Приложение 13

РЕЗЮМЕТА НА ПУБЛИКАЦИИ ЗА УЧАСТИЕ В КОНКУРС ЗА ЗАЕМАНЕ НА АКАДЕМИЧНА ДЛЪЖНОСТ „ДОЦЕНТ"

на

гл. ас. д-р Калин Йорданов Христов, двм

за участие в конкурс за заемане на академична длъжност „Доцент" към катедра „Хирургия, рентгенология, акушерство и гинекология" в област на висше образование 6. Аграрни науки и ветеринарна медицина, професионално направление 6.4. Ветеринарна медицина, научна специалност „Акушерство и гинекология на животните и болести на новородените животни", по задължителната дисциплина „Акушерство (Болести на преживните животни, болести на едрокопитните животни, болести на животните за компания)“ със срок 2 (два) месеца от датата на публикуването в ДВ 33/17.04.2018 г. и на интернет страницата на ЛТУ 17.04.2018 г.

Публикации в чуждестранни реферирани списания с импакт фактор на английски език

1. **HRISTOV, K.**, Parvanov P., Pepovich R., Nikolov B., **Prevalence of mastitis and dynamics of health status mammary gland during lactation and dry period in goats.** Scientific Works. Series C. Veterinary Medicine. Vol. LXI (1); 163 – 167, 2015. IF (GIF) - 0,565, p-ISSN 1222-5304, e- ISSN 2067-3663

Abstract

The purpose of this study was to investigate the prevalence of mastitis and dynamics of different mastitis forms in goats during lactation and the dry period .The prevalence of mastitis was analyzed in 250 goats. Parallel traced 52 dairy halves with different mastitis forms during lactation and 56 halves during the dry period. Express diagnosis was made on the farm with rapid mastitis test CMT-Test (Kruuse, Denmark) and test Porta SCC (Porta Check, USA). For precise determination of the health condition of all dairy halves was conducted laboratory analysis including determining the number of somatic cells by Fossomatic (Foss, Denmark) and microbiological testing for isolation of pathogenic microorganisms. Prevalence of mastitis was found within 45.8 % and results indicated that 41.67 % of the cases diagnosed with subclinical mastitis in early lactation, persisted at the end of the lactation period. At the same time the latent infection persisted in 15.38 % while secretory disorder was in 26.67 %. During the dry period the highest percentage of persisting indicated subclinical mastitis - 71.43 % and only 14.29 % were found healing, compared with secretory disorder that persisted in 42.86 % as they were healed halves. The latent infection persisted also in 42.86 %, but healing again was found only in 14.29 %. Non-clinical mastitis in the absence of the treatment are stored in 76.19%

Key words: goats, mammary gland, health status, mastitis, dynamics

2. Nikolov B., Manov V., Pepovich R., Mehmedov T., **HRISTOV K.,** Genova K., Nikolova E., Petrova R., Georgieva A., Kril A., **Hematological and biochemical parameters during the early stages of n-nitrosodiethylamine induced hepatocarcinogenesis in turkeys**. Scientific Works. Series C. Veterinary Medicine, Vol. LXI, 122-127, 2015., IF (GIF) - 0,565, p-ISSN 1222-5304, e- ISSN 2067-3663

Abstract

Some haematological and biochemical parameters in turkeys, hatched from embryonated eggs inoculated with the proven hepatocarcinogen N-nitrosodiethylamine were studied. Histopathology confirmed the presence of clear-cell and basophilic foci of altered hepatocytes and hyperplasia of cholangiocytes. The application of the chemical carcinogen affected both haematological and biochemical parameters. The established conditions such as thrombocytopenia and increased levels of the major liver enzymes were associated with the process of malignancy. In addition, leukogram abnormalities (leukocytosis, lymphocytosis and neutropenia) as well as hypoproteinaemia, hypoalbuminaemia and hypoglycemia were also observed.

Key words: in ovo tests, turkeys, hepatocarcinogenesis, N-nitrosodimethilamine, haematological and biochemical parameters.

3. **Kalin Hristov,** Teodora Popova, Roman Pepovich and Branimir Nikolov, **Characterization of Microbial Causative Agents of Subclinical Mastitis in Goats in Bulgaria,** Int.J.Curr. Microbiol.App.Sci, 2016. 5 (8): 316-323, IF (GIF) - 0,654, ISSN 2319-770

Abstract

Mastitis is the most prevalent mammary gland disease in goats. It has a number of unfavorable health effects in the affected animals and leads to economic losses in the farms. The aim of this study was to isolate and identify microorganisms causing subclinical mastitis (SCM) in goats. Two hundred and twenty-nine milk samples from lactating goats were studied. Microorganisms were isolated from 189 of these samples (82.53%), but not from the remaining 40 ones (17.47%). Isolation and identification of microbial pathogens was carried out using elective and selective growth media for various groups of bacteria. Identification was done using biochemical tests and additional oxidase and catalase tests. The results showed highest prevalence of *Staphylococcus* spp. (52.75%), and particularly, of coagulase-negative staphylococci (CNS). Apart from the samples with a single bacterial species, 42 samples (23.86%) were shown to contain different isolates in associations. The most prevalent associations were those of *Staphylococcus caseolyticus + S. adjacens* and *Staphylococcus caseolyticus + Proteus penneri* (9.52%).

Key words: Goat, mastitis, microorganisms, *Staphylococcus spp*., mammary gland.

