

FREQUENCY OF STAPHYLOCOCCI STRAINS WITH ANTIBIOTIC RESISTANCE ISOLATED FROM ANIMALS

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Summary

Antibiotic resistance is a growing phenomenon with great importance in medicine. It has as a genetic support the resistance genes found in the bacterial chromosome, the R plasmids, in integrons and transposons. Resistance genes can be transmitted intraspecific and interspecific through mobile genetic elements.

Within the *Staphylococcus* genus, the multiple antibiotic resistance is present both on coagulase-positive and coagulase-negative species, pathogenic to humans and animals.

The study of resistance patterns provides information on the epidemiological circuit of staphylococci strains from animals to humans that can cause nosocomial infections.

The researches aimed the patterns of resistance on a total of 240 staphylococci strains coagulase positive and coagulase negative, using the disk diffusion method against 15 antibiotics that represent the classes of antibiotics used in therapy.

The resistance patterns detected ranged from 3.75% on novobiocin to 50.83% on erythromycin.

Key words: multiple antibiotic resistance, resistance patterns, staphylococci strains

RESEARCH CONCERNING THE ASSOCIATION OF REOVIROSIS WITH OTHER INFECTIOUS ENDEMIC DISEASES IN BROILERS

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Summary

Reovirus has an endemic progress, in broilers farms, alone or in combination with other infectious diseases due to immunosuppression induced by the avian reovirus.

The research was performed in a flock of broilers, in which the reovirus evolved with two syndromes characteristic, after the age of 14 days. Subsequently, based on symptoms and pathological lesions were suspected other infectious diseases that occurred at different ages.

The PCR techniques has been used for detect the viruses in several variants. For the isolation of germs was used bacteriological exam.

Avian reovirus was detected in samples of small intestine, liver, proventriculus and spleen taken from the cadavers after the age of 6 days.

Infectious bursal virus (very virulent strains) was detected in the Fabricius bursa, with characteristic lesions after 21 days of age.

Infectious bronchitis virus (strain Qx) was detected in samples of lungs taken from cadavers after the age of 21 days, and Marek's disease virus was detected in samples of liver and spleen taken from cadavers after the age of 25 days .

Key words: avian reovirus, broilers, other avian viruses

RESEARCH ON THE FREQUENCY OF METHICILLIN RESISTANT STRAINS OF *STAPHYLOCOCCUS* SPP.

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Summary

The phenomenon of multiple resistance to antibiotic, is in continuously expanding, both in coagulase-positive as well as in coagulase-negative staphylococci.

A special attention is paid to methicillin-resistant staphylococci, also known as MRSA staphylococci (Methicillin Resistant *Staphylococcus aureus*), due to permanent zoonotic risk.

The methicillin resistance in staphylococci is determined by the synthesis of a specific protein (PBP20), encoded by the *mecA* gene.

Researches were made on a number of 245 strains of staphylococci isolated from animals, 43 coagulase positive strains and 202 coagulase negative strains. The methicillin resistance of these strains was phenotypically researched through the disk diffusion method, using biodiscs with methicillin (5 µg), oxacillin (1 µg) and ceftiofur (30 µg).

The results established a high frequency of the strains resistant to methicillin (32.44%) and oxacillin (41.23%), showing, thus, the existence of MRSA strains of staphylococci, both in farm animals, as well as in pets.

Key words: coagulase positive, coagulase negative, methicillin-resistant staphylococci strains

**THE PREVALENCE OF POSITIVE ESBL *E. COLI* AND
KLEBSIELLA PNEUMONIAE STRAINS ISOLATED FROM THE
OWNERS OF PETS**

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Summary

The production of extended-spectrum Beta-lactamase enzymes by Enterobacteriaceae is a threat to public health in the human as well as the veterinary medicine at a global level. The ESBL enzymes are encoded by genes that are located on mobile genetic elements. Consequently, at the microbial level, between people and pets, or within the same species, the horizontal transfer of bacteria bearing ESBL resistance genes can occur. The purpose of this study was to detect the presence of extended-spectrum beta-lactamase producing *E. coli* and *K. pneumoniae* strains in pet owners and determine the resistance of isolates to antibiotics. In 2015, 41 faecal samples of human origin were processed. Out of the total of the samples that were analyzed, 17 (41.46%) were positive, the certainty confirmation will be performed through techniques of molecular biology. The phenotypic confirmation of ESBL positive strains was performed in accordance with the protocol recommended by CLSI. The ultimate purpose of the study aims at establishing some resistance genes that are common to pets and owners in order to determine their role in the circuit of the ESBL strains "in-cross" transmission.

