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Journal of Advances in VetBio Science and Techniques

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ICAVST2021 Proceedings Book

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Published, 06/09/2021

ISBN: 978-605-69982-3-2

Dear Scientist,

The sixth International Congress on Advances in Veterinary Sciences & Technics (icavst) was hybrid organized in Sarajevo, Bosnia and Herzegovina. We are very happy for organizing this congress in such a beautiful city and country that we have strong historical ties.

We wanted to make this conference little bit special by bringing scientist together from different disciplines of veterinary area and to open new research and cooperation fields for them. In this sense, we desired to bring the distinguished scientist together to get know each other and to develop and implement new joint projects.

The scientist joined the congress was from different country and mostly from Turkey. Total over the one hundred scientists were registered in the congress. The total number of submissions were 48 and after a careful evaluation 31 submissions were accepted by our scientific committee and 4 of them were accepted as poster presentation and 27 of them were accepted as oral presentation and all those presentations was taken place in the conference booklet.

We would like to send our special thanks to the International University of Sarajevo, Universiti Teknologi Malaysia, and Prof Hesham El Enshasy, Kyrgyzstan-Turkey Manas University, and Prof İsmail Şen for their contributions. Also, we would like to express our special thanks to the organization team especially Mr. Musa Köse and Mr. İsmet Uzun, ZENITH Group workers, and the scientific committee. And finally, most importantly we thank all the participants individually to join this conference.

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Abbreviation
FVM: Faculty of Veterinary Medicine

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PLENARY SPEAKER

Bio-Feed: A generation of safe multifunctional feed for animal health and wellness

Prof. Dr. rer. Nat. Hesham A. El Enshasy

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Animal feed market is considered as one the most growing in the world. In general, the feed should include balanced ingredients to provide all essential nutrients required for animal healthy growth. During the recent 70 years, antibiotics have been widely used as integrated part of animal feeding system to decrease new born animal mortality and also to increase feed nutrients utilization which led to a significant increase in animal growth rate. However, it has been recognized recently that the extensive uses of antibiotics at low concentrations in non-therapeutic applications bring a great threat to human and animal health. Regular exposure of sub-lethal doses of antibiotic led to significant increase of microbial resistance toward many known antibiotics. Therefore, antibiotics are nowadays panned in many countries and restricted to small number for animal feed applications. This created a great demand for the development of a new generation of functional animal feed to support animal healthy growth. Therefore, a new strategy of animal feed product design have been developed based on biological materials and functional bioproducts. This new generation of animal feed is nowadays of great market demand. A combination of microbial metabolites such as vitamins and amino acids in addition to different types of enzymes have been used in the recent years as integrated part animal feed system. More recently, probiotics and natural immunomodulators have been applied as well to support animal health and to boost immune system to fight against different diseases especially during the early stage of animal growth. In this lecture, a new concept of animal bio-feed will be presented toward the customization of novel formulation concept based on vitamins, amino acids, enzymes, prebiotic, probiotics, and mushroom immunomodulators. This new feed concept can helps to design the most suitable feed formulation based on the type and age of animal as well as the product desired. Thus, this integrated biofeed nutrition concept can help to develop a new generation of products which support healthy animal growth without any negative impact on human health and environment.

ORAL PRESENTATIONS

Evaluation of the antioxidant potential of the mad honey collected from the black sea region in TURKEY

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Objective: Mad honey (Rhododendron honey) is produced by honeybees from Rhododendron flowers and contains grayanotoxins, antioxidants, flavonoid and phenolic properties. The mad honey samples are collected from Turkey's Black Sea region by local residents and are sold as mad honey in free market conditions. This study was planned to evaluate the total phenolic content, total flavonoid content and total antioxidant capacity of the mad honey samples collected from seven different locations from Black Sea region by local residents. Material and Method: Total phenolic content was determined by the modified Folin-Ciocalteu method. Total flavonoid content was determined by colorimetric method using aluminum chloride (AlCl3). Total antioxidant activity was calculated according to the free radical scavenging effect of 1,1-diphenyl-2-picryl hydrazyl (DPPH). Results and Conclusions: In Turkey, in the Black Sea Region, antioxidant potential of the honey samples known as mad honey, collected from seven different locations by local people, were evaluated. The mean total phenolic contents of the mad honey samples were found as 285,44±118,43 (125.85 to 471.18) mg GAE/kg honey, the mean total antioxidant activities were found as 29,68±7,2 (21.71 to 35.03) mg AAE/kg honey and the mean total flavonoid contents were found as 27,26±4,79 (19.93 to 39.18) mg QE/kg honey.

The results revealed that the mad honey samples examined in this study were good source of antioxidants.

Key words Mad Honey, total flavonoid, total phenol, total antioxidant

This study supported by Tubitak 2209 Scientific Activities Support Program. (Project no: 1919B011903298)

Alteration of serum paraoxonase, ceruloplasmin and immunoglobulin G levels in hair goats at different ages

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Paraoxonase and ceruloplasmin have antioxidant effects, prevent the increase of reactive oxygen species and play a role in detoxification. İmmunoglobulin G, on the other hand, neutralizes microorganisms and toxins, so it is very important for newborns. The aim of this study is to investigate the alteration of paraoxonase, ceruloplasmin and immunoglobulin G levels in hair goats at different ages. 88 hair goats grazed in the same season in Adana (Turkey) were included in the study. Goats were divided into five groups as 0-6 months old, 7-12 months old, 1.5-2 years old, 2.5-6 years old and over 7 years old. Paraoxonase activity and ceruloplasmin levels were measured by spectrophotometric methods and immunoglobulin G was measured with ELISA kit. Although there was no statistically significant difference between the groups in paraoxonase activity, it increased until 6 years of age, but decreased with aging. A statistically significant difference was found between the groups in ceruloplasmin levels ($p=0.017$). While it provided a decrease in values up to the age of 2 and in old age, an increase was observed in the fourth group. A statistically significant difference was found between the groups in immunoglobulin G levels, and it was observed that immunoglobulin G levels increased from newborns to adulthood, decreased with age, but increased again with aging. As a result, aging actually means an increase in reactive oxygen species, the emergence of diseases, and the loss of function of tissues and cells. Based on this, it can be said that as you get older, the body will become open to microorganisms and the emergence of diseases will increase. These results suggest that ceruloplasmin and immunoglobulin G increase with age to protect the body. However, more extensive studies are needed to reveal the cause more precisely

Key words Age, Antioxidant, Hair Goats

Effects of thymoquinone on oxidative stress markers in cerulein-induced acute pancreatitis

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In this study, it was aimed to determine the possible effects of thymoquinone on oxidative stress markers in rats with cerulein induced acute pancreatitis. No application was made to the control group (K) during the study period of 9 days. The animals in thymoquinone group (TQ) were intraperitoneally given 20 mg/kg thymoquinone daily for 9 days. In the acute pancreatitis group (AP), acute pancreatitis was induced by intraperitoneal administration of 50 µg/kg and 25 µg/kg 2 hours later of cerulein on the 7th day of the study. Animals in the acute pancreatitis+thymoquinone group (AP+TQ) were intraperitoneally administered 20 mg/kg thymoquinone daily for 9 days. On the 7th day of the study, acute pancreatitis was induced by intraperitoneal administration of 50 µg/kg and 2 hours later 25 µg/kg of cerulein after 2 hours from thymoquinone administration. In blood samples taken from all animals, malondialdehyde (MDA), glutathione (GSH) and superoxide dismutase (SOD) levels were determined. In the study, MDA level was determined to be higher in the acute pancreatitis group compared to the control group ($p<0.05$), while thymoquinone treatment to rats with acute pancreatitis resulted significantly decreasing in MDA level when compared to the acute pancreatitis group ($p<0.05$). While GSH and SOD levels of rats with acute pancreatitis were found to be significantly lower than the control group ($p<0.05$), SOD levels in the group with acute pancreatitis treated with thymoquinone were significantly higher than in the group with acute pancreatitis ($p<0.05$). In conclusion, in the light of changes in lipid peroxidation level and some enzyme levels with thymoquinone treatment, it was considered that thymoquinone has positive effects on acute pancreatitis.