4. Roman Pepovich, Branimir Nikolov, **Kalin Hristov,** Krasimira Genova, Radka Hadjiolova-Tafradjiyska and Stanislav Radanski, **Investigation of Bacterial Infections in Pig Farms affected by Respiratory Disease Complex in Bulgaria,** Int.J.Curr. Microbiol. App.Sci. 2016. 5 (9):555-561 IF (GIF) - 0,654, ISSN 2319-7706

Abstract

This study attempted to identify bacterial pathogens and determine their importance in porcine respiratory disease complex in order to identify effective and adequate measures for their control. The study was conducted in three industrial intensive pig farms in different regions of Bulgaria. Nasal swab samples from weaners and fattening pigs affected by respiratory infection were examined, as well as from the lungs of animals that had died or had been emergency slaughtered, with changes characteristic of pneumonia. The results showed that mono-infection was prevalent in the analyzed nasal samples in weaners - 54.2%, and in 70.8% *alpha hemolytic Streptococcus* was detected. In fattening pigs, associated infections dominated with 54.2%. In a significant part of the samples (62.5%) there were observed *alpha hemolytic Streptococcus* and *S. epidermidis*. The results from the microbiological examinations of the lungs showed that the prevailing cases were mono-infections in weaners pigs (70.8%), as well as in fattening pigs (75.0%). A significant proportion of lung specimens

were shown to contain *E. coli*, probably due to coli septicemia potentiated by *M. Hyopneumoniae.*

Key words: Pigs, respiratory disease complex, bacterial infections, antimicrobial susceptibility

5. Planski Vladimir, Yotov Stanimir, Karadaev Manol, Ilieva Yordanka, **Hristov Kalin** and Dimitrov Dimiter, **Determination of Puberty Onset in Bulgarian Murrah Buffalo Heifers through Blood Progesterone Analysis**, Int.J.Curr.Microbiol.App.Sci (2017) 6 (1): 308 -314, IF (GIF) - 0,654, ISSN 2319-7706

Abstract

The aim of the present research was to evaluate the potential of blood progesterone (P4) analysis for determination of puberty onset in Bulgarian Murrah buffalo heifers. The experiment was conducted with 13 clinically healthy buffalo heifers from the Bulgarian Murrah breed, at 9 to 20 months of age. Blood samples were collected from all animals and progesterone concentrations were assayed through a commercial ELISA. The time course of blood progesterone was monitored in ascending age order and the correlation between both parameters was evaluated. On the basis of hormonal analysis data, the animals were divided into two groups: non-cycling (P4 < 1 ng/ml) and cycling (P4 > 1 ng/ml). The percentages of cycling, resp. non-cycling heifers, the average age and mean blood progesterone concentrations in the groups were calculated. Data were statistically analysed. The earliest age at which blood progesterone accepted as threshold value for cycling buffalo heifers was measured, was 11 months. There was a tendency towards increase in the average age of cycling vs. that of non-cycling buffalo heifers with statistically significant difference (P<0.001) between progesterone concentrations in the two groups. The analysis of results demonstrated that the assay of blood progesterone concentrations in Bulgarian Murrah buffalo heifers could be used for detection of puberty onset. Blood hormonal concentrations were lower than 0.71±0.24 ng/ml and higher than 1.23±0.16 ng/ml in animals having attained 20 months of age could be assumed as a sign for lack or presence of ovarian activity, respectively. The presented results could contribute to the body of knowledge on endocrine changes of the studied buffalo breed during the prepubertal period and the time of sexual maturity onset.

Key words: Buffalo heifer, puberty, progesterone.

6. Kalin HRISTOV, Antimicrobial sensitivity of pathogens causing subclinical mastitis in goats in Bulgari, Indian Journal of Animal Research 52(2):296-300, 2018, DOI: 10.18805/ijar.v0iOF.8497, SJR: 0.137, IF: 0.147, p-ISSN: 0367-6722, e-ISSN: 0976-0555

Abstract

The aim of this study was to analyze the antibacterial sensitivity of microbial isolates causing subclinical mastitis in goats. The classical Bauer disk-diffusion assay was used to determine the sensitivity of the coagulase-negative staphylococcal (CNS) isolates and isolates belonging to other genera. In all the tested isolates, the highest rates of resistance were observed to be to Oxacillin (81.25%) and Novobiocin (75%), followed by Penicillin (68.75%), Tetracycline (37.5%) and Amoxycillin (31.25%). There was low prevalence of resistance to Cefotaxime (12.5%), Thiamphenicol (6.25%), Cefuroxim (6.25%), Cefuroxim (6.25%), Amikacin (6.25%), Sulfamethoxazole + Ttrimethoprim (6.25%) and Gentamicin (6.25%). *Staph. intermedius* showed resistance to the highest number of antimicrobial agents, four ones (28.57%), whereas *Staph.haemolyticus* was the least resistant isolate, which was sensitive to nearly all of the tested antimicrobials and showed intermediate sensitivity to only three ones (21.43%). Among the microorganisms other than CNS, *B.brevis* and *Å.coli* showed resistance to the highest number of antimicrobial agents (42.86%).

Key words: Antibacterial sensitivity, Goats, Subclinical mastitis, Microorganisms.

7. Anton Kril, Ani Georgieva, Branimir Nikolov, Roman Pepovich, **Kalin Hristov**, Georgi Stoimenov, Elena Nikolova, Reneta Petrova, Julian Ananiev, Vassil Manov, **In ovo hepatocarcinogenicity of N-nitrosodimethylamine and N-nitrosodimethylamine in White Leghorn chickens**, Journal of the Hellenic Veterinary Medical Society, ISSN: 1792-2720 (под печат, Acceptance letter - Art. 7)

Abstract

Avian embryos have been gaining an increasing scientific interest as a valuable model system for the experimental cancer research that could contribute to a significant reduction of the number of laboratory animals. In the present study, the liver lesions induced by N-nitrosodimethylamine and N-nitrosodiethylamine in 15I line, White Leghorn embryos were identified and studied by routine histopathological methods. Foci of altered hepatocytes with basophilic and eosinophilic phenotype, well known as preneoplastic alterations were identified in the avian embryonal livers after *in ovo* exposure to both N-nitroso compounds. These studies were further extended by histopathological, haematological and biochemical examinations on the effects of N-nitrosodimethylamine in chickens hatched from carcinogen-inoculated eggs. In addition to the preneoplastic lesions observed in the avian livers, proliferations of oval and hepatocellular carcinoma cells, with clearly expressed signs of malignancy were found. The *in ovo* application of the chemical carcinogen was found to affect both hematological and blood biochemistry parameters measured in experimental birds. The established conditions such as thrombocytopenia and increased levels of liver enzymes, as an essential part of the paraneoplastic syndrome, were associated with the process of hepatocarcinogenesis. The results of this study confirm the preneoplastic nature of the focal lesions in embryonal avian liver and their progression to liver neoplastic alterations after a single *in ovo* application of known hepatocarcinogens. Moreover, the results indicate that 15I line, White Leghorn embryos are a new, valuable *in ovo* model for studies on hepatocarcinogenicity of chemical compounds and underline the importance of research on the development of different avian models of carcinogenicity.

