ectoparasitic arthropods, responsible for substantial economic losses resulting from the direct or indirect effect exerted on their hosts. They are obligate parasites that feed on blood and they serve as vectors for pathogens of domestic and wild animals being second in this category only to mosquitoes. They transmit pathogens such as *Anaplasma* spp., *Babesia* spp., *Ehrlichia* spp. etc. Clinical signs are often non-specific and can easily be confused with other pathologies. Identification of the pathogen can be done by direct methods and by molecular and serological methods. The aim of this study was to assess the common methods of diagnosis of tick-borne diseases in wild boar in Europe listed in reference literature. Information on the occurrence and prevalence of tick-borne diseases is difficult to assess and evaluate due to limited information and difficulties in comparing results from studies with different designs and purposes and due to the employment of different diagnostic tools. The sensitivity of microscopic examination of blood smears is low, so the probability of false negative results is also present. In conclusion, commonly used methods to diagnose pathogens in wild boar blood are PCR and ELISA.

Keywords: Ticks, *Anaplasma* spp., *Babesia* spp., *Ehrlichia* spp., wild boar.

**A RARE CASE OF CONJOINED LIZARDS: A CASE STUDY
OF TWIN STILLBORN CRESTED GECKOS
(*CORRELOPHUS CILIATUS*)**

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Summary

Identical twins that maintain their physical connection via head, thorax, abdomen, or limbs are known as conjoined twins. Conjoined human and animal twins have been, for a long time, an interest for the scientific community. These anomalies of congenital duplication can be extremely important in our understanding of embryonic development, mutations and how both of these interact with each other. Literature data is scarce regarding the conjoined reptiles but there is also scarcity in information regarding the mechanism by which these conjoined reptiles are formed. It is well known that, among all clades of vertebrate animals, reptiles are the most prone to such anomalies. Most of the time, oviparous reptile species are designed to produce such eggs, and, implicitly, such abnormal juveniles. Theories that would explain the appearance of this phenomenon accuse aberrant incubation conditions, infections, inbreeding or genetic mutations. Thus, the study of such rare findings in herpetological science can facilitate the understanding of the etiology and pathogenesis of such abnormalities in other fields, like human medicine and animal medicine, as well as providing more information of value to herpetologists and reptile owners or breeders. The pair of conjoined twins described in this case study belongs to the species of Crested Gecko (*Correlophus ciliatus*) and were discovered by a reptile breeder from Cluj-Napoca, Romania. On a visual inspection, the egg had no traces of mold, alteration or any smell. Inside the egg was found a stillborn pair of conjoined twins, which will be further described in this paper. This is the first report of conjoined twins in Crested Gecko. We further present an insight into published study cases of twinning or conjoined reptiles and correlate them with the potential factors that may lead to this malformation.

Keywords: crested gecko, reptile, conjoined, stillborn, twins.

THE MAIN CARDIAC RHYTHM ABNORMALITIES ENCOUNTERED IN DOGS DURING INTERMITTENT HEMODIALYSIS

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Summary

Exploring the cardiac rhythm abnormalities (arrhythmia) that can occur in dogs undergoing hemodialysis, represents an essential aspect in veterinary nephrology and cardiology. Hemodialysis is an extracorporeal renal replacement therapy that can be life-saving for dogs diagnosed with acute kidney injury or chronic kidney disease. Most of the time, hemodialysis can be a challenging therapy in cardiac patients, due to multiple ECG modifications. Identifying, understanding and managing arrhythmias during hemodialysis represents the cornerstone to a successful therapy. A continuous electrocardiogram (c-ECG) is an important monitoring tool and it can be used to detect and manage cardiac rhythm abnormalities, during hemodialysis. The most common arrhythmia observed in patients with acute kidney injury is atrial fibrillation due to hyperkalemia. Severe hyperkalemia, sometimes combined with hypocalcemia, can cause severe brady-arrhythmias in this clinical setting. All chronic patients, submitted to this study, were end stage (stage 4). In this study, the most common finding in patients diagnosed with chronic kidney disease, was ST wave depression due to left ventricular hypertrophy and wide QRS complex, P and T wave modifications due to hyperkalemia in acute or acute on chronic patients.

