

BACTERIOLOGICAL STATUS OF CHICKEN MEAT IN WESTERN ALGERIA

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Summary

This study was conducted to evaluate the microbial quality of fresh chicken meat retailed at Tiaret City in Western Algeria. Randomly samples (70) were taken from chicken breast and thigh (35 of each) during 2019. Standards analysis was carried out to assess aerobic plate count (APC), *Staphylococcus aureus*, *Escherichia coli* and *Salmonella*, Expressed in log CFU/g, the average load of APC, *S. aureus* and *E. coli* counts were 5.8, 4.09 and 4.89 respectively. *Salmonella* spp was found in 31.42% of the examined samples. The breast was more contaminated than the thigh. Improving good hygiene practices allows the reduction of the risk.

Keywords: Chicken meat, Aerobic Plate Count, *S. aureus*, *E. coli*, *Salmonella*

FUNGI AND BACTERIA LOAD IN AIR OF A POULTRY PRODUCTION SYSTEM

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Summary

It is recognized that the air quality of the animal and hens houses, represented by physical, chemical and biological parameters, can influence their production performance. Workers (cares, managers, herdsmen, veterinarians) in hen's houses, who spend most of their time in buildings, thus being subjected to the strongest exposures, are at high risk. The occurrence of several fungal species in the environment appears to be related to human hypersensitivity disorders. Farmer's lung disease, asthma, poor production performance and reduced disease resistance of poultry and farm animals are certainly issues that may be related to the presence of powders, harmful gases and microorganisms in the air of shelters. The study aimed to determine the total number of fungi and the presence of species with allergic potential as well as the total number of aerobic mesophilic germs using gravitational sedimentation method. Increased values of the total number of fungi and the total number of aerobic mesophilic germs were found in the study shelter. The species of fungi recognized as potential allergens (*Aspergillus*, *Alternaria*, *Cladosporium* and *Penicillium*) were highlighted in an increased proportion in this study. The large proportion of *Aspergillus* species presents a particular risk for the development of aspergillosis in the caring staff and in the birds in the shelter.

Keywords: fungi, bacteria, poultry house

CORRELATIONS BETWEEN DIFFERENT PHYSIOLOGICAL STAGES AND THE PREVALENCE OF CALCIUM METABOLISM DISORDERS IN EWES

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Summary

Currently the accuracy and precision of the blood biochemistry techniques allow both the monitoring of the animals health, as well as creating an individual metabolic profile that reflects the nutritional needs of each individual. Thus, metabolic profiling tests complement classical morphoclinical diagnostic methods. The quantitative changes of the main blood constituents are an important factor in establishing a diagnosis, the dosage of the main blood parameters also having a prognostic value, since, even if the general state of the animal is unchanged, disturbances of these values - abnormally low or abnormally increased, can cause disturbances of homeostasis and, implicitly, organic or systemic disorders within a relative time frame. The main objective of this research paper is to detect the influence of the physiological status on the mean values of blood calcium, and, therefore, on the prevalence of the disorders and pathological entities which can derive from that. During this study significant variations of several electrolytes have been observed, the most striking variations of a blood parameter in correlation with the physiological status being noted in calcium. This type of results can be correlated with the high fetal demands during gestation or with the increased milk synthesis during the early stages of the lactation period. Another aspect that should be taken into consideration is the fact that during gestation the ewes' diet is restricted, the animals being fed mostly with wheat bran, in order to prevent the accumulation of gas in the rumen. Regardless of the cause, when the calcium level in the ewe's blood decreases significantly, below the lower limit of the reference range for this species, the hypocalcaemia syndrome occurs, with various pathological implications. The most common implication of the hypocalcaemia in ewes is the occurrence of the parturient paresis, morbid entity caused by the decrease calcium intake along with an increased calcium requirement of the mother's body during late gestation. The most common clinical signs include ataxia, salivation, decreased motility of the rumen, bloating, constipation, and, if it is not treated properly, can even lead to the death of the animal. Therefore, performing regular blood test during high demanding physiological statuses, such as late gestation and early lactation in ewes proves to be extremely important in order to prevent the occurrence of hypocalcaemia and to correctly assess the level of calcium supplementation necessary for each individual.

