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Dear Scientist,

The eight 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 25 and after a careful evaluation 23 submissions were accepted by our scientific committee and 5 of them were accepted as poster presentation and 18 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 **Dr. Tamercan Morkoç** and **Prof Dr. Hesham El Enshasy**, also the International University of Sarajevo, Universiti Teknologi Malaysia, 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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Dr. Daniel Joe Dailin

"

ORAL PRESENTATIONS

FORENSIC MEANING OF CORE TEMPERATURE - AN INDICATOR FOR ASSESSING THE SEVERITY OF HEATSTROKE IN AN ANIMAL MODEL

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Abstract:

Background/Aim: Sudden deaths during efforts that are multifactorial and associated with exposure of the body to high temperatures beyond the power of thermoregulatory mechanisms are increasingly common. Autopsies are often performed, but the evidence is insufficient and non-specific. The research aimed to determine the core temperature values of rats exposed to different water temperatures (37°C, 41°C, 44°C), before the start of the experiment (Tb), after immersion in water (Tu), after 20 minutes of exposure (Tu) and at death. (Ts) rats for hyperthermia and heat stroke.

Material and Method: Forty rats were divided into five groups depending on the temperature and length of exposure to water: control group-CG37, G41-hyperthermia- group which exposure whosewas a 20 minutes at 41°C, G41-heat stroke- group exposed until death at 41°C, G44- hyperthermia- group which exposure time was 20 minutes on 44°C, G44- heat stroke- group exposed until death on 44°C. A RET-4 probe was used to measure the core temperature of rats.

Results: Significant changes in the body temperature of rats were observed during the lethal outcome, $p<0.0005$. After exposure to water temperature for a period of 20 minutes, depending on the group, it was observed that the body temperatures of rats differed significantly between G37 and G41, KG37 and G44, $p<0.0005$ and G41 and G44, $p<0.0005$. A significant difference was also observed in the postmortem temperature of groups G41 and G44, $p=0.01$. a significant difference between body temperatures in groups CG37, G41-hyperthermia, G41- heat stroke, G44-hyperthermia and G44-heat stroke ($p<0.0005$), and the significance of the differences in the CG37 group was $p=0.044$.

Conclusion: Exposure of albino rats to different water temperatures also led to a change in the internal temperature; normothermia was established through thermoregulation in the control group, and in the other groups, hyperthermia and heat stress occurred.

Keywords: Temperature, Variation, Heat, Rats, Heat Stroke

THE EFFECT OF ARBUTIN ON THE CRYOPRESERVATION OF RAM SPERM

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Abstract:

This study was conducted to determine the effects of arbutin, an antioxidant added to the sperm diluent after thawing, on spermological parameters, Computer-Assisted Sperm Analysis (CASA), oxidative stress parameters, and DNA damage. Sperm samples were collected from a total of 3 male goats of the Sönmez breed raised under Afyonkarahisar conditions. The samples were pooled and divided into 5 equal volumes, which were then diluted with Tris-based extenders containing different amounts of arbutin, including the control group. The diluted samples were subjected to equilibration at 5 °C for 3 hours in 0.25 ml straws before being frozen in liquid nitrogen vapor. Subsequently, the sperm samples were stored in a liquid nitrogen tank (-196°C) until the day of analysis. In terms of subjective motility and CASA motility, the group containing 2,5 mM arbutin in the thawed sperm showed a significant superiority compared to both the control group and the other groups. The parameters VAP, VSL, VCL, ALH, and BCF exhibited the highest values in the group containing 10 mM arbutin. Regarding the midpiece abnormalities of the spermatozoa, a significant decrease was observed in the 7,5 mM and 10 mM groups compared to the other groups and the control group (p<0.05). When looking at tail abnormalities, the lowest value was found in the 2,5 mM group, and the difference between this group and the 10 mM group was significant (p<0.05). Among the HE test parameters of the spermatozoa, the lowest membrane integrity and viability (H+, E-) were observed in the control group, while the highest value was found in the 7,5 mM group, and the difference between them was statistically significant (p<0.05). The values obtained for DNA damage in the groups containing 2,5; 5, and 7,5 mM arbutin were statistically significant (p<0.05) compared to the control group. Among the oxidative stress parameters, the values of MDA (malondialdehyde) in the 2,5 and 5 mM groups were significantly lower (p<0.05) compared to the 10 mM group. In the GSH (glutathione) parameter, the value obtained in the 10 mM group was statistically different (p<0.05) from the control and other groups. The highest value obtained in the total antioxidant level showed a significant difference (p<0.05) with the 7,5 and 10 mM groups. In terms of total oxidant level and oxidative stress index, a statistically significant difference (p<0.05) was observed between the 10 mM group and the control and other groups. In conclusion, it has been observed that arbutin, used as an antioxidant in the freezing of goat sperm, has positive effects on motility, CASA parameters, abnormal spermatozoa rate, membrane integrity, oxidative stress, and DNA damage. However, it is deemed beneficial to evaluate its effects along with fertility results using a wider range of animal samples.