Key words*:* *in ovo*models, avian embryos, nitrosamines, hepatocarcinogenesis

Публикации в български и чуждестранни реферирани списания на английски език с Импакт ранг (SJR)

8. Pepovich, R., Nikolov Br, Sirakov, I, Genova **K., HRISTOV**, K., Nikolova, E., Hajiolova R., Beltova B. **Clinical testing of combined vaccine against enzootic pneumonia in industrial pig farming in Bulgaria**, Macedonian Veterinary Review. 38, 2, 195–201, 2015, SJR: 0.209, p-ISSN 1409-7621, e-ISSN 1857-7415

Abstract

In the pig farm with signs of a respiratory disease complex and laboratory confirmed enzootic pneumonia, the prophylactic efficacy of the combination vaccine (M. hyo+PCV2), a single injection administered intramuscularly 21 days after birth, at a dose of 2 ml was tested. The clinical condition, pathological changes in the lungs and some epidemiological and economic results were reported. It was found that vaccinated pigs are in a better clinical condition in comparison with the control group. Morbidity in the rearing period was reduced from 16.3% in the control group to 6.0% in vaccinated pigs, and in the fattening period, respectively, from 30.6% in the control group to 10.0% in the vaccinated group. Pathological features in the lung characteristic for the enzootic pneumonia in the vaccinated pigs were reduced from 25.5%±7.24 to 4.0%±2.44, and PCVI - from 13.0%±4.66 to 0%. Vaccination of

pigs has been received and a higher average daily gain in groups for rearing (0.624 kg) and for fattening (0.723 kg) was recorded.

Key words: Enzootic pneumonia, Mycoplasma hyopneumoniae, pigs, vaccination

9. **Kalin Hristov,** Parvan Parvanov, Nasko Vasilev, Ivan Fasulkov, Manol Karadayev, **Effect of non-hormonal agents Tribestan and Lactina® on the sexual behaviour and quality of semen in rams during non-breeding season**, Bulgarian Journal of Veterinary Medicine, Vol. 20, Supl.1, 297-301, 2017, SJR: 0.134, p-ISSN 1313-3543, e-ISSN 1311-1477

Abstract

The aim of this study is to investigate the effects of non-hormonal agents Tribestan and Lactina® on the sexual behaviour and quality of semen fluid of rams during non-breeding season. The experiment includes 4- to 6-year-old rams, body weight of 80±1.6 kg. They were housed indoor, in an individual boxes at the Experimental base of the Faculty of Veterinary medicine, Trakia University. From the first day, the rams were fed 0.5 kg. feed, prepared by mixing 50 kg of concentrated mixture and 0.5 kg premix (probiotic Lactina® 0.075 kg, Tribestan 0.075 kg and whey 0.350 kg), plus meadow hay 3 kg and had free access to water. It was established that the inclusion of Tribestan-Lactina® complex was safe, effective and leads to increase in the sexual behaviour in rams during non-breeding season. Tribestan-Lactina® complex applied to rams during non-breeding season improved the ejaculate volume and density (concentration) of sperm. The observed values were statistically significant ($P \leq 0.05$) versus values obtained on day 0. The motility and pathological sperm counts underwent changes, but values in the control measurements and those established on day 0 were not statistically significantly different.

Key words: Lactina®, probiotics, rams, sperm quality, Tribulus terrestris

10. R. Pepovich, Br. Nikolov, **K. Hristov,** Kr. Genova, **Pathological observation in pigs naturally infected with mycoplasma hyopneumoniae**, Bulgarian Journal of Veterinary Medicine, Vol. 20, Supl.1, 338-344, 2017, SJR: 0.134, p-ISSN 1313-3543, e-ISSN 1311-1477

Abstract

The purpose of this study was to evaluate and analyse the extent and severity of pathomorphological lesions in lungs of pigs naturally infected with Mycoplasma hyopneumoniae. The reported results are from 2-year studies in four industrial pig farms from different regions of Bulgaria, with laboratory proven Porcine Respiratory Disease Complex (PRDC), with the participation of M. hyopneumoniae. A total of 178 pigs of various technological groups were included. In 114 pigs postmortem (64%) were found macroscopic changes characteristic of enzootic pneumonia, mainly in the lungs and respiratory lymph nodes. The signs in 40.4% were specific for monoinfection with M. Hyopneumoniae and in 59.6% - for co-infection with M. hyopneumoniae and Actinobacillus pleuropneumoniae. Depending on the extent of the pulmonary lesions in the separate lobules, it was determined that in 18% the lungs were affected in a low degree, 52% were affected at a mild extent and 30% were severely affected. The histopathological examination of the lungs revealed the presence of exudate localised in the alveoli, bronchioles and interalveolar septa. The major cellular components of the exudate were neutrophilic leukocytes, lymphocytes and single macrophages.