Keywords: hemodialysis, dogs, nephrology, arrhythmia, hyperkalemia.

ASSESSING PERMEABILITY AND VIABILITY OF MICE JEJUNUM SAMPLES USING THE USSING CHAMBER TECHNIQUE

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Summary

The permeability and the barrier function of the intestinal epithelium can be assessed via the Ussing chamber technique. Considering the electrophysiological parameters, the researcher can gain insight on the processes taking place in the intestine. This study highlights the assessment of the jejunal tissue viability and of jejunal permeability using the Ussing chamber technique, while also underlining some advantages and limitations of working with two types of jejunal specimens harvested from mice (whole-thickness and stripped). Taking into account all of the above, the objective concerns validation of an experimental model for the study of jejunal permeability. The study was conducted on mice jejunum, using the Ussing chamber technique for the assessment of permeability and viability. The electrical parameters (PD, I_{sc} , Rel) recorded for the whole-thickness (J-I) and stripped (J-MS) samples throughout the experiment showed time dependent changes in viability. The mean values for PD were: J-I 5.77 ± 0.87 mV, J-MS 5.23 ± 0.82 mV; for I_{sc} : J-I 199.8 ± 29 , J-MS $11 \mu A/cm^2$; for Rel: J-I $32.2 \pm 3.61 \Omega/cm^2$, J-MS $25.98 \pm 2.27 \Omega/cm^2$. The electrical parameters recorded during the experiment showed time-dependent variations and there are no significant differences of values between J-I and J-MS samples.

Keywords: Ussing chamber, permeability, intestine, mouse, electrical parameters.

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MEMBRANES USED IN THE MANUFACTURE OF SAUSAGES – REVIEW

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Summary

In this review we analyze the development of production practices and composition of different types of membranes (whey proteins, collagen, synthetic polymer, cellulose, vegetable), the basic properties of the membranes, the beneficial and toxic effects of the added ingredients used in their manufacture and biological risks in the use of different membranes.

Keywords: sausage, food, membrane, food additives.

PREVALENCE OF BEHAVIOURAL DISORDERS IN DOGS IN TIMISOARA – CASE STUDY

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Summary

Behavioural disorders are common among dogs. It has been estimated that up to 90% of dogs may exhibit behaviours that their owners find unacceptable. So, for most people, the only solution seems to be to give up the animal to a shelter. The chances of a dog developing a behavioural disorder are dependent on several factors, including breed, age, sex, diet and relationship with the owner. There are numerous reports in the literature on the prevalence of behavioural problems in dogs, based on the caseloads of those who deal with these problems. While this information is useful in itself, it remains largely unknown how it relates to the prevalence of these behaviours in the wider population. This paper aimed to determine the prevalence of behavioural disorders among the clients of several clinics in the Municipality of Timisoara, to determine the percentage of occurrence of behavioural changes, by analysing predetermined variables, to obtain an overview of the predisposition of a breed about the type of behavioural change occurring as well as the percentage of occurrence of a behavioural disorder.

Keywords: behavioural modification, anxiety disorder, clinical ethology.

CONGENITAL TORTICOLLIS IN CHINESE GOSLINGS – CASE REPORT

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Summary

Torticollis is a contracture of the neck muscles, mainly involving the sternocleidomastoid muscle, with multiple causes including inbreeding. We present the case of two Chinese goslings, originating from geese raised in an extensive system, that presented torticollis in the first week after hatching. We tried to treat them with massage, vitamin therapy and physical therapy, but without result.

Keywords: torticollis, congenital, inbreeding, Chinese goose, treatment.

MICROBIOLOGICAL CONTAMINANTS OF HONEY BEE

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Summary

Due to its particular composition, honey has the ability to inhibit or even destroy microorganisms. However, certain types of microorganisms persist in honey, usually in a dormant state and some yeast species, due to their pronounced osmophilicity, can multiply and cause fermentation of the product, making it unfit for human consumption. The research was performed between 2022 and 2023 and a total of 552 samples from 5 sorts (acacia honey, lime honey, sunflower honey, rapeseed honey and polyfloral honey) were collected and examined. The laboratory analyses aimed to determine the total number of yeasts and moulds using the colony counting technique (cfu/g). The honey samples examined were found to have minimal contamination, with some samples showing the presence of conditionally pathogenic or pathogenic bacteria, and some samples had yeast and mould levels above 100 cfu/g, with sunflower and rapeseed honey having the highest numbers of fungus.