Key words Cerulein, Thymoquinone, Antioxidant Enzymes, Rats

Effects of thymoquinone on acute phase proteins in cerulein-induced acute pancreatitis

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In this study, it was aimed to evaluate the possible effects of thymoquinone administration on acute phase proteins in rats with cerulein induced experimental acute pancreatitis. There was no application the animals in group K. Animals in TQ group were intraperitoneally given 20 mg/kg thymoquinone daily for 9 days. In the AP group animals, acute pancreatitis was induced by intraperitoneal administration of 50 µg/kg and 25 µg/kg 2 hours later of cerulein on the 7th day of the study. Animals in the AP+TQ group were intraperitoneally administered 20 mg/kg thymoquinone daily for 9 days. On the 7th day of the study, acute pancreatitis was induced by intraperitoneal administration of 50 µg/kg and 2 hours later 25 µg/kg of cerulein after 2 hours from thymoquinone administration. CRP, haptoglobin and ceruloplasmin levels were determined in the blood samples taken from all animals. In the study, CRP, haptoglobin and ceruloplasmin levels were significantly higher in the acute pancreatitis group when compared with the control group ($p<0.05$). While thymoquinone administration to rats with acute pancreatitis resulted in a significant decrement in CRP and haptoglobin levels compared to the group with acute pancreatitis ($p<0.05$), the difference in ceruloplasmin levels was not significant. In the study, the findings obtained in rats with acute pancreatitis which were pre-treated with thymoquinone can be evaluated as that thymoquinone alleviates inflammation in pancreatitis caused by cerulein.

Key words Cerulein, Thymoquinone, Acute Phase Protein, Rats

In Vitro Decontamination Effect of Zinc Oxide Nanoparticles (ZnO-NP) and Different Conditions on Some Beneficial and Harmful Foodborne Bacteria

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Zinc oxide (ZnO) has been used for many years in the pharmaceutical, cosmetic, paint, textile, and food industries for coating surfaces and absorbing UV rays due to its antimicrobial properties in the nanoscale. In addition to this, it is an essential chemical for decontamination. Zinc oxide nanoparticles (ZnO-NP) are generally regarded as safe, or they are both stables under challenging processing conditions and non-toxic for animals and humans. ZnO-NP can be found in many foods, and its allowed daily intake for adults has been reported as 8-11 mg. Also, compared to organic acids, ZnO-NP has better durability, selectivity, and heat resistance. This study aimed to investigate the antimicrobial effects of zinc oxide nanoparticles, Rosmarinic acid, and heat combination on E. coli O157:H7, S. aureus, and Lactobacillus delbrueckii subsp bulgaricus within 24 hours. For this purpose, experimental groups containing solo ZnO-NP, Rosmarinic acid & ZnO-NP, and Rosmarinic acid, Heat & ZnO-NP combinations were prepared. Then, bacterial counts were performed to determine the antimicrobial effects of nanoparticles and their combinations within the first 24 hours. In the light of the results obtained, the antimicrobial effects of zinc oxide nanoparticles alone were sufficient. However, when they are used in combination, it has been observed that the antimicrobial effect increases dramatically, and the duration of the antimicrobial effect is shortened. Consequently, it was understood that nanoparticles, a new protection method in food safety, were effective at first glance. However, it was emphasized that new research projects were needed to examine the long-term mechanisms of action.

Key words Zinc oxide nanoparticles, Escherichia coli O157:H7, Staphylococcus aureus, Lactic Acid Bacteria

This study is supported by Aksaray University, Scientific Research Project Commission with project number 2020-025

Molecular detection of canine adenovirus type 2 in a shelter dog suffered with lower respiratory tract diseases.

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Canine adenoviruses are classified in the mastadenovirus genus of the Adenoviridae family. There are two subtypes of canine adenoviruses, Type 1 and 2. Although it has been stated that canine adenoviruses are genetically and antigenically related to each other, they are different each other. Even though Canine adenovirus type 1 is the causative agent of canine infectious hepatitis (acute and chronic hepatitis), it may also cause respiratory system disease, eye disease, encephalopathies, and nephritis. Because CAV-2 mostly has an affinity for upper airway epithelium, it is stated as the main etiological agent of infectious canine laryngotracheitis. In dogs recovering from respiratory system disease caused by CAV-2, bronchiolitis obliterans may remain permanently. Canine adenoviruses cause infection not only in dogs but also in wild carnivores. Although there are many methods for the detection of adenoviruses, the PCR test plays an important role by both giving results in a short time and making the type differentiation in the diagnosis. Objectives: In this study, it was aimed to molecular detection and characterization of the presence of canine adenovirus in a shelter dog suffered with lower respiratory disease. Material and Methods: For this purpose, Broncho Alveolar Lavage fluid (BALf) was collected with short-term anaesthesia from the dog having symptoms of lower respiratory tract infection such as fever, weakness, anorexia, purulent nasal discharge, cough, and respiratory distress. DNA extraction was performed using a commercial extraction kit (Vivantis GF-100) to investigate the presence of adenovirus in the BALf. The extracted sample was subjected to PCR process. For PCR, specific primers for the adenovirus E3 gene region by Hu et al. (2001) were used. Results and conclusion: Canine adenovirus type 2 was detected in the sample via PCR. The positive sample was subjected to sequence analysis. Phylogenetic analysis was then performed. In the phylogenetic analysis, it was determined that it was in the same branch with the previously detected CAV-2 in Turkey and the similarity rate was 98.56%. With this study, it was revealed that CAV-2 could also affect the lower respiratory tract. In addition, molecular analysis of the virus circulating in the field was also revealed by molecular analysis. As a result, it was revealed that PCR test could be used successfully for canine adenovirus detection and type differentiation. In the case of an infection with other agents (viral, bacterial, fungal, etc.) in respiratory system diseases in dogs, clinical symptoms can be much more severe. Therefore, it is thought that besides the presence of adenovirus, other respiratory disease agents should be investigated in lower respiratory tract infections. Due to the antigenic relationship between CAV-1 and CAV-2, it is stated that CAV-1 and CAV 2 vaccines have a cross-protection against each other. Because of the presence of CAV-1 in the core vaccines determined by the World Small Animal Veterinary Association, it is likely that these vaccines will also provide protection against CAV-2 infections when administered. Therefore, it is important to follow regular vaccination schedules in dogs.

Key words Dog, Adenovirus, PCR, Molecular characterization.