Key words: enzootic pneumonia, M. hyopneumoniae, pathomorphological changes, pigs

Публикации в чуждестранни реферирани списания и сборници на английски език

11. Pepovich R., Nikolov B., **HRISTOV K.**, Genova K., Mehmedov T., **Clinical and paraclinical studies in enzootic pneumonia in industrial swine-breeding of Bulgaria.** Scientific Works. Series C. Veterinary Medicine, Vol. LX (1), 85-88., 2014, p-ISSN 1222-5304, e- ISSN 2067-3663

Abstract

Two licensed industrial pig farms from different regions of Bulgaria, with laboratory confirmed enzootic pneumonia had clinical and hematological studies. In the study farms the disease occurs in acute and subclinical form. According to the severity of clinical signs studied pigs were grouped into treatment groups. Of all pigs in the group were taken into sterile blood samples for paraclinical study. The results showed changes in red blood cell (eritropeniya, hemoglobinopeniya and decrease in hematocrit) in the white blood cell count (leukopenia, lymphopenia and eozinofilopeniya) and biochemical parameters (hypoproteinaemia, hypoalbuminaemia and hyperglycaemia) of experimental pigs.

Key words: swine, enzootic pneumonia, clinical and paraclinical studies.

12. Pepovich R., Nikolov B., Genova K., Hristov K., Tafradjiiska-Hadjiolova R., Nikolova E., Stoimenov G., **The comparative therapeutic efficacy of antimicrobials in pigs infected with mycoplasma hyopneumoniae**, Scientific Works. Series C. Veterinary Medicine, Vol. LXII, Issue 2, 76-81, 2016, p-ISSN 1222-5304, e- ISSN 2067-3663

Abstract

Respiratory diseases are current health problem for pig. Very often they have polietiological base which triggers defined Porcine Respiratory Disease Complex (PRDC). One of the main and permanent etiologic agents in PRDC is Mycoplasma hyopneumoniae, the causative agent of enzootic pneumonia in pigs. The disease is widespread in Bulgaria, inflicting major economic damage, resulting in high morbidity, poor feed conversion, reduced average daily gains, cost of therapy and immunization. These indicators determine treatment as necessary and inevitable in control of mycoplasma infection. The purpose of this study was to compare the therapeutic potential of enrofloxacin and florfenicol in industrial pig farms in Bulgaria. The study was conducted in pig farm breeding and fattening, with laboratory proven acute form of enzootic pneumonia. It was conducted on 260 growing pigs divided into two experimental groups. The first group was treated with enrofloxacin injective at a dose of 1 ml/10 kg., for three days, and the second with florfenicol, at a dose of 1 ml/20 kg., intramuscularly twice in 48 hours. Received clinical and epidemiological data give reason to assume that the tested schemes are effective in the control of enzootic pneumonia. As a result of the treatment to stabilize by the clinical condition of the pigs, normalization of indicators of blood and limiting morbidity and mortality. The resulting high therapeutic effect in patients treated with enrofloxacin pigs - 89.6 % and respectively florfenicol - 75.6 %, presented both as equivalent antibiotic in the treatment of enzootic pneumonia.

Key words: pigs, M. hyopneumoniae, enrofloxacin, florfenicol, therapy

13. Kalin Hristov, Roman Pepovich, Branimir Nikolov, Georgi Stoimenov, Petar Stamberov, **The hematological changes associated with subclinical mastitis in goats**, Scientific Works. Series C. Veterinary Medicine, Vol. LXIV, 2018, p-ISSN 1222-5304, e-ISSN 2067-3663 (под печат, Acceptance letter - Art. 13)

Abstract

The aim of this study was to investigate haematological changes in lactating goats with subclinical mastitis. Determination of mammary health status was based on CMT results, microbiological and cytological examination. Blood samples were taken from all goats included in the study by venopuncture of the jugular vein and blood was collected in vacuum blood collection tubes. The results showed that the mean ± SE in healthy animals and goats with subclinical mastitis were as follows: Red Blood Cell count (RBC) 10.43 ± 0.63×1012/L and 9.38 ± 0.42×10^{12}/L; Haemoglobin (Hb) 85.69 ± 2.43 g/L and 77.13 ± 1.73 g/L; Hematocrit (HCT) 18.77 ± 0.87 % and 17.77 ± 0.68 %; Red Blood Cell Distribution (RDW) 21.55 ± 0.16 % and 22.21 ± 0.13 %; Mean Cell Volume (MCV) 16.96 ± 0.29 fL and 15.63 ± 0.20 fL; Mean Cell Haemoglobin (MCH) 6.18 ± 0.10 pg and 6.73 ± 0.09 pg; Mean Cell Haemoglobin Concentration (MCHC) 379.81 ± 3.72 g/L and 378 ± 3.12 g/L; White Blood Cell Count (WBC) 13.37 ± 1.60×10^{9}/L and 16.66 ± 1.23×10^{9}/L. The RBC and Hb were significantly higher ($P<0.05$) in normal lactating compared to goats with subclinical mastitis. RDW, MCH and WBC count was significantly lower in healthy goats.

Key words: Hematological parameters, goats, subclinical mastitis

14. Georgi Stoimenov, Gabriela Goujgulova, Georgi Georgiev, Chavdar Filipov, Roman Pepovich, **Kalin Hristov,** Branimir Nikolov**, Assessment of serological tests of the influenza a infection in wild migratory and zoo birds during the epizootic in Bulgaria, 2015**, Scientific Works. Series C. Veterinary Medicine,Vol. LXIV, 2018, p-ISSN 1222-5304, e-ISSN 2067-3663 (под печат, Acceptance letter - Art. 14)

Abstract

The aim of our study was to assess the possibility of serological tests for a detection of antibodies against Influenza A virus in wild migratory, zoo birds and alive birds, presented on markets. The samples were collected in Bulgaria during the epizootic in 2015. Totally 209 specimens have been tested, of which 179 only by ELISA and 30 both by ELISA and HI assay. Some differences during the testing of two yolk sacs of eggs, from the found death Dalmatian pelicans, have been demonstrated, where ELISA and AGID were negative, but HI was positive. The following VNR found them to be partially positive. A possible explanation for the observed contradiction could be given by the specific glycoprotein (haemagglutinin), located on the surface of viral particle. The obtained positive serum samples of wild birds from Sofia Zoo and those from a market for alive birds have shown that, the supervision of Avian influenza should not be focused only on the migratory birds, because the disease can be introduced by an import of exotic birds and their offer through auctions and markets.