Keywords: honey, bacteria, yeast, fungus.

**PREVALENCE AND RISK FACTORS OF SUBCLINICAL
MASTITIS IN DAIRY COWS FARMS IN THE PORO REGION
(IVORY COAST)**

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Summary

Establishing an early diagnosis of subclinical mastitis is particularly important in order to reduce the economic losses caused by the evolution of this pathology in dairy herds. The present study aimed to determine prevalence of subclinical mastitis in traditional cattle farms in the Poro region (northern Ivory Coast). A total of 360 lactating cows in 45 traditional farms in the four departments of this region (Dikodougou, Korhogo, M'bengue and Sinematiali) were taken into study. Somatic Cell Count (SCC) with Delaval Cell Count (DCC) and California Mastitis Test (CMT) were used to analyze the collected milk samples. These tests revealed cases of mastitis in the four departments of Poro region at frequencies varying from 54.17% to 97.92%. The prevalence was 75.5% and 80% (positive at score ≥ 2) using DCC and CMT respectively. There was no significant difference between prevalence obtained with these two tests ($p = 0.312$). The prevalence of mastitis in crossbred and zebu cows (100%) was significantly higher ($p = 0.003$) than that of local cow breeds with 90%, 78.88% and 75% respectively for N'dama, Méré and Baoulé. In addition, month of lactation and number of calving had no effect on occurrence of mastitis (Odds ratio = 0.279; 95% CI: [0.474-0.083]); (Odds ratio = 0.164; 95% CI: [2.341-2.683]). However, the risk of onset of subclinical mastitis is higher in older cows (Odds ratio = 10.09; 95% CI: [0.283-0.148]).

Keywords: subclinical mastitis, prevalence, CMT, DCC, Ivory Coast.

RETROSPECTIVE CLINICAL STUDY ON CHRONIC COUGH IN DOGS

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Summary

The study aimed to analyse the underlying causes of chronic cough in dogs, aiming to refine and prioritise diagnostic strategies and methods for determining the aetiology of chronic cough. This study was conducted on 92 dogs with chronic cough, the aetiology of which was established by corroborating data obtained at clinical examination (inspection, palpation, auscultation) with those provided by paraclinical examinations (imaging examinations and laboratory tests). Chronic bronchitis and heart failure were the main pathologies associated with chronic cough in dogs, especially those aged 8-14. The haematological profile did not show significant changes from the reference values nor among the conditions causing chronic cough in the dogs in this study. Chest radiography should be the first step in the clinical approach to identifying the cause of chronic cough.

Keywords: chronic cough, dogs, clinical examination, paraclinical examination.

INTEGUMENTARY TUMORS IN PET HAMSTERS

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Summary

Pet hamsters are very popular pets worldwide, but their short lifespan can interfere with general knowledge regarding frequent pathologies. While scientific reports on tumors in laboratory hamsters are common, reports on tumors of pet hamsters are uncommon, as they are mostly case reports that include a high incidence of integumental neoplasms such as mammary tumors, atypical fibroma and papilloma, round cell tumors such as lymphoma, mastocytoma and mesenchymal tumors, mostly cutaneous hemangiosarcoma and other soft tissue sarcomas. In this study, conducted in the department of Pathological Anatomy at the Faculty of Veterinary Medicine from Bucharest, we examined five cases of adult pet hamsters (aged 1,5-2,5) submitted for investigations on suspected external tumors by gross examination (5 cases), cytopathological (M.G.G. stain) (4 cases), histopathological (H.E. and H.E.A. stains) (3 cases) and necropsy examinations (2 cases). The results included cutaneous and subcutaneous nodular lesions, frequently ulcerated with a diameter between 0.5-3 cm. The affected anatomic regions were the ventral thoraco-abdominal region in three cases, one case with dorsal cervical lesion and one in the external ear. Histopathological examination confirmed two cases of mammary carcinomas with multiple metastasis in the lung for one case submitted to necropsy. One hamster with a cervical subcutaneous nodule was diagnosed with a sarcoma tumor on cytopathological examination. The tumoral cells in the smears presented a high grade of cellular pleomorphism, frequently multinucleated (up to 12 nuclei) and a round to oval shape of nuclei with 1-2 nucleoli. Two cases of integumentary lesions included epithelial tumors located in the auricular pavilion and another in the ventral abdominal region with nodular, whitish, irregular surface diagnosed as trichoepitheliomas. Markedly expanding the dermis are multifocal, well demarcated, neoplastic masses with a wall of stratified squamous cells and central accumulation of concentric stratum corneum. No viral inclusions were visible in light microscopy in correlation with hamster polyomavirus, which is considered the main cause for such lesions in hamsters. In conclusion, integumentary nodular lesions of pet hamsters included mostly epithelial tumors with mammary epithelium origin or the superficial layers of the epidermis.