An Investigation of the Seroprevalence of Bovine Viral Diarrhea Virus Infection in Dairy Cattle in Konya Province

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This study was conducted to obtain information about the seroprevalence of BVDV infection in cattle in dairy enterprises located in Konya province and its surroundings in the Central Anatolia region. The required sample size was calculated by considering a mean expected BVDV prevalence of 50% at a confidence level of 90% and a desired relative precision of 5% and a design effect of 1.45. In the cross-sectional study, 10 ml blood samples were taken from a total of 393 cattle from twenty-four cattle enterprises by random sampling between March 2017 and April 2019. The presence of antibodies in the blood sera samples taken was investigated by the virus neutralization test using the BVDV reference strain NADL. The Madin Darby Bovine Kidney cell culture and the NADL strain of the BVDV were used for the test. The sera samples were tested for the presence of BVDV-specific antigens using a commercial ELISA kit according to the manufacturer's procedure. The BVDV-NADL strain's power to infect, the Tissue Culture Infective Dose ($TCID_{50}$/0.1ml) value was determined as $10^{4.5}$. According to the test results, the animal and herd-level seroprevalence was found as 55.72% (219/393) and 79.16% (19/24), respectively. Of the total 219 sera samples found seropositive, SN_{50} values were found to be 1/5 in 29.68%, 1/10 in 27.85%, 1/20 in 21.92%, 1/40 in 8.22%, 1/80 in 6.85%, and 1/160 in 5.48%. It was revealed that all of the samples tested to detect viremic animals were negative in terms of antigens. Seropositivity between age groups was determined to be statistically significant (χ2:11.81; p=0.002). The results of this study show the existence of BVDV infection in dairy cattle enterprises in Konya province and its surroundings.

Key words BVDV, cattle, ELISA, virus neutralization test, seroprevalance

Causes of death and economic dimension in cattle farms in Ardahan province

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The aim of this study is to examine the most common causes of death and effective factors in Ardahan province, which has an important potential for bovine breeding. For this purpose, 60 producers dealing with animal husbandry activities in Ardahan province and agreeing to participate in the survey were interviewed. In line with the data obtained, it was determined that there were a total of 1035 cattle, 732 cows and 303 heifers, in 60 farms, and a total of 37 (3.58%) cows/heifers died due to various reasons in 18 farms (30%) in the 1-year period between June 2020 and June 2021. In the same period, it was determined that 68 (12.25%) of a total of 555 calves died in 31 farms (36.67%) due to various reasons. In the study, it was reported that among the causes of death of 37 cows, 10 of them died due to malnutrition, 6 of them due to infection, 4 of them due to poisonous grass, 4 of them choking on the chain, 3 of them diarrhea, 2 of them due to falling and slipping, and the cause of death of the remaining 8 cattle was unknown. In the study, it was reported that among the causes of death of 68 calves, 32 had diarrhea, 14 had septicemia symptoms, 6 had respiratory tract infections, 10 had navel infection and swelling in the joints, and the cause of death for the remaining 6 was unknown. In the research, it was determined that both calf deaths and cow deaths were found together in 12 (20%) of 60 farms, and this was attributed to insufficient care-feeding knowledge of the producer. In the research, it was also found that 95% of the farms give colostrum as soon as the calf is born, however, the ratio of the farms that clean the navel with tincture diode as soon as the calf is born is 51.7%, the rate of those that have their calves vaccinated for septicemia is 23.3%, the rate of the those that have the pneumonia vaccine is 18%, 3 and 70% of the farms reported that the calves stayed in the same environment with the cows.

As a result, it has been seen that the loss of both cattle and calves is significant in Ardahan province, and it is thought that training and seminars should be focused on minimizing the economic loss by explaining the factors causing this to the producer.

Key words Calf death; cattle death; infection; Ardahan

Knowledge and awareness levels of pet owners about their animals in some provinces of Turkey

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In the present study, the answers obtained from the questionnaires applied to the owners of cats and dogs located in at least one province from each region, covering all geographical regions throughout Turkey, were evaluated. For the study, the original questionnaire evaluating the information about the marital status, gender, age range, education level, place of residence (province, district, town, etc.), economic income level, the type of animal owned, and the level of knowledge about animal care/feeding of cat and dog owners. questions were prepared. In the study, a face-to-face questionnaire was applied to a total of 1000 participants in the cities of Hatay, Mersin, Elazığ, Erzurum, Kars, Van, Afyonkarahisar, Aydın, Balıkesir, İzmir, Uşak, Gaziantep, Şanlıurfa, Ankara, Kırıkkale, Konya, Çorum, Bursa, İstanbul, Tekirdağ. 962 participants (96.2%) returned by answering all of the survey questions, 38 participants were excluded from the evaluation because they did not answer all of the survey questions. According to the evaluation results of the data obtained from the survey results; It has been observed that 61.7% of women have cats and 50.6% of men have dogs. It has been observed that single individuals prefer cats to keep pets compared to married individuals. It has been observed that the variables of education level and place of residence make a significant difference in having information about animal feeding, cleanliness, and breed characteristics. As a result, the awareness level of individuals who own cats and dogs throughout Turkey was measured under the leadership of different variables, and a very comprehensive study was put forward.

Key words Dog, Cat, Grooming, Feeding, Awareness

Meta analysis of neonatal calf diarrhea prevalence in TURKEY

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Meta analysis is a statistical method that helps to reach a common conclusion about the current subject by combining the results of independent studies on the same subject, qualitatively or quantitatively. With meta-analysis, it is aimed to make stronger and more precise parameter estimates with larger samples by combining the results of studies with small samples appropriately. In this study, It was aimed to make a meta-analysis of the prevalences of neonatal calf diarrhoea in Turkey. The study material consisted of 120 neonatal calf diarrhea prevalence findings obtained from 42 studies conducted in Turkey between 1984-2019. Heterogeneity between studies was evaluated with the Cochran Q statistic and the I2 value. Subgroup analysis and univariate meta-regression analysis were used in the statistical determination of the source of heterogeneity. Subgroups were determined as the year of research was conducted (1984-2003, 2004-2013, 2014-2019), geographical regions in Turkey, study types (Cross sectional, Case-Control), and diarrhea agents (E. coli, Coccidiosis, Crytosporidiosis, Giardiasis, Coronavirus, Rotavirus, Toxacara vitulorum, mix infections ve other agents). As a result of the meta analysis, the common prevalence of neonatal calf diarrhea in Turkey was calculated as 0.16 (95% CI, 0.14-0.18). A high level of heterogeneity was detected among the studies included in the analysis (I2 = 97.43, $p<0.001$). In the subgroup and univariate meta regression analysis, neonatal calf diarrhea prevalence values did not differ significantly in terms of year, geographical region, and research type, but showed a significant difference in terms of the agent ($p<0.05$, R2 Analog (%) = 21.86). As a result of subgroup analysis, the common prevalence values for *Coccidiosis, Coronavirus, Crytosporidiosis, E.coli, Giardiasis, Rotavirus, Toxacara vitulorum*, mixed infections and other agents were calculated as 0.35, 0.03, 0.12, 0.13, 0.11, 0.17, 0.14, 0.19 and 0.05, respectively. With the meta analysis conducted in this study, the inconsistencies in the individual studies on the prevalence of neonatal calf diarrhea in Turkey were eliminated and a stronger and more precise estimation was provided. However, in order to reach correct results in practice, it is necessary to systematically and carefully select and examine the studies that will participate in the analysis, use the appropriate statistical model, and interpret the results of the analysis correctly.