Key words: ESBL, enterobacteriaceae, pets, owners

ANTIBIOTICS SENSITIVITY OF ISOLATED BACTERIA FROM DAIRY COWS WITH CLINICAL ENDOMETRITIS

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Summary

Clinical endometritis is a common cause of infertility in cows, causing delays in uterine involution, low conception rates and an increased number of services per conception. The aim of this study was to isolate and identify the involved bacteria in the development of endometritis in cows, and establishing a primary treatment using antibiotic susceptibility by determining germs sensitivity to antibiotics from different classes. The isolated bacteria were stained Gram, transferred after on solid media, where they showed characteristic colonies and were confirmed by standard biochemical tests. The in-vitro antibiotic sensitivity test for each isolated and identified bacteria was done by disc diffusion method. Out of 24 samples, were isolated and identified 30 bacterial strains: *Escherichia coli* (40%), *Klebsiella spp.* (16.7%), *Staphylococcus spp.* (23.3%), *Corynebacterium spp.* (13.3%) and *Streptococcus spp.* (6.7%). This study revealed that both Gram negative and Gram positive strains showed an increased resistance to antibiotics from Beta-lactams Class, Penicillin Subclass. All Gram negative strains were sensitive to Fluoroquinolone Class antibiotics (Enrofloxacin and Flumequine).

Key words: bacteria, cows, endometritis, antibiotic sensitivity.

**ABORTIONS IN SHEEP CAUSED BY THE ASSOCIATION OF
TOXOPLASMA GONDII, *CHLAMYDOPHILA ABORTUS* AND
CAMPYLOBACTER spp.
CASE STUDY**

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Summary

At the beginning of the last cold season, in a lot of imported pregnant sheep, from specialized breeds for meat, abortions and calving of non-viable lambs were registered, with a rate of 25 % .The abortion age was find out on all the gestation ages. Laboratory testing by PCR / rPCR, bacteriological and physicochemical techniques revealed the concomitant presence of *Toxoplasma gondii*, *Chlamydophila abortus* and *Campylobacter spp.*, and installation of metabolic acidosis. The results for *Brucella ovis* by ELISA, *Brucella melitensis* by rose Bengal, *Coxiella burnetii* and *Schmallenberg virus* by PCR and *Leptospira spp.* by MAT were negative.

Key words: Sheep, *Toxoplasma gondii*, *Chlamydophila abortus*, *Campylobacter spp.*, acidosis

DISTRIBUTION AND ANTIMICROBIAL SUSCEPTIBILITY OF COAGULASE-NEGATIVE STAPHYLOCOCCI ISOLATED FROM BOVINE MASTITIC MILK – PRELIMINARY STUDY

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Summary

Growth and the placing on the market of products of animal origin constitute an important source of income for the farming population. The rational development of this sector is to take place through the development of the veterinary actions aimed at raising the level of public health in the European Union. The protection of human health against diseases and infections directly or indirectly transmissible between animals and man (zoonosis) is of a major importance.

The zoonosis which exists in the phase of primary production must be the subject of a proper control in order to guarantee the achievement of the objectives of the launched by the Community rules. However, in the case of primary production at the origin of the direct supply to the final consumer or trade locally, it is necessary to protect public health. Zoonoses present at the level of primary production must be subject to appropriate supervision to ensure the objectives launched by Community regulations. However, if primary production to the direct supply to the final consumer or to local shops, it is necessary to protect public health in accordance with local veterinary.