Keywords: pet hamsters, neoplasia, mammary tumors, epithelial tumors.

THE SPOILAGE RATE OF FRESH POULTRY MEAT FROM CONVENIENCE STORE VERSUS SLAUGHTERHOUSE

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Summary

Poultry meat is considered a basic food, thanks to its affordable price, high nutritional value and cultural acceptance in some countries, being a highly perishable product, with a limited shelf life period, regardless of storage time. It is well known that poultry meat has a higher initial contamination rate, which can occur at any level, as each stage of the poultry production and processing systems. This has its own challenges, during the entire sequence of food handling from the producer to the final consumer and microorganisms can affect food quality and human health. As such, this article aimed to identify, through monitoring, how the freshness parameters of poultry meat, purchased directly from the slaughterhouse and from the convenience store, are affected. For the two batches, several freshness and quality indicators were used to perceive changes in freshness quality while storing chicken breasts. Changes in organoleptic characteristics, pH, water activity, total volatile basic nitrogen (TVBN) were monitored for six weeks.

Keywords. poultry meat, intensive system, freshness, quality, safety.

**PRELIMINARY RESEARCH REGARDING ANTHELMINTIC
RESISTANCE DETECTION BY PCR IN ALBA AND HUNEDOARA
COUNTIES**

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Summary

Resistance to anthelmintics is widespread in the world, especially in the digestive strongyles of ruminants and horses. As a result of this risk, the parasitological control programs must be adapted in order to prevent this phenomenon. Even if FECRT remains the gold standard for resistance detection, molecular biology methods, in the case of PCR, provide much more pertinent information on the phenomenon. This work aimed to identify resistance to benzimidazoles, a phenomenon frequently encountered in Europe, but less described in Romania. Four samples of adult nematodes were used, identified on the base of morphological characteristics and sequencing as three *Haemonchus contortus* (two from Alba County and one from Hunedoara County) and one as *Chabertia ovina* (from Hunedoara County). The following pairs of primers were used: CN30/CN24 and CN30/CN25, respectively. One *H. contortus* sample (Alba County) proved to be resistant and *Ch. ovina* proved to be susceptible.

Keywords: anthelmintic resistance, PCR, digestive strongyles.

QUESTIONNAIRE ON THE WELFARE CONDITIONS AND LEVEL OF VETERINARY MEDICAL CARE RECEIVED BY RURAL DOGS AND CATS

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Summary

In most Romanian households from rural areas, there are domesticated dogs and cats. In general, these animals are not perceived as pets, and the level of care from the medical point of view is very different compared to the one pets receive in urban areas. This survey was taken in order to understand better the resources that the owners from rural areas are able or willing to invest in order to take care of their domesticated carnivores and also the level of animal welfare. The questionnaire used is original, consisting of 16 questions. The answers were anonymously recorded. One hundred fifty-nine persons from two villages from Teleorman County answered. The responses were recorded by the interviewer on paper and subsequently transferred to Google Forms. Of the respondents, 53.2% (83/159) are men, 26.1% (41/159) are between 36 and 45 years old, and 23.6% (37/159) are between 46 and 55 years old, 38.8% (59/169) went to high school and 27% (41/159) only went to elementary school. More than half have another animal besides a dog or a cat. For a cat's treatment, the most common sum the owners are willing to pay is between 10 and 50 RON, the equivalent of 2 to 10 euros, and for a dog's treatment, between 50 and 100 RON, the equivalent of 10 to 20 euros. Most dogs and cats, 81% (128/159), are not sterilized. Moreover, of the dogs, 46.5% (73/159) are chained, and of those, 11.5 % are never unchained to move free in their yard.