Key words Calf, diarrhea, meta analysis, neonatal

Determination of optimal cut-off points of hematological and some serum biochemical parameters in neonatal calves with diarrhea by roc curve (receiver operating characteristic curve) method

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Diagnostic tests are used in a heterogeneous population of sick and healthy individuals to reveal whether individuals are truly patient or not. The power of discrimination of binary diagnostic tests is evaluated with the help of likelihood ratios (sensitivity, specitivity, positive predictive value and negative predictive value), and the discrimination power of sequential or continuous diagnostic test is evaluated with the help of the area under the ROC curve (Receiver Operating Charasteristic Curve). The ROC curve method enables the determination of the power of measurable variables used in diagnosis in clinical studies to discriminate (patient/healthy) cases. In addition, the cut-off points, which will give the most successful judgment in the diagnosis of the disease, can be determined by using the curves created on the basis of the sensitivity and specificity ratios preferred for clinical purposes. In order to determine the optimal cut-off points, likelihood ratios are calculated, and a ROC curve is created for different threshold values based on these ratios. The area under the ROC curve indicates the accuracy of the variable of interest in distinguishing between healthy and patient individuals. In this study, it was aimed to determine the optimal positivity threshold (cut-off point) for hematological and some serum biochemical parameters in neonatal calves with diarrhea using the ROC Curve method. The study material consisted of a total of 84 calves, 44 with diarrhea and 40 healthy, at the age of 0-30 days, brought to the Erciyes University Faculty of Veterinary Medicine Education Research and Practice Hospital, Department of Internal Medicine, for diagnosis, treatment and control. Hematological parameters, serum creatinine, sodium (Na), potassium (K) and Total protein (TP) levels were determined in whole blood and serum samples of calves included in the study. In the study, the areas under the ROC Curves created for all parameters were calculated. The statistical significance of the areas under the curve was determined with the Z statistic. As a result of the study, it was determined that WBC, Gran, MPV, Creatinine and Na values were important in the diagnosis of the disease in neonatal calves with diarrhea ($p<0.05$). The areas under the curve for WBC, Gran and Creatinine values that increase due to the disease were calculated as 0.710, 0.716 and 0.792, respectively; the areas under the curve for MPV and Na values that decrease due to disease were calculated as 0.833 and 0.735, respectively. Calculation of likelihood ratios and ROC Curve analysis were done with NCSS 9 software.

Keywords: Calf, Diarrhea, Roc Curve, Diagnostic Tests

Seroprevalence of *Coxiella burnetii* infection (q fever) in sheep farms located in Bosnia and Herzegovina

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Background: Q fever is a zoonotic disease that affects people all over the world and is caused by Coxiella burnetii, a gram-negative intracellular cocobacillus. The disease causes fertility problems, premature births, and stillbirths in cattle. Infected sheep have the ability to shed the organism for a long time. Aim: The aim of this study was to investigate C. burnetii infection in sheep during different season. Methods: During different seasons, blood samples were obtained from sheep located at various locations across Bosnia and Herzegovina, and unique antibodies to C. burnetii were detected using a commercial ELISA. Results: Higher prevalence of Q fever was detrermined during winter season, probalby due to increased density of sheep inside the barn, which could contribute to infection transmission through inhalation of C. burnetii-contaminated dust particles. Conclusion: The data collected will be helpful in analyzing the seroprevalence of Q fever in sheep in Bosnia and Herzegovina. Given that Q fever is a re-emerging zoonosis that poses a threat to human and animal health, and that our research found an increase in the number of positive sheep in Bosnia and Herzegovina during the summer season, surveillance studies should be continued, especially in areas with high seropositivity rates.

Key words Q-fever, seroprevalence, sheep, Bosnia and Herzegovina

Molecular identification of Anisakis species in various fish species caught from the Aegean and the Mediterranean Sea coasts of Turkey

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Anisakiasis is a significant fish-borne zoonotic disease triggered by the larval stages of Anisakis species and occurs through the consumption of raw or undercooked fish infected with larvae. Here, we aimed to investigate and molecularly identify the Anisakis species in various marine fish species caught from the Aegean and the Mediterranean Sea coasts of Turkey. For this purpose, a total of 555 fish specimens belonging to 18 different fish species were freshly sampled from fish markets between November 2020 to March 2021 and individually examined for the presence of Anisakis larvae. Only three fish species [Phycis blennoides, Merluccius merluccius (Aegean Sea), and Pagellus erythrinus (Mediterranean Sea)] were found to be infected with nematodes. All collected nematodes were washed with physiological saline and then individually cut into three parts. Anterior and posterior ends of the nematode were cleared using lactophenol solution for morphological examination. A total of 7, 102, and 10 larvae were found in P. blennoides (7.5% 3/40), M. merluccius (40% 16/40), and P. erythrinus (7.5% 3/40), respectively. All collected larvae were morphologically classified as Anisakis type I larvae L3. The overall prevalence of Anisakis larvae was 3.96% (22/555). Genomic DNA from mid-body of each nematode was extracted and the ITS1-5.8-ITS2 (ITS) gene regions were amplified by PCR. Afterward, all specimens were examined by PCR-RFLP analyses of the ITS. According to RFLP patterns, A. pegreffii (P. blennoides) and A. typica (M. merluccius and P. erythrinus) were identified. Five representative specimens were also randomly selected for both Anisakis species and bi-directionally sequenced. Obtained ITS sequences of Anisakis species confirmed the RFLP results. In conclusion, with this work, zoonotic A. pegreffii was molecularly identified for the first time in P. blennoides caught from the Aegean Sea coast of Turkey. Moreover, A. typica was also molecularly identified for the first time in P. erythrinus caught from the Mediterranean Sea coast of Turkey.

Key words Anisakis, Phycis blennoides, Pagellus erythrinus, Molecular identification, Turkey

This study was supported by the Erciyes University Research Fund (grant number, TSA-2021-10891)

A seasonal perspective of Nosemosis; the precense of Nosema spp. in summer months in Ankara, Turkey

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Nosemosis is knownas a serious disease of adult honey bees,Apis mellifera L. (Hymenoptera: Apidae)caused by Nosema apis and Nosema ceranaewhich are obligate intracellular microsporidian parasites. The parasitesinfect the epithelial cells of honey bee ventriculum and lead to critical changes in midgut mucosa that cause digestive and metabolic disorders. Accordingly, the infestation causes dead of adult honey beesand responsible for great economic losses for beekeepers worldwide. Seasonalpatterns ofNosemosisare consistent and mostly observed in spring orautumnmonths, with the higest spore counts and viability. The aim of this study was to evaluate the seasonalality of nosemosis in the light of previous literature and spesifically investigatethe presence of Nosema spp. during summer season including June, July and Augustfrom various locationin Ankara.Honey bee samples were collected from 80 apiaries located in 13 different area in Ankara. The samples were analysed from pools of ten adult honey bees per population usingdigestion methods and then the spores were stained with Giemsa and Safranin to identify under the light microscope. Before analysis, the anesthesia was induced by cold (30 sec, -80 oC) on the bees. According to obtained data, 12 out of 80 (%15)sampled apiarieswere infected with Nosema spp. spores. Infected apiaries were mainly located in the central and north part of Ankara including Çubuk, Gölbaşı, Kalecik, Kazan, Kızılcahamam ve Yenimahalle.Results shows nosemosis may be detrimental to honey bee populations and colony productivity in summer months. Therefore, the treatment might be neededwhen infections of Nosema spp. reach toinfectious leveleven in summer.