Key words: Avian influenza A, AGID, Bulgaria, ELISA, HI

Публикации в български реферирани списания на английски език

15. P.T. Iliev, A. Ivanov, Z. Kirkova, **K. Hristov**, K. Dinkova, J. Ananiev, **Some parasitological, pathological and immunohistochemical examinations in sheep naturally infected by Trichuris Ovis**, Trakia Journal of Sciences, No 2, pp. 174-178, 2017, p-ISSN 1312-1723, e- ISSN 1313-3551

Abstract

A case of *Trichuris ovis* infection in a lamb is presented. In June 2012 a herd of 12 infected with *T. ovis* lambs in Brestnik (Southern Bulgaria) were discovered. A diarrhea and loss in body weight in 2 lambs have been observed. Despite antibiotic treatment one of the animals died. Parasitological examination was done. During necropsy of the gastro-intestinal tract, adult worms in the caecum were found. Standart staining and immunohistochemistry were performed to detect the cell population in the affected areas of the caecum.

Key words: *Trichuris ovis*, immunohistochemistry, sheep.

16. **Kalin Jordanov Hristov,** Nikolay Mehandzhiyski, Iliya Peev Peev, Georgi Georgiev**, Case Study Of Hydrometra And Uterine Adenocarcinoma In A Pet Rabbit,** MedInform, Vol. 4, Issue 1, 2017, DOI: 10.18044/Medinform.201741.544, ISSN 2367-6795

Abstract

Hydrometra is the accumulation of fluid within the uterine cavity. Hydrometra may be manifested alone or in combination with other manifestations of reproductive pathology. The current paper presents a case study of a female pet rabbit. The rabbit was brought to the clinic with complaints in the gastrointestinal system. Initial symptoms had been resolved and the rabbit was brought to the clinic for a second time. Physical examination revealed an enlarged abdomen with fluctuations and a soft-elastic texture; the body temperature was normal: 39.3°C; the breathing and heartbeat were normal. Examination of the genitalia didn't present any discharges or signs of any infection. Ultrasound was performed, with a 3.5-7 MHz micro-convex transducer, B-mode in real time. Transabdominal ultrasonography revealed an enlarged uterus due to an anechoic structure. Clinical assessment led to the diagnosis hydrometra and was based on the anamnesis, physical status, ultrasound and blood tests including chemistry and haematology. The owners were advised that surgical extraction of the uterus had to be performed.

Key words: Hydrometra, rabbits, uterine adenocarcinoma, endometrial hyperplasia.

17. Branimir Nikolov, Vasil Manov, Roman Pepovich, Tanzhu Mehmedov, **Kalin Hristov**, Krasimira Genova, Elena Nikolova, Reneta Petrova, Ani Georgieva, Anton Kril, **Hematological and blood-biochemistry parameters of guinea fowls in early stage of nitrosodiethylamine-induced hepatocarcinogenesis**, TRADITION AND MODERNITY IN VETERINARY MEDICINE, 2017, vol. 2, No 2(3): 27-32, p-ISSN 2534-9333, e-ISSN 2534-9341

Abstract

In ovo models (avian embryos) are a novel alternative to laboratory animals used in the experimental cancer research. In the present study, the preneoplastic liver lesions induced by N-nitrosodiethylamine in guinea fowls were examined by histopatological methods. The alterations of some hematological and biochemical parameters were examined in guinea fowls hatched from carcinogen-inoculated eggs. Histopathology confirmed the presence of basophilic and eosinophilic foci of altered hepatocytes, strongly resembling the morphology of the preneoplastic lesions previously found in other avian species and laboratory rodents treated with the same carcinogen, as well as in humans with hepatocellular carcinomas. In addition to the focal hepatic lesions, pronounced hyperplasia of cholangiocytes and *spongiosis hepatis* were also detected in treated guinea fowls. The established alterations of hematological and biochemical parameters included thrombocytopenia and an increase of the levels of major liver enzymes and were related to the hepatocarcinogenesis. In addition, changes in the leukogram (leukocytosis, lymphocytosis and granulocytosis), as well as hypoproteinemia, hypoalbuminemia and hypoglycemia were observed.

Key words: in ovo tests, guinea fowl, hepatocarcinogenesis, N-nitrosodiethylamine, hematological and biochemical parameters.

18. Planski Vladimir, Yotov Stanimir, Parvanov Parvan, Karadaev Manol, Ilieva Yordanka, **Hristov Kalin**, Dimitrov Dimiter, **Influence of melatonin treatment on puberty onset in buffalo heifers from bulgarian murrah breed**, TRADITION

AND MODERNITY IN VETERINARY MEDICINE, 2017, vol. 2, No 2(3): 56–60 p-ISSN 2534-9333, e-ISSN 2534-9341

Abstract

Current study aimed to investigate the influence of melatonin treatment on puberty onset in buffalo heifers from Bulgarian Murrah breed. The experiment was carried out with eleven clinically healthy pre-pubertal Bulgarian Murrah buffalo heifers alloted in two groups – control (non treated, n=6) and experimental (melatonin- treated, n=5). According to used plan, the treatment was done three time by subcutaneous melatonin implant, containing 18 mg melatonin. Seven days after the last melatonin treatment, progesterone levels were measured by ELISA method and used as an indicator for a presence of cyclic ovarian activity. Data were processed using of a computer statistical program. The average age (12.7±1.1 months and 13.2±0.9 months), body weights (184±22 kg and 232±33 kg) and progesterone levels (0.94±0.37 ng/ml and 1.08±0.16 ng/ml) among the groups did not differ considerably. However, the minimal and the maximal progesterone values in the experimental group (0.96 ng/ml до 1.36 ng/ml) were indicative for a presence of cyclic ovarian activity in 100% of the animals versus 80% in the control group. The concluded analysis shows that melatonin implants application is connected with a trend for earlier induction of cyclic ovarian activity and hastening of a puberty onset in Bulgarian Murrah buffalo heifers.