Keywords: welfare, rural area, dogs, cats.

EMPYEMA OF THE GUTTURAL POUCH IN A NONIUS FILLY – A CASE REPORT

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Summary

Empyema in the guttural pouch typically arises as a consequence of upper respiratory tract infections, often attributed to *Streptococcus equi*. This study aims to present a case of guttural pouch empyema, with a specific focus on the diagnostic and treatment approaches. A 2-month-old Nonius filly, was admitted to the clinic due to breathing difficulties and noticeable swelling in the retropharyngeal area. Upon clinical examination, the following symptoms were observed: labored breathing, difficulty swallowing, lymph node enlargement, unilateral swelling in the retropharynx, and the presence of mucopurulent nasal discharge. Furthermore, endoscopic assessment confirmed the existence of purulent material in the left guttural pouch, ultimately leading to a diagnosis of empyema. To facilitate bacterial culture and antibiogram assessment, samples were obtained through a transcutaneous puncture procedure. Subsequently, lavage was performed using an endoscope. The treatment plan involved administering procainbenzylpenicillin, along with flunixin meglumine, probiotics, gastric protectants, vitamin supplements, and lactated Ringer's solution, while awaiting the results of the bacterial culture and antibiogram. The outcome of the bacterial culture ultimately confirmed the presence of *Streptococcus*, which exhibited sensitivity to penicillin, amoxicillin, and marbofloxacin. Twelve days after the lavage, with the procedure itself performed ten days, the filly was discharged. A thorough evaluation of the case's resolution was conducted during a follow-up assessment several days after discharge.

Keywords: guttural pouch empyema, equine, endoscopic lavage.

AN EPIDEMIOLOGICAL STUDY OF COLIBACILLOSIS IN A TURKEY BROILER FLOCK

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Summary

Pathogenic strains of *Escherichia coli* are recognized as the causative agents of avian colibacillosis, associated with acute deaths, high mortality, and important economic losses in the affected flocks. Interventions in disease treatment are made difficult by the emergence of antibiotic resistant strains. Taking these considerations, the study aimed to investigate the occurrence of bacterial infections, with special emphasis on avian colibacillosis, in a group of 113 turkey broilers in the first three weeks of life. The turkey broilers were reared under household conditions in Alba County, between March-April of 2021. During this period, from the total of 24 dead broilers, 8 were randomly selected and examined for the presence of avian colibacillosis using classical bacteriological techniques combined with necropsies in order to monitor the presence of specific anatomo-pathological lesions. In addition, the testing of the antimicrobial susceptibility profile of the isolated *E. coli* strains were performed using the Kirby-Bauer disk diffusion technique. Post-mortem examinations revealed characteristic lesions associated with avian colibacillosis. Thus, the most frequently encountered were: fibrinous pericarditis (n=7), perihepatitis (n=5), and aerosaculitis (n=4), followed by uric acid deposits on the ureters (n=2), omphalitis (n=1), and pulmonary congestion (n=1), respectively. All strains (n=8) expressed multiple antimicrobial resistance phenotypes (resistance from 3 to 10 antimicrobials). The highest resistance was observed towards tetracycline and doxycycline (87.5%), followed in descending order by erythromycin (75%), spectinomycin (62.5%) amoxiclav (37.5%), and novobiocin (25%). Total susceptibility was noticed against: florfenicol, gentamicin, lincomycin, enrofloxacin, and ciprofloxacin. The study demonstrated that avian colibacillosis, produced by *E. coli* with multiple antimicrobial resistance, is an important disease implicated in the mortality of turkey poults. Further studies, focusing on the zoonotic potential of the *E. coli* strains are still necessary, in order to evaluate the public health importance of the isolates.