Key words Apis mellifera L., Nosema spp., seasonal effect, summer, Ankara, Turkey

Morphological pattern of Pes tendons in wallaby

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Wallabies are small to medium-sized hopping marsupials and have large and flexible tendons in their hind limbs acting like springs. This study was aimed to show the morphological pattern of pes tendons in Bennett's wallaby. Two Bennett's Wallabies (Macropus rufogriseus) died of natural causes have been used for this study. The pes was dissected using standard dissection techniques to expose tendons around metatarsals and digits. The crural musculature of the hind limb was also dissected to identify the origin of tendons. Tendons of m. extensor digitorum longus, m. extensor digitorum lateralis, m. extensor digiti II et III longus, m. flexor digitorum superficialis, m. flexor digitorum profundus and mm. interossei were the main identified tendons. Tendons of m. extensor digitorum longus attached to the distal phalanx of the fourth digit. Tendon of m. extensor digitorum lateralis had two insertion points, fourth and fifth digits. Tendons of m. extensor digiti II et III longus originated from a small deep muscle of the lateral aspect of the crus and inserted to the proximal phalanx of second and third digits. Tendon of m. flexor digitorum superficialis, at the level proximal one-third of the metatarsus, was divided into two. Relatively the thinner was inserted to the phalanx of the fifth digit while the thicker was split and inserted to the medial and lateral surface of the distal end proximal phalanx of the fourth digit. Tendon of m. flexor digitorum profundus was the thickest tendon on the plantar surface and it had four insertion points, which were distal phalanges of the second, third, fourth and fifth digits. This study was considered as a baseline not only for medical research but also for biomechanical and functional morphology. This study will probably lead to provide detailed information for future studies that may focus on the biomechanical and functional morphology of tendons in marsupials.

Key words Bennett's wallaby, Hind legs, Morphological pattern, Pes tendons

TLX1 expression in fetal bovine spleen

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The spleen that develops from the mesogastrium mesenchymal is known as the largest secondary lymphoid organ, which plays a critical role in the formation of fetal hematopoiesis and immune response. It has been noted that spleen development in the Fetal period is regulated by the TLX1(HOX11) protein, a subunit of homeobox proteins. In this way, it was observed that spleen development did not occur in mice without tlx1 protein. The aim of this study was to demonstrate the expression of TLX1 protein in bovine spleen during fetal development by immunohistochemistry technique. A total of 8 spleen obtained from fetuses belonging to the second and third trimester of pregnancy were used as material in the study. The spleens obtained were passed through its routine histological stages and turned into paraffin blocks. Then serial cross-sections were taken from paraffin blocks, and then immunohistochemistry staining method was applied to the sections. As a result of immunohistochemistry, it was observed that TLX1 had a weak to medium reaction in some lymphocyte, neutrophil and plasma cells in spleen in the second trimester of pregnancy, but a strong reaction in the third trimester. However, it was found that the observed immunoreaction was concentrated around lymph follicles that were newly forming in the third trimester. In addition, it was determined that immunoreactivity was formed in the arteria centralis and some other vascular endothelial cells. As a result, it was concluded that TLX1 affects the development of the spleen in cattle and may play a role in the proliferation and differentiation of cells in the spleen, as in other living things.

Key words Bovine, fetus, spleen, TLX1

Expression of Dlx-5 and TLX1 proteins in immature and mature cat testis

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This study was carried out to determine the possible physiological roles and immunoreaction intensities of Dlx-5 and TLX1 proteins, which are subunits of homeobox proteins in the testis, epididymis and deferens ducts, which are important for the continuity and fertility of immature and mature cat breeds (Van, Iran and Ankara). A total of 18 testicular tissue samples obtained from Ankara, Iran and Van cats were used in the study. The testicles were grouped into 9 testicles (immature) under six months of age and 9 testicles (mature) over one year of age, taking into account the age of the Cats. Testicular tissues in both groups were subjected to routine histological procedures. Then the indirect streptavidin-biotin complex method from immunohistochemical methods was applied to the tissues to determine Dlx-5 and TLX1 proteins. It was observed that Dlx-5 produces a strong immunreaction in immature and mature cat testicles and epididymis. However, immunreaction was found to be weak in immature ductus deferens, while moderate intensity in adults. It was determined that TLX1 induced a positive immunereaction only in some germ cells in the immature testis. However, it was observed that the strong immunereaction in Leydig cells in mature was weak in the cells within the seminiferous tubule. It was observed that TLX1 produced a very weak immunereaction in the epithelial cells of the immature ductus epididymis and deferens, but it was in medium density in mature. As a result of immunohistochemical findings, it was determined that the density of Dlx-5 in the immature and mature testis, epididymis and deferens ducts was higher than TLX1. In this way, it was thought that these two proteins could play a role in the proliferation and differentiation of cells in these tissues, ensuring intercellular communication, and fulfilling the physiological functions of the male reproductive system.

Key words Cat, Dlx-5, Testis, TLX1

The effect of some environmental factors on milk yield traits of Estonian and USA origin Holsteins raised in Turkey

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This study is intended to investigate the milk yield characteristics of Holsteins of different origin raised under the same conditions in a private enterprise producing milk in Kırşehir. It was aimed to determine the effects of lactation length (LL), 305-day milk yield (305 DMY) from milk yield traits, and the effects of calving year, season, age and lactation number from environmental factors on these traits. In the study, 273 milk yield records of Holsteins imported from Estonia between 2011-2013 and 217 of Holsteins imported from the USA were used. In the analysis of the data, the least-squares method was used to determine the effect of environmental factors and the Tukey multiple comparison test was used to compare them. In the study, the LL means of Holsteins of Estonian origin were determined as 326.9±25 days, 374.1±13.2 days and 431.9±22.8 days; 305 DMY averages were 6887±391 kg, 6720±205 kg and 6778±355 kg respectively in 2011, 2012 and 2013; and the LL means of Holsteins of USA origin were calculated as 233.3±53.5 days and 328.0±28.2 days in 2012 and 2013 respectively, and 305 DMY averages were 8229±952 kg and 7177±502, respectively. While the effect of calving year and season on LL was statistically significant ($p<0.05$, $p<0.01$) in Holsteins of Estonian origin, only the effect of lactation number on 305 DMY was significant ($p<0.05$). The effect of calving season, which is one of the environmental factors, on LL was found to be statistically significant ($p<0.01$) in Holsteins of USA origin. As a result, some milk yield traits of Estonian and USA origin Holsteins raised in Kırşehir province and imported were determined in the study, and it was found that USA Holsteins raised under the same enterprise conditions had more milk yield than Estonian origins.

Key words Holstein cattle, lactation length, milk yield, environmental factors

Technical efficiency of dairy goat enterprises by scales and milking methods: Data envelopment analysis (DEA) approach

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The aim of the study is to determine technical efficiency of dairy goat enterprises by scales and milking methods using the approach of Data Envelopment Analysis (DEA). The data was obtained from 73 dairy goat enterprises in Çanakkale province, Turkey. The enterprises have been classified as small-scale (25-75 heads), medium-scale (76-150 heads) and large-scale (151 and over heads) in terms of animal number and the enterprises with automatic milking system and with conventional milking system regarding the milking method. An input-oriented DEA was used to determine technical efficiency. In analysis 5 inputs (labour cost, capital cost, material cost, total capacity of enterprises, working experience) and 3 outputs (total milk production, milk sales, lactation milk yield) were used. The results of the study indicated that technical efficiency score of the enterprises varied between 0.25 and 1.00. The mean efficiency score was 0.71 among the enterprises and it was determined that 23.29% (n=17) of 73 enterprises had a score of 1 and were working efficiently. When the efficiency score was analyzed within the scope of enterprise scale and milking method, 47.06% of the enterprises was large-scale, 41.18% was medium-scale and 11.76% was small-scale enterprises among the efficient enterprises. However, it was determined that 52.94% efficient enterprises had automatic milking system and 47.06% had conventional milking system. The greatest slacks were used capital cost and material cost by inputs. The inefficient enterprises may provide the technical efficiency score by reducing their capital cost by 43.59% and material cost by 38.92% in order to produce the same level of output. In conclusion, technical efficiency of enterprises can be improved by using technology, determining optimum scale considering rational use of inputs and by taking policies regarding the milk selling prices.