Keywords: calcium, ewes, parturient paresis, hypocalcaemia

BIOCHEMICAL EVALUATION – AN IMPORTANT ISSUE IN PANCREATITIS DIAGNOSIS

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Summary

The pancreas is a heterocrine gland of the digestive tract that has a dual function: exocrine and endocrine. The endocrine role is characterized by the secretion of insulin and glucagon (hormones important in carbohydrate metabolism), but also somatostatin and other pancreatic polypeptides. On the other hand, the exocrine role is manifested by the secretion of pancreatic juice. The exocrine pancreas produces enzymes that are indispensable in the digestion process. If these enzymes are activated for various reasons or the pancreatic juice spill is blocked towards the duodenum, the pancreas begins to digest its own glandular tissue, leading to inflammatory processes and pancreatitis. Excess lipids in the diet, obesity, and hyperlipidemia can be causes of inflammation of the pancreas. The importance of biochemical evaluation in the detection of pancreatitis is underlined clearly by presenting in this research paper two case studies. Both cases showed the evolution of pancreatitis in cats, more specifically in two cats of European breed. They were brought to the clinic with completely different symptoms, which were not enough to establish a complete diagnosis. With the help of biochemical analyses, it was found that both patients suffered from the same disease, despite the distinct symptoms. Moreover, without the clarifications conferred by the biochemical analyses, the possibility of correctly diagnosing a patient decreases significantly. Thus, with the results of the blood analyses, the increased level of lipase was observed and this was subsequently followed by a pancreatitis test which determines the presumed diagnosis. The evaluation by biochemical tests is therefore also necessary in the diagnosis of pancreatitis.

Keywords: pancreatitis, cats, biochemical tests

MORPHOLOGY OF THE LUMBO-SACRAL PLEXUS IN JACKAL (CANIS AUREUS)

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Summary

The nerves of the lumbosacral plexus raise intriguing questions about their courses, function, and distribution. Lumbar plexus in jackal consist of the seven nerves, while sacral plexus of five. The iliohypogastric nerve is divided in cranial and caudal branches. The nerves are skewed and innervate the same territory as in domestic animals. Close to the greater ischiatic notch the ischiatic nerve is divided into tibial and common fibular nerves. Tibial nerve gives off a tick branch for the biceps femoris, semimembranosus, semitendinosus and adductor of the thigh. A branch of the common fibular nerve is distributed to the caudal abductor of the crus. Two cadavers from hunted jackals were dissected. Knowledge of the nerves course may allow for safer nerves blockade.

Keywords: lumbo-sacral plexus, nerves, *Canis aureus*

THREE-DIMENSIONAL (3D AND 4D) ULTRASONOGRAPHY IN VETERINARY OBSTETRICS AND GYNECOLOGY

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Summary

The most widespread imaging technique that allows the investigation of soft biological structures is ultrasonography. Among the many applications of ultrasonography, are highlighted medical procedures on skin and musculoskeletal tissues, cardiovascular, urinary and reproductive systems. Ultrasonography has been the instrument of medical research since World War II. In 1942 the first paper in the field of medical ultrasonography was published. From the 1970s when ultrasound technology began to be marketed, to this day, technology has been continuously improved. The purpose of this paper is to review data related to three-dimensional ultrasound 3D and 4D technology connection to veterinary medical practice. Aspects such as: historical evidence, evolution and current status of 3D and 4D technologies, the benefits and inconveniences, the risks, the perspectives for use in clinical veterinary practice, especially in the obstetrics and gynecology field, are presented.

Keywords: 3D and 4D ultrasonography, veterinary obstetrics and gynecology

IDENTIFICATION OF POTENTIAL PATHOGEN BACTERIA FROM MILK AND DAIRY PRODUCTS

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Summary

Milk and the dairy products that derive from it, are commonly used in human alimentation. Among other dairy species the cow's milk is the most produced and consumed. Because of its high nutritive content, milk can support the development of a rich variety of microorganisms. The microorganisms are playing different roles in milk like: dairy fermentation, health assuring through their probiotic role, but there are also bacteria that produce different types of diseases, like mastitis in cow collective and enteritis at human, mainly through the toxins they produce. Some of these pathogenic bacteria can develop a certain resistance against antibiotics. The current paper aims to identify the possible pathogen bacteria present in milk, using 10 varieties of dairy products collected from different locations. The DNA was isolated and purified from bacterial cells that were found in milk and used as template in PCR experiments in order to detect pathogenic bacterial strains and some of the most common antibiotic resistance genes. Not lastly, the DNA is used to study the prevalence and genotypes of the identified bacteria.

Keywords: pathogenic bacteria, dairy products, virulence genes, antibiotic resistance

STUDY OF THE ETIOLOGY OF ACUTE KIDNEY INJURY IN DOGS

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Summary

There are a number of underlying conditions that can lead to AKI, and ultimately to ARF. Unfortunately, despite diagnostic workup, a definitive underlying cause for development of AKI is often not found. Acute kidney injury is characterized by a rapid onset of renal insufficiency/failure, reduction in glomerular filtration rate and renal plasma flow, and the clinical and biochemical aftermath of the excretory failure. Clinical and ultrasound investigations in this study were conducted at the Medical Clinic of the Bucharest Veterinary Medicine Faculty during March 2019 - October 2019 on a number of 10 dogs of different races and ages presented for full evaluation. The ultrasound was performed using the MyLab.30 ultrasound with a convex or linear probe with a frequency of 5-8 MHz. Diseases with AKI included a wide range of pathological processes dominated by acute uremic crisis: 40% of toxic nature, 20% babesiosis (n = 2), 20% urinary infections (n = 2) and post-renal obstruction 20% (n = 2). The etiology of AKI and the type of injury are the most important prognostic factors for affected dogs and their identification is therefore essential for an accurate prognosis.