Key words: buffalo, melatonin, puberty, sexual cycle.

19. Petar Stamberov, Toni Todorov, Sofiya Ivanova, Marin Alexandrov, **Kalin Hristov**, Tandzhu Mehmedov, Iliyan Manev and Ella Taneva, **Levels of lead in tissues of mallards (Anas platyrhynchos, L) expermentally exposed to shot pellets**, TRADITION AND MODERNITY IN VETERINARY MEDICINE, 2017, vol. 2, No 2(3): 45–51, p-ISSN 2534-9333, e-ISSN 2534-9341

Abstract

The paper presents for determination of lead in the liver, kidney, breast muscles and humerus of mallards (Anas platyrhynchos, L), treated orally with lead shot pellets. The results obtained show significant elevation tissue concentrations of lead in relation to the control values. The highest values were established in the humerus, followed by the kidneys, liver and breast muscles.

Key words: mallards, lead, hunting pellets, tissues, toxicological analysis.

20. Branimir Nikolov, Ani Georgieva, Roman Pepovich, **Kalin Hristov,** Tandzhu Mehmedov, Vasil Manov, Elena Nikolova, Reneta Petrova, Ivelin Vladov, Anton Kril, **Hepatic preneoplasia induced by n-nitrosodimethylamine and n-nitrosodiethylamine in japanese quail embryos**, TRADITION AND MODERNITY IN VETERINARY MEDICINE, 2016, vol. 1, No 1(1): 21–25, p-ISSN 2534-9333, e-ISSN 2534-9341

Abstract

Toxic and carcinogenic effects induced in ovo by N-nitrosodimethylamine and N-nitrosodiethylamine in Japanese quail embryos were studied by histopathological methods. The obtained results indicate that both compounds induce preneoplastic hepatic alterations. The spectrum of macroscopic and microscopic lesions identified in carcinogen-treated embryos has been presented. The significance of avian embryos as an inexpensive and reliable model system for studies on hepatocarcinogenesis has been briefly discussed.

Key words: hepatocarcinogenesis, preneoplasia, avian embryos, japanese quail, N-nitrosodimethylamine, N-nitrosodiethylamine.

21. Dimiter Dimitrov, Vassil Manov, Iliya Ralchev, **Kalin Hristov,** Georgi Popov, **Cytological characteristics of endometritis in dairy cattle**, TRADITION AND MODERNITY IN VETERINARY MEDICINE, 2016, vol. 1, No 1(1): 27–32, p-ISSN 2534-9333, e-ISSN 2534-9341

Abstract

In the last decades, related to increased milk yield, the reproductive performance has rapidly decreased in dairycows, especially in the Holstein breed. Although milk yield is negatively associated with reproductiveperformance, there are other additional factors which affect the fertility in dairy cattle, such as animal healthcondition, management and balanced rations. Additionally, physiologic dysfunctions, such as uterine infections, areelements which are responsible for decreased reproductive performance and fertility in dairy cattle. The objective of this study was to obtain a clear view over normal cell clusters in cow`s vagina and uterus, so this information will be useful for comparison in future examination related to rapid cytology diagnosis. Neutrophils are the first and most significant inflammatorycell involved in endometritis, but are also foremost duringnormal uterine involution. The inflammatory cell response in cases of subclinical endometritis is widely believed to bequantifiably more severe than that associated with normalinvolution yet milder than clinical endometritis. Such cytological diagnostic approach is useful for both – normal and infected vagina/uterus with or without presence of discharge. Vaginoscopy is a rapid and simple technique for thediagnosis of purulent vaginal discharge. Clear mucus isnormal, whereas purulent and foul-smellingdischarge are indicative of disease. Other ways of detecting uterine dischargehave been studied, including the gloved handand theMetricheck device (Simcrotech, Hamilton, New Zealand). The results show clear relation between cytological positive diagnosis and affected condition of the reproductive function.

Key words: subclincal endometritis, cytological diagnosis, dairy cattle

22. Petar Stamberov, Tanju Mehmedov, Tony Todorov, **Kalin Hristov,** Ella Taneva, **Clinical, hematological and biochemical tests of mallards [Anas Platyrhynchos, (L.)] following an experimentally induced intoxication with lead ammunition**, TRADITION AND MODERNITY IN VETERINARY MEDICINE, 2016, vol.1, No 1(1): 45–52, p-ISSN 2534-9333, e-ISSN 2534-9341

Abstract

Results from clinical, hematological and biochemical tests following an experimentally induced lead intoxication of mallards are presented. The clinical signs and the loss of body weight are proportional to the toxic exposition. Lower levels of red blood cells, hemoglobin and erythrocyte indices are registered. The results from the biochemical tests show elevated levels of liver transaminases, hypoproteinaemia, hypoalbuminaemia and also significantly lower serum calcium levels.

Key words: mallards, intoxication, lead ammunition.