Key words dairy goat, data envelopment analysis, milking system, technical efficiency

Effect of barley-vetch hay and silage on ewes live weight , lamb birth weight in Lalahan (KivircikxAkkaramanB1) Sheep

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The aim of this study was to examine the effects of barley vetch hay and barley vetch silage on live weight change in pregnant sheep and birth weight in lambs and determine the optimal use form of barley vetch roughage in sheep. For this purpose, 48 Lalahan Sheep (KivircikxAkkaramanB1) blocked regarding to their age and randomly distributed barley-vetch hay (H) (n=16), barley-vetch silage (S) (n=16), control (C) (n=16) in three groups. The H group fed with barley-vetch hay and restricted concentrate, S group with barlery-vetch silage and restricted concentrate, C group with barley straw and alfalfa hay (50/50%) and restricted concentrate and group feeding. The trial was started in the last 1/3 period of pregnancy and took 90 days. Body live weight and feed consumption of pregnant sheep was investigated on the last period of pregnancy, also birth, 15th days, 30th days live weight of lambs weighed. Beginning live weight of sheep was homogeneous, 1st and 2nd month live weight was insignificant between groups (P>0.05). The body live weight of sheep on birth was 67.01±1.32, 64.07±1.54 and 64.89±1.48 kg respectively for these groups. Lambs birth live weight, 15th days and 30th days live weight was 4.94±0.13, 4.44±0.15, 4.77±0.17; 9.30±030, 8.03±0.29, 8.94±0.34, 13.36±0.43, 10.85±0.56, 12.37±041 respectively. The birth type was significant on birth live weight (P<0.05) and hay group 15th days and 30th days live weight was higher than silage group (P<0.05). As a result of the study, barley-vetch hay and silage can be used as a roughage in sheep. Also, barley-vetch silage can be useful especially in the moist areas, use of silage didn't cause low yield but concluded that barley-vetch hay better for lamb performance.

Key words Barley-vetch, silage, lamb performance

This study founded by TAGEM, Project No: TAGEM/HSGYAD/B/20/A3/P1/2085

Effects of enterprise and fattening type on carcass and meat quality characteristics of purebred Kivircik lambs

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The study aimed to determine the carcass and meat quality of purebred Kivircik lambs in different housing and production systems. A two-stage cluster analysis was applied to forty-seven purebred Kivircik farms by using the information of "farm size"," shelter material" and "location of the farms" and they were divided into 3 sub-groups; a) village-type family enterprises, b) forest-type family enterprises and c) large-scale farms. Ten of 47 farms were chosen to investigate their carcass characteristics, instrumental and sensory meat quality. In half of the farms selected for each enterprise type, the lambs were fattened in the barn, while the other half was grazed in the pasture during the day. Effects of the enterprise and fattening type on hot and cold carcass weight, dressing percentages, longissimus dorsi (LD) muscle cross-section area, backfat thickness, conformation and fatness scores were insignificant. While the shrinking loss was found higher for village-type family enterprises, slaughter age and weight of the lambs from large-scale enterprises and grazing lambs were higher than their counterparts. The differences among the enterprise types in terms of pH0, pH24, drip loss, cooking loss, Warner-Bratzler shear force and colour parameters (L*(brightness), a*(redness), and b*(yellowness) of meat samples, which were determined with a colorimeter) measured after 1-hour blooming were not significant. However, grazing lambs showed lower values in terms of the L* (brightness) value than the lambs fattened in the barn. The panellists gave similar scores for odour density, tenderness, juiciness, flavour intensity, flavour quality and overall liking score to those of Kivircik lambs reared in different types of enterprises. Although, lambs fattened in barn had higher odour and flavour intensity scores. These results show that Kivircik lambs reared in village-type family enterprises, forest-type family enterprises and large-scale businesses have similar carcass and meat quality characteristics. In addition, except the panellist appreciation of barn-fed lambs and the difference in L* value at 1-hour blooming, barn-fed and grazing lambs also show similarities for investigated traits.

Key words Enterprise type, Fattening, Meat quality, Kivircik breed

This study is supported by Scientific Research Projects Coordination Unit of Istanbul University (Project number: 50389)

Increasing the fertility yield of Akkaraman lambs by using in breeding at early ages

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The main aim of animal husbandry is obtain maximum number of offspring per dam during its lifespan. Sheep is animal species which the best utilize the unproductive pastures. The study was carried out in a sheep enterprise with 1800 of Akkaraman in Aksaray. In Turkey, native breeds are mated at the age of about 16-18 months. Lambs were fed with lamb starter, lamb rearing feeds and creep feeding method in addition to milk until weaning in this study. They were then turn out to graze in addition to milk feeding. Sheep were subjected to flushing 21 days before mating season. Male lambs were used for breeding at the age of 7-9 months. Lambing rate of primiparous ewe (16-18 months old) is between 88-94% in Turkey. In the presented study, the lambing rate was 73%. While there was no statistical difference in the multiple lambing rate ($p \geq 0.05$), the lambing rate was higher ($p \leq 0.05$) in the 16-18-month-old animals. In conclusion, although the lambing rate was low, use of these lambs in breeding added economical value to the enterprise for one year as it met the operating costs were covered. The lambs of normal breeding animals remained as net profit to the enterprise. It has made a significant economic contribution to the business.

Key words Akkaraman, early lambs, lambing rate

Triple pelvic osteotomy technique in the treatment of obstipation due to pelvic malunion in a cat: A case report

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The case report consisted of a 6-month-old Tabby breed male cat brought to Hatay Mustafa Kemal University, Faculty of Veterinary Medicine, Veterinary Health, Practice and Research Hospital, Surgery Clinic. In the anamnesis, it was learned that the patient had an accident 4.5 months ago and has had defecation problems since then. On clinical examination, it was understood that the abdomen was full of stool. No abnormal value was found in the hemogram table. Radiographic examination revealed unilateral pelvic malunion on ventrodorsal X-ray and the pelvic canal was considerably narrowed. As a result of all these examinations, the patient was diagnosed with obstipation due to pelvic canal stenosis. In operative treatment, triple pelvic osteotomy method was preferred because it allows the expansion of the pelvic canal. Accordingly, the ilium was freed by osteotomy to the ilium, ischii, and pubis forming the pelvic roof, and the two ilium fragments that underwent osteotomy were implanted to each other by using lag screws. Thus, the pelvic canal was enlarged. It was recommended that the patient be fed with liquid foods for one week postoperatively and switch to dry food after about 2 months. In the radiographs taken at the postoperative 3rd month, it was observed that the osteotomy line was fused, the pelvic canal was enlarged significantly, and the patient did not have any defecation problems.