Keywords: dogs, etiology, acute kidney injury

ECHOCARDIOGRAPHIC EVALUATION IN DOGS WITH DILATED CARDIOMYOPATHY

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Summary

Dilated cardiomyopathy (DCM) is the most common myocardial disorder in canines. It affects mainly large breed dogs but can also be encountered in medium sized breeds such as Cocker Spaniel, and it develops during adulthood. The diagnostic protocol includes physical examination, 24-hour Holter monitoring, thoracic radiography and electrocardiography. The aim of the study is to describe the most specific echocardiographic measurements in dogs with DCM in order to affirm the presence of this disease in the referred patients. Client-owned dogs with DCM were retrospectively selected from the Veterinary Teaching Hospital of the Veterinary Faculty of Iasi between 2016 and 2019, based on history, physical examination, thoracic radiography, electrocardiography and complete electrocardiography. All dogs showed increased values for left ventricular internal diameters (LVID) in systole and diastole, end systolic and diastolic ventricular volumes, E point to septal separation (EPSS) and left atrium to aorta ratio (La/Ao). There was also a decrease in shortening and ejection fraction and sphericity index. Transmitral flow pattern showed missing A-wave in dogs with atrial fibrillation and in all dogs the E-wave was increased. In conclusion, dogs with DCM develop systolic and diastolic dysfunction quantifiable only through echocardiography. It is also recommended to evaluate the above mentioned measurements during disease progression.

Keywords: canine, myocardial dilatation, echocardiographic parameters

**STUDY ON DIAGNOSIS OF CHRONIC KIDNEY DISEASE IN
DOGS AND CATS IN SOME VETERINARY CLINICS IN ROMANIA**

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Summary

Chronic kidney disease (CKD) is defined as a functional and structural disturbance of one or both kidneys, that occurs during an extended period, usually three or more months. CKD is asymptomatic for a long time, even years, and when it becomes clinically apparent the structural and functional damages are irreversible and frequently progresses to fatal kidney failure. Dogs and cats of any age or breed can be affected, but most of the time the older animals are more likely to develop CKD than younger ones. There is no cure for CKD, but there are various treatments which can prolong pet's life for months to years, depending on the stage, so the faster the pet is diagnosed, the easier the treatment will be. There are various methods to diagnose CKD in small animals, including blood tests, urine tests, imaging tests and others, depending on the accuracy of the test and the financial possibility of the owner. The purpose of this paper is a screening on diagnosis of chronic kidney disease in dogs and cats in some veterinary clinics in Romania.

Keywords: chronic kidney disease, diagnosis, dog, cat

THE EPIDEMIOLOGICAL INQUIRY IN CARNIVOROUS DERMATOPHYTOSIS AND THEIR ROLE IN ANIMAL AND HUMAN TRANSMISSION

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Summary

Carnivorous dermatophytoses affect the superficial skin layers, hair and claws. The most frequently incriminated pathogenic agent is *Microsporum canis*. It is possible the transmission between different animal species, even in humans. The study was conducted over a 2-year period and followed a survey of 8 episodes of dermatophytosis that involved 45 cats, 22 dogs, 2 goats and 27 owners from Timis County. The samples were performed by mycological exams. There were investigated the etiological agent as well as the animals' origin, living condition, age, other animals infestation and cross-transmission. We correlated the information from epidemiological inquiry, clinical examination and laboratory investigations. The results of the study revealed an increased prevalence in stray cats, young individuals and animals kept outdoor constantly. The *Microsporum spp.* was the only dermatophyte involved in skin lesions and asymptomatic skin. Infected stray cats or purchased pet shop dogs, the asymptomatic infected animals who cohabit with healthy ones represent the main reservoir of dermatophytosis infestation.

Keywords: dermatophytosis, epidemiology, carnivorous, zoonotic risk

PARACLINICAL RESEARCH IN THE FELINE LOWER URINARY TRACT DISEASE

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Summary

Feline lower urinary tract disease (FLUTD) is diagnosed quite frequently among the feline population and is characterized by haematuria, dysuria, frequent urination, stranguria, periuria and urethral obstruction, which mainly affect the sedentary apartment cats. This morbid entity has a high incidence of diseases of the urinary tract in cats, which is often complicated by bacterial, fungal or parasitic infections at this level. Also, phenomena of urolithiasis, trauma, neurological or iatrogenic disorders of the urinary tract are commonly encountered. Following clinical studies it has been found that in 50% to 65% of the animals with urinary problems a precise etiological identification is not possible because the causes are multifactorial and complex, classifying as idiopathic cystitis. In this sense, we performed clinical and paraclinical investigations (blood biochemistry and ultrasound) on a group consisting of 15 cats, divided into different age categories: 2-4 years, 5-8 years and 9-11 years. In order to diagnose the conditions of the feline lower urinary tract disease, it is advisable to use in addition to the clinical methods of semiologic type, the paraclinical methods: blood biochemistry and ultrasound.

Keywords: cats, urinary tract, creatinine, urea, ultrasound