23. Yordanka Ilieva, Vladimir Planski, **Kalin Hristov**, Pencho Penchev, **Comparative study on age of conception of buffalo heifers in different farming systems, Bulgarian** Journal of Agricultural Science, 2018, ISSN 1310-0351 (под печат)

Abstract

With the aim to assess the effect of different farming systems on age of first conception, a comparative study was initiated on buffalo heifers from three farms for the period 2010-2015. All three farms (SIC, SIB and IMR) practice immediate separation of newborn from dam, 7-day colostrum and 3-month weaning period, live weight (LW) being monitored on Fm-3 only. Number of heifers assigned (n), farming system (FS), feeding in

suckling period (SP) and use of natural-service bull (NS) were as follows: SIC – [n= 38, FS – free-stall plus pasture, SP – cow milk, NS – full time]; SIB – [n= 42, FS – tie-stall plus pasture, SP – buffalo milk, NS – by day]; IMR – [n= 69, FS – tie-stall plus yard, SP – milk replacer after first month, NS – by day, after heifers attain 380 kg LW]. The data were processed using the conventional statistical procedure. The results demonstrate the favourable effect of buffalo milk used in pre-weaning period, expressed in earlier age of conception in the heifers from SIB (729 days), as opposed to suckling cow milk on SIC – by 86 days ($P< 0.05$). Differences in farming system are implied by the considerably lower age of first conception established on SIB, in comparison to IMR (by 147 days, $P< 0.001$) where no pasture is used and breeding to bull is afforded after reaching a threshold live weight. The study found pronounced seasonality of reproduction, expressed in large percentage of heifers (75%) breeding in the period August-December. A tendency was also observed the heifers born in spring to conceive youngest.

Key words: buffalo heifers, age of first conception, breeding seaso

24. Georgi M. Stoimenov, Gabriela V. Goujgoulova, **Kalin Hristov**, Atanaska Teneva, **Outbreak of influenza a virus (H5N1) in dalmatian pelicans Srebarna reserve, Bulgaria, 2015,** Tradition and modernity in Veterinary Medicine, *Online First*, 16.05.2018; e-ISSN 2534-9341

ABSTRACT

On March 25, 2015, a highly pathogenic avian influenza viruses were isolated from the carcasses of a 3 Dalmatian pelicans (Pelecanus crispus) in Bulgaria. Polymerase chain reaction (PCR) and H5N1-specific real-time reverse transcription polymerase chain reaction (rRT-PCR) analysis showed, that the H5 and N1 avian influenza virus was presented in the lung, trachea, proventriculus, cloaca and brain tissue of the dalmatian pelicans. Subsequent sequence analysis found the following motif of basic amino acids at the cleavage site of hemagglutinin: PQRERRRKRGLF, which is characteristic of highly pathogenic avian influenza viruses. Phylogenetic analysis of a part from segment 4 of A/dalmatian pelican/ Sreburna/Bulgaria/2015 (H5N1) showed a close genetic relationship with influenza viruses A (H5N1) clade 2.3.2.1. The establishment of HPAI H5N1 in 2015, belonging to the genetic clade 2.3.2.1, circulating in Southeast Asia and in Bulgaria for the second time since 2010, shows the great potential for the trans-continental distribution of the virus and its ability to cause not only epizootic outbreaks, but also panzootic waves.

Key words: H5N1, Bulgaria, Dalmatian pelicans, Phylogenetic analysis

<u>Публикации в български реферирани списания на български език</u>

25. Калин Христов, Станислав Радански, Роман Пепович, Бранимир Николов, Борислав Кашъмов, **Промени в състава и някои физикохимични показатели на козе млякото при субклиничен мастит и тяхното диагностично значение**, Животновъдни науки, LII, 6; 13 -16, 2015, p- ISSN 0514-7441, e- ISSN 2534-9856

Рузюме

Броят на соматичните клетки в млякото е основен показател за здравословното състояние на млечната жлеза. С развитието на субклиничен мастит настъпват промени в състава и физико-химичните параметри на млякото. Целта на това изследване е да проследим промените в pH, лактозата, протеина, сухо вещества (TS), точката на замръзване (FPD), фосфор (P) и калции (Ca) в мляко при състояние на субклиничен мастит и дали тези параметри могат да се използват като показатели за възпаление. Изследването включва 40 животни с 80 млечни половини на различна възраст.

Резултатите показват статистически значимо повишаване на pH (P <0.001) и TS (P <0.05) и понижаване на стойности на лактоза, фосфор и калций (P <0.001) при субклиничен мастит.

Ключови думи: кози, диагностика, субклиничен мастит, физикохимични параметри.

26. Пепович, Р., Николов, Б., **ХРИСТОВ, К.**, Генова, К., Николова, Е., **Ваксинационни стратегии за контрол на ензоотичната пневмония при свинете**, Животновъдни науки, LII, 2, 78 – 85, 2015, p-ISSN 0514-7441, e- ISSN 2534-9856

Рузюме

Ензоотичната пневмония (ЕП) е респираторно заболяване на свинете, причинено от Mycoplasma hyopneumoniae. Среща се самостоятелно или при ко-инфекции и асоцииране с други вирусни (PRRS, PCVI, AD, SI) и бактериални (APP, пастюрелоза, пневмония хемофилна) заболявания. Заболяването се характеризира с висока заболеваемост и икономически щети, което води до лошо използване на фуража, намаляване на средната дневна печалба, увеличаване на разходите за терапията и повишената смъртност. Трудностите при диагностицирането на заболявания и лечението на животните, както и нарастващата резистентност към антимикробни средства, определят имунотерапията като необходим и неизбежен контрол на заболяването. Тази статия представя аналитичен преглед на текущите средства и схеми за имунизация на ензоотична пневмония в промишлена свинеферма. Акцентът е поставен върху ефективността на прилагането на нови моно- и поливалентни ваксини, прилагани веднъж или два пъти, както и предимствата и недостатъците на използването на различни схеми на ваксини.