Keywords: colibacillosis, antimicrobial resistance, turkey broilers.

SENSITIVITY TO ANTIMYCOTICS OF SOME *MALASSEZIA PACHYDERMATIS* STRAINS ISOLATED FROM DOGS

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Summary

Infection with *Malassezia pachydermatis* in dogs is treated with systemic or topical antifungal agents along with different antiseptics. Often, the treatment failure and the recurrence of infection occur. The most important fact that determines this is the application of antifungal treatment without carrying out tests to establish the sensitivity to antifungal agents. In addition, this aspect leads to increased resistance to antifungal substances. This paper presents results of the sensitivity on different antifungal substances of some strains of *Malassezia pachydermatis* isolated from dogs, in order to assess the effectiveness of the products that are frequently recommended in the treatment and to monitor the effect of resistance to antifungals of this yeast specie. Of the total strains tested, all showed sensitivity to Clotrimazole. The sensitivity to the other two antimycotic substances, with potential antimycotic efficacy, was different, because there were strains sensitive to Miconazole, but intermediately sensitive to Nystatin. Against Ketoconazole and Amphotericin B, all tested strains were considered resistant, the zone of inhibition being non-existent or very small.

Keywords: *Malassezia*, dogs, antimycotic, sensitivity.

CANINE LEISHMANIOSIS: ETIOLOGICAL AND EPIDEMIOLOGICAL REVIEW

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Summary

Leishmaniosis is a parasitic zoonosis, caused by protozoa of the genus *Leishmania* and transmitted by vectors. The vectors involved in the transmission of the parasitosis are phlebotomines of the genera *Phlebotomus* and *Lutzomyia*, by means of which the disease is distributed in the environment. The main natural reservoir of the disease is infested dogs, whose symptoms manifest in three forms: cutaneous, cutaneo-mucosal and visceral. The clinical picture is expressed through skin lesions, weight loss, anorexia, lymphadenopathy, ocular lesions, epistaxis, locomotor dysfunction and muscle atrophy. Canine leishmaniosis has been recorded in about 55 countries of the world, and as far as the European continent is concerned, the area of interest is the Mediterranean Sea basin. In the last decade there has been an increase in canine leishmaniasis cases in Europe and the possible causes are climate change, increased migration and urbanisation. Studies report that between 2041-2070, based on global warming predictions, a broad spread of sand fly species is expected in countries as Poland, the Czech Republic, Slovakia and Romania, which will also lead to an increase in the incidence rate of leishmaniosis. With increased animal travel from disease-free areas to endemic areas, the disease may evolve and its incidence may increase significantly.

Keywords: Leishmaniosis, *Phlebotomus*, Mediterranean Basin, Zoonosis, Global warming.

THE EPIGENETICS PROCESSES AND THEIR IMPORTANCE IN VETERINARY MEDICINE

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Summary

Epigenetics studies the possible mechanisms by which gene expression can be altered without affecting the nucleotide sequence of the gene. These changes can be transferred by mitosis, but also by meiosis and they are dynamic throughout the life. The main epigenetic changes can take place at DNA level, at histones level, through chromatin remodelling, or posttranslational through non-coding RNA. All these changes are important because they can influence cell fate and also plasticity of the phenotype, by mediating the influence of environmental factors (exposome) on the genotype. The purpose of this article is to present some aspects regarding the history evolution of the epigenetics concept, the mechanisms of epigenetics, the importance of epigenetic changes in gametogenesis, embryonic development, in animal production (such as the quantity and quality of milk, the quality of meat, the production of eggs, or the quality of wool fibre), in the appearance of pathologies, such as cancerous changes, in heritable disorders, but also in livestock immunity. In this article, we also discussed epigenetic biomarkers and their possible applicability in diagnosis, prognosis, and even in epigenetic therapy of animal pathologies in order to improve animal health.

Keywords: epigenetics, DNA methylation, gene imprinting, biomarkers, livestock.