Given the economic losses recorded in a farm dairy, domestic type, in Timis county, because of subclinical mastitis, research of this work were directed towards identifying and characterizing coagulase negative staphylococci involved in the etiology of cows mastitis, respectively determination of antibiotic susceptibility. In mastitic milk samples were isolated and identified six species of coagulase-negative staphylococci (*S. xylosus*, *S. epidermidis*, *S. haemolyticus*, *S. chromogenes*, *S. sciuri*, *S. saprophyticus*) in a ratio of 37.38%.

The predominant species of coagulase-negative staphylococci isolated from samples of milk were *S. xylosus*, *S. epidermidis* or *S. haemolyticus*. After testing staphylococci strains isolated from cows CN mastitis, to antibiotics were identified methicillin-resistant strains and more type of resistance to β -lactams, tetracyclines, macrolides and polymyxin B .

Key words: staphylococci, bovine, mastitis, milk

THE SEROPREVALENCE OF PRRS SYNDROME IN YOUNG SWINE INTENDED FOR FATTENING

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Summary

The PRRS syndrome has rapidly expanded in intensive rearing pigs farm, where is producing significant economic losses. The researches followed the seroprevalence of this syndrome in 7 in young swine farms after weaning. There were prelevate blood samples from 20 pigs, at 2.5 youth -3 months of age (R1) and after an interval of 2 months (R2).

PRRS antibodies were detected with INGEZIM PRRS 2.0 1.1.PR2.K.1. kit and the results have been processed and graphically presented. PRRS antibodies were detected in six farms, youth A swine farm being negative on both tests.

At young swine aged 2.5-3 months seroprevalence was between 27.37% and 100% and R2 seroprevalence was between 51.23% and 100%. The dynamic evolution of this indicator proves the existence of the phenomenon of seroconversion corresponding controlled expansion of the disease in flocks.

Key words: PRRS, seroconversion, antibodies

PREVALENCE AND ETIOLOGY OF SUBCLINICAL MASTITIS IN DAIRY BUFFALOES VERSUS DAIRY COWS FROM TRANSYLVANIA, ROMANIA

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Summary

The prevalence of clinical mastitis in buffaloes and cows is considered similar by the literature ranging from 8 to 40% and 19.9% to 44.8%, respectively. The percentage is highly variable depending on the region and raising technology. Nevertheless, not much is known about subclinical mastitis agents in buffaloes in Romania. The aim of the study was to comparatively evaluate the prevalence and etiology of mastitis in dairy buffaloes and cows from Transylvania. Additionally, antimicrobial susceptibility profile of microorganisms isolated from milk samples was tested. The research was carried out on a group of buffaloes (n=108) and a group of Romanian Spotted and Red Holstein cows (n= 211). After the physical examination of the mammary gland, R. Mastitest was performed to diagnose subclinical mastitis. Subsequently, a total number of 56 milk samples from the buffaloes, and 28 milk samples from the dairy cows were collected. Classical microbiological methods were used to cultivate the bacteria from the milk samples and the Kirby-Bauer disk diffusion technique was performed to evaluate the sensitivity/resistance to antibiotics commonly used to treat the disease, such as ampicillin, amoxicillin, enrofloxacin, cloxacillin and oxytetracyclin. Antibiotic resistant or highly resistant staphylococci were encountered in almost all milk samples in bovine mastitis (90%) compared to the buffaloes where *Streptococcus spp* was present in the highest percentage (71.42%). The results indicated that frequent and uncontrolled use of antibiotics against mastitis or other current diseases of both buffaloes and dairy cows led to the development of multi- or total resistance to antibiotics. The highest overall sensitivity for the isolated strains was recorded for amoxicillin in both species.