Ключови думи: имунизация, ензоотична пневмония, M. hyopneumoniae, свине

Публикации в реферирани сборници от международни конференции в България

27. ХРИСТОВ, К., Първанов, П., Байчев, Ж., Радански, Р., **Str.Uberis – Етиологичен фактор на субклинични мастити в малки кравеферми**, Сборник доклади от научна конференция с международно участие „Традиции и съвременност във ветеринарната медицина“, София, 113-119, 2011, p-ISSN 1313-4337

Резюме

В настоящата статия е разгледан въпросът за участието на Str. uberis в етиологията на субклиничните мастити при кравите. Обект на проучването е кравеферма, намираща си в с. Литаково, общ. Ботевград, с 60 броя крави млечно направление. Клиничните и лабораторните изследвания бяха направени с цел профилактично обследване на стадото от дойни крави по отношение на субклиничните мастити и изясняване на микробиологичния състав на причинителите им. Резултатите от направеното изследване с БМТ, както и тези от микробиологичното и цитологичното изследване са обработени под формата на таблици. Установено е, че Str. uberis участва в етиологията на субклиничните мастити при крави, реагирали на БМТ с три плюса (+++) в относително висок процент и е единственият изолиран причинител в изследваните проби. В част от случаите на положителна реакция при направените лабораторни изследвания е установена липса на микробен причинител, а е налице само повишено ниво на соматичните клетки. За да бъдат препоръчани адекватни средства за лечение са направени допълнително антибиотикограми за чувствителността на причинителите към различни антибиотици.

Ключови думи: крави, мастити, субклиничен мастит, етиология, Str. uberis, БМТ.

28. Димитров, Д., **ХРИСТОВ К., Мастит свързан с адаптационен стрес при импортни юници за мляко**, Сборник доклади от „XX Международна научна конференция за млади учени“, Юндола, 159-161, 2011, Съюз на специалистите по качеството в България, ISSN 1314-4669

Резюме

Стресът при домашните животни може да се свърже с много предразполагащи фактори (транспорт, хранене, температура, микроклимат, технология на отглеждане), поради което представлява голям интерес за ветеринарната медицина. В обхвата на репродукцията попада основно адаптационният стрес и свързаните с него патологични състояния и отклонения на половия апарат и млечната жлеза при лактиращите животни.

Настоящата разработка разглежда данни свързани с проявлението на различните състояния на млечната жлеза при юници за мляко в процеса на адаптация след вноса им и влиянието на адаптационния стрес през изследвания период. Обхванати са данни за периода до 6 ти лактационен месец. Резултатите показват, че по време на адаптационния период след вноса, стреса повлиява състоянието на млечната жлеза.

Ключови думи: стрес, мастит, импортни юници

29. Николов, Б., Манов, В., **ХРИСТОВ, К.**, Ананиев, Ю., Пепович, Р., **Случай на хепатоцелуарен карцином при куче**, Сборник доклади от научна конференция „Традиции и съвременност във ветеринарната медицина“, на ФВМ при ЛТУ, 55-62, 2012, p-ISSN 1313-4337

Резюме

При клиничен преглед на 6-годишно женско куче от породата „Кавказка овчарка” е констатирана треска с влошено общо състояние, наличие на твърд болезнен оток в чернодробната област, както и асцит. При проведено ехографско изследване в коремната кухина е визуализирана хепатомегалия с наличие на хиперехогенни проминиращи нодулации и акумулация на течност. Извършен е хематологичен анализ и е предприета диагностична лапаротомия. Установен е хемоперитонеум и наличие на неопластични лезии в черния дроб и панкреаса. Предприето е хистологично, имунохистохимично и цитологично изследване.

Ключови думи: кучета, неоплазия, черен дроб, хепатоцелуларен карцином, имунохистохимия.

30. ХРИСТОВ, К., Манов, В., Николов, Б., Петрова. Р., Попова, Т., **Частично изпадане на матката при котка след раждане, комплицирано с пиометра в неплодоносещия рог**. Сборник доклади от международна научна конференция: “Традиции и съвременност във ветеринарната медицина“ на ФВМ-ЛТУ, 125-13, 2012**,** ISSN 1313-4337

Резюме

Разгледан е клиничен случай на едностранно изпадане на матката при 18-месечна котка. Пролапсът е настъпил след раждане на жив плод без оказване на акушерска помощ. При ехографско изследване е визуализирана хиперехогенна структура в десния маточен рог, която се проследява в краниална посока. След неуспешен опит за репониране на изпадналия ляв маточен рог е предприета оперативно намеса. При направената лапаротомия е констатирано наличие на пиометра в десния

маточен рог. Извършена е тотална оварихистеректомия. Направено е микробиологично изследване на гнойния ексудат от неплодоносещия рог и хистологично изследване на материал от екстирпираните части от половата система на пациента.

Ключови думи: котка, раждане, изпадане на матката, пиометра

31. Пепович, Р., Николов, Б., Генова, **К., ХРИСТОВ,** К., Иванов, Я., Иванова, Е., **Влияние на ваксинацията срещу ензоотична пневмония при свине върху хуморалния имунен отговор и патолого-анатомичните изменения**, Сборник доклади от международна научна конференция: „Традиции и съвременност във ветеринарната медицина“, 202-212, 2013, p-ISSN 1313-4337

Резюме

Целта на настоящето проучване е да се проследи влиянието на ваксинацията срещу ензоотична пневмония при свинете върху хуморалния имунен отговор, степента и тежестта на патологоанатомичните (макроскопски) изменения в белите дробове. Проучването е проведено в промишлена свинеферма за развъждане и угояване. В опита са включени 150 броя прасета, разделени в три опитни групи, които бяха проследени от раждането им до клането. От трите опитни групи прасета по време на бозайния период, подрастването и угояването бяха взети общо 92 броя кръвни проби и изследвани в лабораторни условия чрез bloking ELISA за доказване на специфични антитела срещу *Mycoplasma hyopneumoniae*. Резултатите показаха динамика на антителата през отделните технологични периоди. Патологоанатомичните изменения в белите дробове характерни за ензоотична пневмония от 25,5 % в контролната група, намаляха на 5,5 % при ваксинираните с моноваксина и съответно на 4,0 % при ваксинираните с комбинирана ваксина.

Ключови думи: свине, ензоотична пневмония, имунопрофилактика, патологоанатомични изменения, ELISA, хуморален имунен отговор

София
04.06.2018

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