Key words Cat, Obstipation, Pelvic Malunion, Triple Pelvic Osteotomy

Usability of infrared thermal camera in the diagnosis of cattle eye diseases

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An infrared thermal camera is a diagnostic imaging device that detects and records temperature changes and creates a thermogram image. Thermography, which is based on the imaging of heat reflection, allows the detection of changes in the localization of pain in various diseases without causing any discomfort and radiation damage to the patient. This research aims to reveal the temperature changes in the cornea and show the advantages of the thermography technique in cows with Infectious Bovine Keratoconjunctivitis (IBK). The research was carried out on a total of 14 dairy cows, 8 of which were diagnosed with IBK and 6 of which were healthy, with an average age of 3-5 years. Cows with IBK had a mean corneal temperature (38.8 ± 0.11) higher than healthy cows (31.08 ± 0.43), and a statistically significant difference was found between these two groups ($P < 0.001$). As a result, it was concluded that corneal temperature increased in cows with IBK and thermography could be used as an auxiliary imaging technique in the diagnosis of cattle eye diseases.

Key words Infrared thermography, Infectious Bovine Keratoconjunctivitis, Cornea, Cattle

Evaluation of the association between cardiac troponin T, N-terminal-pro-B type natriuretic peptide, and echocardiographic indices of left ventricular systolic function in neonatal calves

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The objective of the study was to establish an association between echocardiographic indices of LV systolic function and cardiac biomarkers in neonatal calves. Twenty premature calves and 10 healthy term calves were enrolled in the study. M-mode and Pulsed-wave tissue Doppler imaging (PW-TDI) echocardiographic examinations from right parasternal short axes (pupillary muscles level) and left apical (4 chamber) views were performed 24 hours after birth to evaluate LV systolic functions. At the same time serum concentrations of cardiac troponin T (cTnT) and N-terminal-pro-brain natriuretic peptide (NT-proBNP) were evaluated. Left ventricle ejection fraction (LVEF) and cardiac index (LVCI), were significantly higher in premature calves. The septal mitral annulus peak systolic velocity (LVSm), cTnT, and NT-proBNP were not different between study groups. LVEF, LVCI, and LVSm were not associated with serum cTnT and NT-proBNP. Performed receiver operating characteristic (ROC) analysis and optimum values for distinguishing LV systolic function showed that both cTnT and NT-proBNP were not sufficiently sensitive and specific markers for determining LV systolic function in term and premature calves. We conclude that there was no association between echocardiographic indices of myocardial function and cardiac biomarkers in neonatal calves. Besides the low sensitivity and specificity of cTnT and NT-proBNP for detecting LV systolic dysfunction, it seems that echocardiography is the superior method to evaluate LV function in neonatal calves.

Key words Neonatal calf, tissue Doppler, cardiac biomarker, left ventricle

Iatrogenic hydrometra and remnant syndrome following ovariohysterectomy in a terrier bitch

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Veterinarians recommend ovariohysterectomy in order to prolong life in animals, eliminate behavioral problems, and reduce the pathological risk rate related to the mammary or reproductive system. It is known as the most frequently performed surgical procedure in veterinary practice in queens and bitches. During ovariohysterectomy, the veterinarian's inability to properly carry out the routine procedure due to limited time, poor insufficient conditions, or lack of experience and technical mistakes made cause different iatrogenic complications. In the presented case, a 52-month-old female terrier dog was admitted to our hospital due to ongoing oestrus symptoms and loss of appetite despite having an ovariohysterectomy about 1.5 years ago. Clinical examination was supported by vaginal cytology, abdominal ultrasonography, and hemogram test. As a result of the examination, findings of the ovary and uterus filled with contents were found. With the repeated surgical intervention, all of the bilateral ovaries and cornu uteri, which were compatible with the ultrasonography images, were extirpated and sent to the pathology laboratory. According to the histopathological examination, hydrometra was diagnosed due to cystic endometrial hyperplasia. During the previous ovariohysterectomy, the veterinarian left the entire uterus with the ovarian tissues in the abdomen, made an incision between the cranial cervix uteri and the corpus uteri, and ligated the corpus uteri, thus wholly preventing drainage. Understood that cystic endometrial hyperplasia and hydrometra occurred due to the failure of the drainage of the vaginal contents despite the continuation of the sexual cycle in the patient. In the presented case, although it was stated that she had previously undergone ovariohysterectomy, remnant syndrome, an iatrogenic complication, and cystic endometrial hyperplasia and hydrometra due to corpus uterine ligation are described.

Key words Hydrometra, Complication, Dog, Ovariohysterectomy

Histology of the different brain regions in the blind mole rat (Nannospalax xanthodon)

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Mole rats of the Nannospalax xanthodon superspecies are blind subterranean rodents with various specific features that emphasize their adaptation to underground life. Underground digger lifestyle, high tolerance to hypoxia, and blindless require peculiar adaptations of the central nervous system in the mole rat, N. xanthodon. There is a limited number of studies investigating the histological structures of the organs and tissues of blind mole rats. The present study aimed to investigate the histological structures of the different brain regions in N. xanthodon. For this purpose, brain tissue samples were taken from five blind mole rats (N. xanthodon). The samples were fixed in 10% neutral buffered formalin, processed using routine histological methods, and mounted in paraffin blocks. Six micrometer-thick sections were cut and stained with Crossmon's trichrome, H&E and periodic acid Schiff method. The results of this study show that the neocortex well developed within the brain. The cerebral cortex consists of neurons, nerve fibers, and neuroglia and is divided into 6 layers. Most abundant neurons in the cerebral cortex are pyramidal cells. In the hippocampus, the dentate gyrus is divided into wide molecular layer and small granular cell layer. Also, CA1 and CA3 granular cell layer were observed in the hippocampus. The olfactory bulb, a neural structure of the vertebrate forebrain that includes the sense of smell is well developed in the N. xanthodon and appears to consist of glomerular layer, external plexiform layer, internal plexiform layer/mitral cell layer, internal granular layer and olfactory ventricle. In conclusion, the histology of the brain of N. xanthodon was similar to that of other rodent brains and identified differences may be related to adaptation to subterranean life of this rodent species.

Key words Histology, Brain, Nannospalax xanthodont

Extravasation of vincristine sulfate in a dog

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Vincristine sulfate is an effective and commonly used chemotherapy agent in canine transmissible venereal tumor (CTVT) treatment. It may cause mild to severe gastrointestinal side effects, such as lethargy, vomiting or diarrhea. The most frequent complication of intravenous vincristine treatment is the extravasation of the drug. Extravasation of chemotherapeutic agents is a complication of chemotherapy for various malignancies. Leakage of the drug into the perivascular space may result in severe tissue damage and development of deep ulcerations; débridement, excision, and skin grafting may be required for healing if intervention treatments are not promptly instituted. A 5-year-old, female Anadolu shepherd dog was affected by extravasation of Vincristine sulfate during treatment of CTVT at our clinics. The dog was quiet, alert, and responsive after the event, but physical examination revealed signs of inflammation of the forelimb, and signs of intense pain were elicited upon palpation. Autologous platelet rich plasma (PRP) was injected in a circumferential pattern around the extravasation site and antimicrobial wound dressing was used for the treatment of the wound. Treatment of the limb was continued for 6 weeks and the wound healed without any complications. To avoid extravasation when administering a potentially cytotoxic agent, all possible precautions must be taken, such as ensuring patency of IV catheters, monitoring the injection site carefully, and using patient restraint or sedation when necessary.