Key words: buffaloes, dairy cows, subclinical mastitis, antibiotic resistance

THE CHANGES IN NON-SPECIFIC SYSTEMIC IMMUNITY IN CATTLE WITH SUBCLINICAL MASTITIS

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Summary

Bovine mastitis, the most significant and costly disease of dairy herds, has vast effects on farm economics due to reduction in milk production. The bacterial etiology of mastitis exerts its impact on both the local and systemic immune effectors, thus the immune status of the animals can help in predicting the outcome of the disease (Giupana et al., 2015). The investigations aimed to monitor the changes in non-specific systemic humoral and cell-mediated immunity in cattle of different breeds, previously diagnosed with subclinical mastitis (n=10), when compared to a healthy group (n=9). The cattle originated from private households located in NW Transylvania. Milk and blood samples were collected from each animal, and further tested by the use of precipitation techniques to quantify total immune globulin levels and the carbon particle inclusion test to monitor the phagocytosis from whey and blood, respectively. The study revealed that there were no statistically significant differences between the total immunoglobulin present in the serum of the cattle diagnosed with subclinical mastitis (0.31 ± 0.079 optical density units, ODU) when compared to the healthy ones (0.26 ± 0.088 ODU). Values for phagocytosis were significantly higher ($p < 0.01$) in mastitic (2.24 ± 0.92 ODU) versus healthy (4.33 ± 0.71) animals. Moreover, the higher values obtained for phagocytosis in cows with subclinical mastitis suggested a stronger involvement of non-specific cell-mediated rather than humoral systemic immunity in this category.

Key words: subclinical mastitis, total immunoglobulin, phagocytosis

THE PREVALENCE OF GASTROINTESTINAL PARASITES IN RED FOXES (*VULPES VULPES*) IN BIHOR COUNTY

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Summary

During the period December 2014 – February 2015, 42 dead foxes (*Vulpes vulpes*) from 19 hunting sites belonging to Bihor County were necropsied. Out of 42 dead foxes, 25 were males and 17 females. Faeces samples and gastrointestinal mass from all dead foxes were collected and examined macro- and microscopically to identify the endoparasites. Carefully each section of the digestive tract, the mucosa, the content and then the gastrointestinal mass were examined macroscopically, by successive washes method. The gastrointestinal content and also each section of the digestive tract, previously washed, were microscopically examined by stereomicroscope. Subsequently the faeces samples were examined by flotation method (Willis). The endoparasites were identified in 27 of 42 samples and the overall prevalence was 67.28%. Referring to the identified parasites prevalence the parasitism with: *Eimeria* spp. was found in seven samples (16.16%), *Alaria alata* in five samples (11.90%), *Mezocostoides lineatus* in 13 samples (30.95%), *Taenia pisiformis* in eight samples (19.04%), not identified cestodes in six samples (14.28%), *Toxocara canis* in 15 samples (35.71%), *Pterygodermatites affinis* in three samples (7.14%), *Ancylostoma* spp. in eight samples (19.04%) and with *Trichocephalus vulpis* in nine samples (21.42%).

Key words: parasites, prevalence, red fox, gastrointestinal.

**OBSERVATIONS UPON INFECTION WITH MYCOPLASMA
GALLISEPTICUM IN JAPANESE QUAIL (COTURNIX COTURNIX
JAPONICA)**

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Summary

This paper presents an episode of micoplasmosis with *M. gallisepticum* in quails aged 28 days. The objectives of this study were to diagnose in a flock of 1,400 quail with clinical respiratory, infraorbital sinus inflammation, mucous nasal cavities, conjunctival sacs and air sacs. The cumulative mortality losses expressed, has recorded maximal values in the fourth weeks when it was 2.07% and respectively 2.29% in the fifth weeks. Serological examination performed by agglutination reaction on the slide, confirmed infection with *M.gallisepticum* in the flock of Japanese quail.

Key words: *M. gallisepticum*, micoplasmosis, Japanese quail

**PREVALENCE OF *ANGIOSTRONGYLUS VASORUM*
INFESTATION IN DOGS FROM WESTERN ROMANIA -
PRELIMINARY RESULTS**

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Summary

Angiostrongylus vasorum is potentially fatal metastrongyloid parasitic nematode that infects dogs. The aim of this study was to investigate the prevalence of *A. vasorum* in dogs from western part of Romania. A total of 115 dog fecal samples were examined for the presence of first stage larvae of *A. vasorum* by Baermann test. Six of the examined dogs were infested, and overall prevalence of *A. vasorum* infestation was 5.21 %. This is the first report of *Angiostrongylus vasorum* infestation in canine population in Romania. The results highlight the emerging nature of parasitism with *A. vasorum* in dog in this area of the world and induce mandatory extension of research.