CORRELATIVE STUDY REGARDING THE ANEMIC STATUS IN THE HEMATURIC PATIENT

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Summary

In the pathology of companion animals, hematuric diseases of renal and non-renal origin, due to their complexity, diversity and incidence, constitute a dominant one whose research of clinical-evolutionary aspects and paraclinical changes require a focused multidisciplinary and correlative-analytically evaluated approach. Hematuria by severity and usually by serious physiopathological insults at the systemic level or at the level of the affected urinary tract components is mainly a clinical expression that impresses the owner by the presence and sometimes by the drama of the clinical expression, calling for a thorough evaluation by the specialist veterinarian. The clinical investigations aimed at assessing the systemic, functional and physical changes in the urinary system aimed at achieving a characteristic dominant clinical framework for the presumptive clinical diagnosis of hematuria in pets. The hematological, biochemical blood, urinary and ultrasonographic evaluations were carried out in order to confirm the presumed clinical diagnosis and to assess the systemic or functional co-affection at the level of the urinary system. In some cases, due to chronic blood loss through the lower and upper urinary tract or the genital organs (vagina, uterus, prostate), hematuric patients may present varying degrees of anemia, but especially in the case of chronic kidney disease coexists with the decrease of erythropoietin synthesis.

Keywords: anemia, hematuria, dogs, cats.

STUDY REGARDING THE ULTRASONOGRAPHIC FINDINGS OF EXOCRINE PANCREATIC INSUFFICIENCY (EPI) IN DOGS

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Summary

Exocrine pancreatic insufficiency is a syndrome characterized by insufficient synthesis of pancreatic enzymes leading to pancreatic dysfunction, and finally, to maldigestion and malabsorption. Ultrasound examination is a non-invasive technique, that is often chosen as the first diagnostic method in this type of diseases. The purpose of this study was to describe ultrasound features of the pancreas during EPI in dogs. This study was performed in 12 dogs (8 males and 4 females of various breeds, ranging from 4 to 7 years of age), with clinical signs of maldigestion. The most common clinical signs of EPI, present in more than 90% (n=11) of affected dogs, have been reported to be weight loss, poor digestion, flatulence, polyphagia, increased fecal volume and defecation frequency. The conclusive diagnosis for EPI is performed by measurement of serum canine trypsin-like immunoreactivity (cTLI). In all our patients from this study (n=12), cTLI values were lower than 5 µg/L (the reference range in healthy dogs is between 5.0 and 35 µg/L). During ultrasound examination, in all patients were valued the size, shape, echostructure and echogenicity of the pancreas. The mean pancreatic thickness in all our patients was significantly lower than the mean reference values of healthy dogs. In 66% of dogs (n=8), the pancreas had a normal ultrasound appearance. Additional sonographic intestinal findings were recorded and so, ultrasonographic intestinal abnormal findings were identified in 83% of dogs (n=8) and were suggestive of inflammatory bowel disease.

Keywords: exocrine pancreatic insufficiency, abdominal ultrasound, dog.

COR TRIATRIATUM DEXTER IN DOG: CLINICAL CASE

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Summary

Cor triatriatum dexter in dogs represents a congenital condition with a low frequency. It is characterized by the persistence of the right embryonic valve in the form of a membrane, leading to the division of the right atrium into two chambers. This condition progresses with cardiac symptoms, affecting blood hemodynamics and the overall health of the organism. The presentation of a clinical case in this context represents a novelty in the field of veterinary medicine due to the complex diagnostic process and its low prevalence within the canine population. Clinically, the dog in the present study, suffering from Cor triatriatum dexter, exhibited clinical symptoms consisting of a holosystolic cardiac murmur of V/VI intensity, with maximum intensity at the right tricuspid focus, moderate exertional cough, and brief post-exertional syncopal episodes. To establish a correct diagnosis, paraclinical investigations were employed, including lateral and dorsoventral thoracic radiography, which revealed the alteration of the right atrium. Furthermore, electrocardiography and echocardiography in various modes such as B-mode, B+M-mode, color Doppler, spectral Doppler, confirmed the presence of a membrane within the right atrial cavity resembling a valve. Additionally, tricuspid regurgitation was identified with certainty.

Keywords: cor triatriatum dexter, echocardiography, canine, congenital cardiac diseases, tricuspid valve dysplasia