Key words Canine, Platelet rich plasma, Tumor

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POSTER PRESENTATIONS

Diagnosis and characterization feline panleukopenia virus associated with feline bocavirus in Ankara

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The aim of study is screening of Parvovirus nucleic acid from clinical specimens from cats. One PCR product have found positive and characterized molecularly in terms of VP2 gene of Parvoviruses. We collected blood samples from 55 cats with some clinical symptoms. All samples were tested against several viral infections (Feline Panleukopenia Virus-FPV, Feline Corona Virus-FCoV, Feline Retroviruses) in PCR. One of them had anemia, dehydration, depression, and food reluctance was positive for FPV. Additionally, blood values of this cat show that low WBC and neutrophil; MCV and monocytes value were high. The positive sample and obtained sequences from GenBank database were aligned by using BioEdit (v.7.0). Phylogenetic tree was constructed in MEGA (v.6.06) software. It was characterized one positive sample as Parvovirus. Interestingly, it has high similarity Bocaparvovirus as well as Canine Parvovirus. It is known that relative high variety of Parvoviruses depend on host and pathogen-related. It is necessity to research with different and larger genome parts of Parvoviruses to identify new virus strains. As well as vaccination schedule, selected strains for vaccination is important. Characterization of new viruses help to select vaccine strains for effective immunization. Strains included in the vaccine must be chosen among field strains circulating in the country for effective vaccination. The use of frequently encountered strains in the vaccination program will support the fight against infection.

Key words Feline Panleukopenia Virus, Molecular Characterization, Turkey

Molecular characterization of endogenous feline leukemia virus infection from clinical specimens in Ankara

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The aim of current study is detection of endogenous FeLVs from clinical samples and molecular characterization of partial envelope and LTR genes. Totally 44 (blood and swap) materials, have been collected from cats with/without clinical symptoms. RNA was extracted by using conventional method. Molecular techniques were used for FeLV, Feline Corona Virus (FCoV), Feline Panleukopenia Virus (FPV). Positive PCR products have been sequenced commercially. The sequences were aligned by using BioEdit (v.7.0) and tree was constructed in MEGA (v.6.06) software. 7 samples were found positive for FCoV; two was found positive for FPV. Five of the seven positive samples for FCoV (71,4%) was also found positive for FeLV. These results indicate that the immunosuppressive effect of enFeLV may be a potential factor in the occurrence of FCoV infection. Mainly, 26 out of 44 samples (56%) gave positive results for FeLV in PCR. Two blood and one swap samples were not good quality in PCR, therefore the 23 positive samples were sequenced. The results of phylogenetic analysis showed that samples were located very closely with each other and sequences that reported previously in Turkey. Interestingly, the sequences have less similarity with sequences of reported FeLV vaccine strains. This seems to be an advantage in terms of FeLV infection. However, the presence of a high positivity rate is noteworthy. The results of phylogenetic analysis lead us to think that prevalence of enFeLV may not be directly related with the probability vaccine-associated infections. The co-existence of immunosuppressive viral agents may worsen clinical situations. As a result, it was determined that vaccination practices did not interact directly with field strains and were not responsible for the spread of the disease.

Key words Endogenous Feline Leukemia Virus, Molecular Characterization, Turkey

The COVID-19 pandemic as a zooanthroponosis in pets

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In the first months of 2020, the COVID-19 pandemic spread around the world and claimed more than four million of death. The objective of this review is to explain how domestic animals could be victims of theirs owners and their environments. Actually, only a few dozen cases have tested positive for SARS-CoV-2. It conconcerned dogs (Canis lupus familiaris) and cats (Felis silvestris catus) whose pet owners were sick with COVID-19 and are believed to be the most likely source of transmission of the virus to their pets. Although none of his animals showed clinical signs. Importantly, there is no evidence to indicate that they can transmit the virus or develop the disease associated with COVID-19, concern among the general public has been enormous and unwarranted that pets may play a role in the disease transmission and spread of COVID-19. Health systems are trying to control the epidemic as soon as possible with the possibility of practicing a "One Health" approach, using methods from animal health to improve surveillance of COVID-19 and those, to ensure better decision-making at local, national and global levels.

Key words COVID-19, SARS-COV-2, pets, Zooanthroponosis

Status of the horse in Algerian culture and traditions

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Algeria is a typical country of great and ancestral equestrian tradition where horses constitute a varied wealth in terms of animal genetic resources, offering an important diversity of breeds in terms of their adaptation and their capacity for production in their natural environment. The objective of this revue of literature is to illustrate the role played by the horse in Algerian culture and traditions between the past and the present. The equine industry occupies a prominent place in the history and economy of North Africa, especially in Algeria, horse has a major role in sustainable development, particularly in the environmental field, by playing a particular role in the management of spaces and landscapes beneficial to the maintenance and development of biodiversity, but also in its relationship with humans. In rural areas, horses contribute in the transport of materials and water in places that are often inaccessible to vehicles. They are also involved in the transport of people, goods and household and used as a work aid for peasants. Actually, with the development experienced by the country, these animals are included in all sports equestrian disciplines. Especially in the Center and West of the country, they are the mean actors of "fantasia", which ensures the continuity of an authentic military equestrian tradition, it is a simulation of traditional military action in the 19th century, it would reproduce the glorious assaults of Arab and Amazigh military tactics, a sharp retreat followed a dazzling attack. These animals deserve more attention from public authorities and civil society, in order to preserve this animal considered as a part of the national and humanitarian heritage.

Key words Horse, Algeria, culture, tradition, fantasia

LIFETIME ACHIEVEMENT AWARD:

PROF. DR. OSMAN ERGANİŞ

"DUE TO COVID-19 VACCINE STUDIES"

BEST ORAL PRESENTATIONS

1ST PEMBE DILARA KEÇİCİ

EFFECTS OF ENTERPRISE AND FATTENING TYPE ON CARCASS AND MEAT QUALITY CHARACTERISTICS OF PUREBRED KIVIRCIK LAMBS

2ND GÜVEN GÜNGÖR

"META ANALYSIS OF NEONATAL CALF DIARRHEA PREVALENCE IN TURKEY"

3RD ECE TUNÇ

"IATROGENIC HYDROMETRA AND REMNANT SYNDROME FOLLOWING OVARIOHYSTERECTOMY IN A TERRIER BITCH"

BEST VISUAL PRESENTATIONS

1ST HAMZA KHALED

"THE COVID-19 PANDEMIC AS A ZOOANTHROPONOSIS IN PETS"

2ND CANSU DEMIRDEN

"MOLECULAR CHARACTERIZATION OF ENDOGENOUS FELINE LEUKEMIA VIRUS INFECTION FROM CLINICAL SPECIMENS IN ANKARA"

3RD ECE ADIGUZEL

"DIAGNOSIS AND CHARACTERIZATION FELINE PANLEUKOPENIA VIRUS ASSOCIATED WITH FELINE BOCAVIRUS IN ANKARA"

HONORABLE MENTION

1ST YELIZ KAYA KARTAL

"ALTERATION OF SERUM PARAOXONASE, CERULOPLASMIN AND IMMUNOGLOBULIN G LEVELS IN HAIR GOATS AT DIFFERENT AGES"

2ND UĞUR TOPALOĞLU

"TLX1 EXPRESSION IN FETAL BOVINE SPLEEN"

3RD AMIR NASERİ

"EVALUATION OF THE ASSOCIATION BETWEEN CARDIAC TROPONIN T, N-TERMINAL-PRO-B TYPE NATRIURETIC PEPTIDE, AND ECHOCARDIOGRAPHIC INDICES OF LEFT VENTRICULAR SYSTOLIC FUNCTION IN NEONATAL CALVES"

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