Key words: *Angiostrongylus vasorum*, prevalence, dogs, Baermann test.

TESTING THE MICROFILARICIDAL EFFECTIVENESS OF SOME DRUG FORMULATIONS IN TREATMENT OF DOGS NATURALLY INFESTED WITH *DIROFILARIA REPENS*

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Summary

The filarial nematode *Dirofilaria (Nochtiella) repens* is the etiologic agent of canine and feline subcutaneous dirofilariosis, and mosquito-borne disease that can affect humans.

Epidemiological surveillance studies lately have shown a continuous increase in the prevalence of subcutaneous dirofilariosis, both in our country and in the European countries.

The study was conducted to test the microfilaricidal efficacy (curative) and safety in case of infestation with *D. repens* of two licensed drug formulations for the treatment of various endo - and ectoparasitosis in dogs (imidacloprid 10% / moxidectin 2.5% spot-on and ivermectin injection) after a single administration and monitoring of their effect for 90 days.

The study included a total of 32 dogs of different ages, races and both sexes with circulating microfilariae of *D. repens*.

The samples were analysed for the microfilariae presence by Knott modified test, interspecific differentiation was made on the basis of the morphological characters.

The identification of species was confirmed by diagnostic multiplex-PCR method to yield amplicons of approximately 300 base pairs from the gene amplification of a specific region of 12S rDNA.

The results of the study confirm the effect of the combination of imidacloprid - moxidectin on microfilariae of *D. repens*, demonstrating a high degree of efficiency (microfilaricidal effect) of 100% for 30 days after administration, and 83.3% during days 30 and 90 post-treatment.

Regarding the microfilaricidal effect on *D. repens* of ivermectin a degree of efficacy of 100% was observed in the first three weeks post therapy, 75.0% on day 30 from the start of treatment and 12.5% on day 60 post administration.

Key words: *Dirofilaria repens*, dogs, therapy, effectiveness

**MINIREVIEW OF THE EUROPEAN SURFACE WATER
DISTRIBUTION OF *G. DUODENALIS* GENOTYPES:
FROM 2005 TO NOWADAYS**

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Summary

The current work summarizes the results of epidemiological investigations aimed to detect *Giardia* spp. in surface water samples in different European countries. Mainly, results of molecular characterizations of the obtained *Giardia* isolates according to the tested water type, and prevalence values obtained through microscopy (IFAT) and molecular biology (PCR) methods and results of genotyping are presented. A total of 14 scientific papers retrieved in the biomedical literature, providing from 10 countries, were selected and processed. The results showed that all tested water types (sewage, waste, drinking, recreational and river) can harbor viable infected forms of *Giardia* cysts and the frequency of isolation rate of the parasite have been markedly varied within countries and regions. The dominance of zoonotic assemblages A and B, beside a low number of assemblages E, underlined that human and livestock wastewater can represent the major pollutants of surface waters. Likewise, the lack of the pets and wildlife adapted assemblages such as C or D suggest that these animals plays a minor or neglected role in the contamination of surface waters. The awareness of the relevance of monitoring the surface water contamination with *Giardia* cysts by water and public health authorities using molecular tools, plays a crucial role in the comprehensive understanding of circulation of this waterborne parasite in the natural environment beside correct evaluation of the risk that is poses for humans and animals.

Key words: surface water, *Giardia*, Europe

**ATTEMPTING TO SOLVE THE PARASITISM WITH
DERMANISSUS GALINAE IN LAYING HENS**

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Summary

The aim of this study was to evaluate the efficacy of saturated vegetable fats incorporated in a soap, on a population of *Dermanyssus gallinae* (De Geer, 1778) (Acari: Dermanyssidae) (the poultry red mite), based on the property of the fat to obstruct the respiratory stigmas of the mites. It was appraised also the effect of the soap on the laying hens.

The impact on birds was assessed in the farm, by spraying them with a 3% concentration solution and the efficacy of the product on the mites has been tested in the laboratory, using three solutions of different concentrations (2.5%, 5%, 7.5%).

In the farm, it was found that the soap didn't had negative effects on the birds health, behavior and production, but in those which weren't sprayed, it was found a decrease in egg production.

After the tests taken place into the laboratory, we have observed that the number of mites has decreased proportionally with increasing the concentration of the solutions used.

Key words: *Dermanyssus gallinae*, saturated vegetable fats

ANTIMICROBIAL PROTOCOLS IN BOVINE RESPIRATORY DISEASE COMPLEX – A REVIEW

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Summary

Bovine respiratory disease (BRD) is described as one of the most important causes of morbidity and mortality, leading to significant economic losses in cattle industry.

Given the major role of the bacterial pathogens within BRD polyfactorial etiology, the use of antimicrobial drugs has always represented the cornerstone of the therapeutical protocols although the clinical efficacy may be questionable. Also, evidence of an increased antimicrobial resistance characterising bacterial strains such as *Mannheimia haemolytica*, *Pasteurella multocida*, *Histophilus somni*, *Mycoplasma bovis* and *Arcanobacterium pyogenes* isolated from lung tissues is pointed out by the great majority of retrospective studies, with several authors reporting discrepancy between the *in vitro* susceptibility testing results and the clinical response towards the antimicrobials used under field conditions.

The paper was aimed to perform a critical review of the literature, with data collected from both scientific articles and clinical reports or guidelines. This review lists the main antimicrobial groups (broad spectrum penicillins, tetracyclines, macrolides, fluoroquinolones, cephalosporines), their recommended uses of the antimicrobials for BRD control - therapeutic and preventive (metaphylactic and prophylactic), the categories based on the duration of the active tissue concentration and effect duration (daily regimen compared to long-acting or single- shot formulations), together with the particularities regarding the posology (on arrival administration, first days after the arrival) and withdraw period. Also, it underlines the significance of the responsible and prudent use of the antimicrobials.

Key words: bovine respiratory disease, antimicrobial drugs, antimicrobial resistance

VACCINATION PROTOCOLS IN BOVINE RESPIRATORY DISEASE COMPLEX – A REVIEW

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Summary

Vaccination represents one of the key measures listed along with biosecurity and predisposing factors avoidance for the bovine respiratory disease (BRD) control and prevention. Currently, several types of commercial vaccines are available on the market and also both *in vitro* and *in vivo* scientific studies are conducted in order to develop new products aimed to ensure a better protection level in bovine susceptible population.

This paper summarises all these products with detailed references: trade name, vaccine type (conventional/deleted or marker vaccines, modified-live/inactivated, monovalent, multiple - valences) vaccinal strains, vaccination regimen, intranasal/injectable), advantages and disadvantages of their use based on the determined level of local and specific humoral immune response (antibody titer). Parameters such as the occurrence and the intensity of the clinical disease, morbidity and mortality percentages, inflammatory response, viremia, viral shedding, feed intake, metabolic response are also listed to evaluate the efficacy of above mentioned vaccines.

The main principles to be consider when establishing the vaccination programmes adapted to the farm conditions (epidemiology of the region, risk factors, farm history, animals's immune status, age, production category) are mentioned.

Key words: bovine respiratory disease, vaccine, immune protection

**PRELIMINARY RESEARCH ON THE PREVALENCE OF
TOXOPLASMA GONDII INFECTION IN WISENTS (*BISON
BONASUS*) FROM ROMANIAN ARMENIS-PLOPU RESERVE**

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Summary

The wisent (*Bison bonasus*) or European bison is a Eurasian species of bison. Nowadays, the wisent is downgraded to a vulnerable species status. In this respect, Romania tries hardly to preserve this species in several natural reserves from Neamț, Buzău or Hunedoara counties. During May 2014, 18 wisents from different European countries (9 from Sweden, 4 from Germany, 2 from Italy, 2 from Belgium and 1 from Romania) were moved to the new reservation Armeniș-Plopu from Caraș-Severin County, south-western Romania, in a wooded area. Blood samples were collected when animals were loaded in trucks prior transportation and preserved at 4°C up to destination. Samples were examined by ID Screen[®] Toxoplasmosis indirect test kit (ID VET, France). Four samples (22.22%) were positive for *T. gondii*. The OD for positive samples varied between 0.474 and 2.237.

Key words: wisents, *Toxoplasma gondii*, prevalence, Romania.

ZOONOTIC POTENTIAL OF *STAPHYLOCOCCUS PSEUDINTERMEDIUS* – A REVIEW

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Summary

The role of *Staphylococcus pseudintermedius* in small animal's pathology has been updated over the years, with the current scientific data underlying the complex ability to develop multiple antimicrobial resistance in case of this opportunistic bacterium responsible for skin and soft tissues infections in dogs. It belongs to the coagulase-positive group and it is one of the most frequently isolated *Staphylococcus spp.* in dogs presenting pyoderma and external otitis, pathologies well known for the poor response to treatment and the recidivant course. Canine skin infections are often regarded as challenges, with the results of the *in vitro* susceptibility testing indicating the lack of efficacy of β -lactams, erythromycin, gentamicin, ciprofloxacin, chloramphenicol, clindamycin, oxytetracycline, and tetracycline, and thus few antimicrobial options. Great interest is focused at present on the zoonotic risk of methicillin-resistant *S. pseudintermedius* (MRSP) isolates and its veterinary-hospital-associated epidemiology. Carrier state was also described for both methicillin susceptible and resistant strains. This review documents the ecology, the classical microbiological and molecular characteristics, and clinical importance of the bacterium with dual activity – both commensal and pathogenic microorganism and emphasizes the emergence of distinct clones of MRSP with notable antimicrobial resistance patterns, such as the inducible clindamycin (iCLI) *Staphylococcus pseudintermedius* or the European clone (ST71 MRSP). In conjunction with the scientific proof of the increasing antimicrobial resistance level, the study highlights the need for antimicrobial resistance systematic screening and surveillance to be considered for guidelines of rational use of antimicrobials drugs. As for the impact on human health, several reports confirmed *Staphylococcus pseudintermedius* infections in people and suggested the zoonotic risk of MRSP strains in veterinary facilities (hospitals, clinics) and in the community.

Key words: *Staphylococcus pseudintermedius*, multi-drug antimicrobial resistance, zoonotic risk

USING OF PAPPENHEIM STAIN FOR HIGHLIGHTING THE REOVIRUS PATHOLOGICAL LESIONS

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Summary

Avian reovirus infection is prevalent in intensive poultry farming, especially in broilers, which evolve with many anatomoclinical forms, pathological signs being correlated with clinical signs. The researches were carried out in a flock of broilers, where reovirus debuted from the first week of life. The necropsic exam was biweekly performed on a total of 96 cadavers from which samples were taken for microscopic examination. The presence of reovirus was confirmed by RT-PCR and ELISA test.

At the necropsied chickens were found following macroscopic lesions characteristic for reovirus: proventriculus, catarrhal enteritis, arthritis- tenosynovitis, unilateral and bilateral necrosis of the femoral head, malabsorption syndrome, pericardial effusion and ascites. To highlight the histopathological lesions was utilized Pappenheim staining method.

Histological lesions in proventriculus, small intestine, spleen and liver, highlighted by this method plead for a general and local infectious process.

Key words: avian reovirus, broilers chickens, Pappenheim staining method;

REPEATED VACCINATION ENHANCES THE *IN OVO* TRANSMISSION OF Ig Y AND Ig M IN LAYERS

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Summary

Multiple vaccinations in layers enhance the *in ovo* transmission of subsequently produced total immunoglobulins (Ig) and thus, conditions the resistance against diseases at hatching in chickens.

The experiment investigated the distribution of IgY and IgM both in the in serum and components of the egg (white and yolk) in repeatedly antigenically stimulated Anak hens (n=20). The hens were subjected to vaccination according to the technology and epidemiological pressure on the farm. Total Ig and IgY levels and immune complexes were quantified in optical density units (ODU) by 24% zinc sulphate and 4.2% polyethylene glycol precipitation tests, respectively. IgM concentrations were calculated.

The total levels of Ig were the highest in the yolk (0.198±0.060 ODU), while those in the serum and egg white were similar. Similarly, the highest value for IgY was recorded in the yolk (0.195±0.047) while IgM was significantly lower (p<0.001, 0.003±0.036). There was a statistically significant difference at various levels (p<0.05-p<0.001) between the IgY and IgM complexes (conventional units) both in the serum and egg components (serum IgY 111±10.7, IgM 75±14.6, egg yolk IgY 538.0±283, IgM 194±89, egg white IgY 71.02 ± 56.00, IgM 8.03±5.44).

These data underline the simultaneous transmission and concentration of IgY, free or in a conjugated form mainly through the yolk, in repeatedly vaccinated hens.

Key words: *in ovo* immunity, hens, vaccination

THE DOSE-EFFECT RELATIONSHIP FOR BACTERICIDAL ACTIVITY OF THE WHOLE AND HEAT INACTIVATED OVINE SERUM

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Summary

The experiment aimed to establish the correlation and mathematical characteristics of dose –bactericidal capacity relationship for whole and temperature inactivated sheep sera, against G- and G+ bacteria involved in veterinary pathology.

26 blood samples were collected from adult Transylvanian Merino sheep, allowed to clot and separated by centrifugation. Whole or inactivated (56°C, 30 min) sera were diluted to 1/5, 1/25, 1/125, 1/625. Collection strains of *Pseudomonas* (*P. pyocianea*), *Serratia* (*S. marcescens*), *Staphylococcus* (*S. aureus*) and *Listeria* (*L. monocytogenes*) were used as test bacteria. The inoculum consisted of a 24 hour culture, diluted in distilled water to the density of 0.5 on McFarland scale. The incubated serum treated cultures were inactivated by formaline and read spectrophotometrically. Regression lines describing bacterial growth, as well as correlation coefficients of the dilution – effect relation – were defined for the tested bacteria and sera.

The function of bacterial growth in serum treated cultures ($y=a+bx$), was characterized for the whole sera by *a* indices of 0.024 (*Listeria*) to 0.0183 (*Serratia*) and *b* indices of 0.137 (*Staphylococcus*) to 0.722 (*Serratia*). For heat inactivated sera these indices were much lower (*a* from 0.0195 to 0.0313 and *b* from 0.071 to 0.332). Correlation coefficients were statistically supported ($p<0.05$ - $p<0.001$) only for *Serratia* (both types of sera), *Pseudomonas* and *Staphylococcus* (treated serum).

Key words: sheep, serum, bactericidal effect, culture

**THE CHARACTERIZATION OF SOME STRAINS OF
STAPHYLOCOCCUS ISOLATED FROM DOGS FROM MEHEDINTI
COUNTY, RURAL AREA**

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Summary

In the paper are described the characteristics of some strains of staphylococcus, in order to investigate the prevalence of staphylococcus isolated from dogs, from four villages in the south-west part of Romania. We also tested the sensibility of these microorganisms to some of the most commonly used antibiotics by local doctors.

The dogs from which we obtained all the samples were both adult and also puppies, of both gender. We have to mention that we didn't know the history of previous antibiotic treatment for the animals selected for this study.

The samples were identified and labeled as to source, gender of the dog and also the anatomical area from where they were harvested. This way we were able to obtain 214 samples from different anatomical sites such as nose, ears, lips, neck, tail, legs and back skin.

After growth, staphylococcus isolates were identified according to their characteristics. 183 samples were positive for staphylococcus, being isolated both positive and coagulase-negative species. The most common species that was isolated was *S. pseudintermedius*.

Key words: staphylococci, dogs, countryside, Romania