Keywords: Antioxidant, Arbutin, Ram, Cryopreservation, Sperm

**Supported by Afyon Kocatepe University Scientific Research Projects Coordination Unit (BAPK). Project No: 21.SAG.BİL.20*

Oral Presentation

INVESTIGATION OF THE HEALING EFFECTIVENESS OF PINE RESIN IN EXPERIMENTALLY INDUCED CORNEAL WOUND IN RATS

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Abstract:

The cornea is the transparent, avascular outer layer of the eye that is constantly exposed to abrasive forces and mechanical trauma due to its anatomical location. Pine resin is a natural resin obtained from plants belonging to the Pinaceae family and contains up to 50% abietic acid. It has been used in traditional Korean medicine for the treatment of wounds. In this study, three groups were formed, each consisting of 8 male 2-month-old Wistar Albino rats (n=8). To create the corneal injury model, rats were anesthetized, and the boundaries of the wound to be created on the corneal surface using a 3mm punch biopsy were determined, followed by removal of the first two layers of the cornea with a cornea knife. Subsequently, the first group was considered as the control group and no application was performed. The second group was designated as the pine resin group and it was applied two times on a day. The third group was evaluated as the drug group and it was applied three times a day. On the third day, rats were euthanized, and their eyes were enucleated. The collected eyes were sent for histopathological examination and stained with hematoxylin-eosin. The lesions in the examined samples were evaluated for hyperemia, vascularization, cellular infiltration, and corneal edema under a microscope. As a result of the study, ulceration was observed in the control and drug groups, while no ulceration was observed in the pine resin group. Furthermore, the pine resin group exhibited lower values in terms of hyperemia, vascularization, cellular infiltration, and corneal edema. It was determined that neutrophil infiltration in the pine resin group was higher compared to the drug group but lower compared to the control group. The study concluded that pine resin reduces clinical symptoms and promotes healing in corneal injuries.

Keywords: Rat, Pine Resin, Korneal Injury

EFFECT OF PLATELET-RICH FIBRIN ON WOUND HEALING IN A DOG WITH COMORBIDITIES

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Abstract:

A wound is the disruption of tissue integrity in the skin, subcutaneous tissues, and muscle. Wound healing consists of hemostasis, proliferation, and remodeling stages. Platelet-Rich Fibrin (PRF) is a material derived from platelets and used in wound healing and tissue regeneration. It is considered more advantageous than Platelet-Rich Plasma (PRP). In this case presentation, the effect of PRF on wound healing was investigated in a dog with tissue injury resulting in material loss, brought to our faculty. During the initial examination, an open wound was present in the left metatarsal and phalanx region, involving the depth of the bone tissue. No orthopedic problems were detected during the clinical examination; however, in the following days, the dog was diagnosed with Canine Corona Virus, Ehrlichiosis, Anaplasmosis, and cystitis, and treatment was initiated. After performing mechanical debridement and irrigation of the wound, blood was collected from another dog known to be free of any diseases into anticoagulant-free tubes for the preparation of PRF, and it was centrifuged shortly thereafter. The middle portion of the blood tube containing the PRF layer was taken and mixed with Vaseline in sterile containers. This mixture was applied to the wound area daily for the first week and three times a week for the following two weeks, totaling 21 days, and covered with a dressing bandage. At the end of the first week, it was concluded that a significant demarcation area had formed in the wound edges, and the healing progressed rapidly. Throughout the 21-day period, there were no signs of infection, necrotic tissue, or aggressive wound edges in the wound area. On the contrary, it was concluded that the boundaries were clearly advancing, and the bone tissue healed without any necrosis.

Keywords: Platelet Rich Fibrin (Prf), Platelet Rich Plasma (Prp), Wound, Dog

DEVELOPMENT OF MONOCLONAL AND POLYCLONAL ANTIBODIES AGAINST FELINE ALPHA-1-ACID GLYCOPROTEIN [ACID GLYCOPROTEIN (AGP)]

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Abstract:

In this study, it was aimed to produce Monoclonal (Mab) and Polyclonal (PAb) antibodies needed for the development of kits that can analyze the presence and concentration of feline AGP. Cat AGP protein (2 mg/ml) produced by E. coli recombinant technique was used in immunization studies. Immunization of 2 New Zealand albino rabbits for polyclonal antibody and 2 BALB/C mice for monoclonal antibody were performed. Each mouse and rabbit were immunized with antigen (synthetic cat AGP) three times at three-week intervals. After each immunization, blood was taken from the animals and sera were stored. In the following period, antibody levels in the sera obtained by ELISA test were measured. Affinities of antibodies against the target analyte were determined by indirect ELISA method. Antibodies were purified by passing through protein A/G resin column. The cut-off value of antibody ELISA for rabbit was calculated as 0.11125. As a result of immunization of two different rabbits, the dilution ratio of rabbit number 1 was 1/25.6000 and the dilution ratio of rabbit number 2 was 1/512.000. Mices immunized for monoclonal antibody production were quantified by antibody ELISA test before the final immunization. After sufficient antibody was generated (>1/50,000), splenocytes were obtained for use in the fusion process. Fused splenocytes were grown in cell culture plates and stable clones were obtained. The supernatants were tested by WB and specific clones were identified. Selected clones were produced and antibodies were concentrated by ammonium sulfate precipitation from the supernatants. Selected monoclonal antibodies were tested for purification and confirmation by SDS-PAGE and WB. The cut-off value result of antibody ELISA for mice was calculated as 0.09025. According to the immunization results of two different mice, the dilution ratios were determined to be 1/64.000 for both of them. Mouse number 1 was entered into the fusion based on OD values. As a result, in this study, the affinities of locally produced monoclonal antibodies and polyclonal antibodies against the target antigen (Feline Alpha-1-acid glycoprotein (AGP)=Cat ORM2) were determined by ELISA method. It was decided that these antibodies could be used in ELISA and LFA tests to determine AGP levels in cat serum.

Keywords: AGP, Mab, Pab And Cat

**This study was supported by TUBITAK 1005 - National New Ideas and Products Res. Support Progr. with the project no. 119O931*

DETERMINATION OF THE PREDICTIVE EFFECTS OF VITAL EXAMINATION, HEMATOLOGY AND BLOOD GAS PARAMETERS ON MORTALITY AND PROGNOSIS IN CALVES WITH NEONATAL DIARRHEA; RETROSPECTIVE COHORT STUDY OF 89 CASES

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Abstract:

The main purpose of this observational retrospective cohort study was to determine mortality rates and durations, survival status and predictive parameters of prognosis based on vital signs, hematology and blood gas analysis in neonatal diarrheic calves registered at a university hospital during the calving season. Clinical findings, complete blood count and blood gas analysis data of 89 neonatal diarrheic calves that were not treated before were obtained retrospectively from the hospital automation system. It was determined that 42.7% (38/89) of the calves died during hospitalization or after discharge and 47.4% (median 9.25 hours) of these calves died in the 'first 24 hours' and 52.6% died (median 51.50 hours) 'after 24 hours or more'. When the data obtained from this study is evaluated; body temperature (°C), pH, base excess and sodium bicarbonate (mmol/L) parameters were found to be lower and hemoglobin (g/dl), hematocrit (%), lactate (mmol/L), chlorine (mmol/L), sodium (mmol/L) and anionic gap (mmol/L) parameters were found to be higher in dead calves compared to alive calves. Accordingly, hypothermia, metabolic acidosis and dehydration findings are seen as clinical conditions that should be considered. Logistic regression analysis showed that lactate (OR=1.429) and cCI- (OR=1.232) concentration were major risk factors associated with death in calves with diarrhea.

As a result, following up for at least 72 hours and performing replacement fluid-electrolyte and other treatments during this period, is important. In addition, it was concluded that the high rates of calf deaths could be reduced by early treatment of the disease, since the general condition categories of calves with diarrhea (severe, comatose) worsened, and the death rate increased.

Keywords: Calf, Diarrhea, Neonatal, Predictive Effects, Prognosis

INVESTIGATION OF THE IMMUNOGENIC ACTIVITIES OF THYME (THYMUS VULGARIS) OIL AND THYMOL IN RABBITS WITH EXPERIMENTAL HEPATIC LIPIDOSIS

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Abstract:

In this study, it was aimed to investigate the effects of thyme oil and thymol on mRNA expression levels of inflammation-related genes. A total of 48 healthy New Zealand rabbits, aging 10-12 weeks and having an average weight of 3.41 ± 0.56 kg were selected for this study. Rabbits were divided into two main groups: Group-ND and Group-HCD; i.e. a normal diet group fed with standard rabbit feed and a high cholesterol diet group with 1% added cholesterol respectively. Group-ND and Group-HCD also were divided into 3 subgroups (n = 8). Group-ND comprised of group-1, group-2 and group-3 i.e. a standard rabbit diet, standard rabbit diet + thymol (6 mg/kg, oral) and a standard rabbit diet + thyme oil (20 mg/kg, oral) respectively. Group-HCD further comprised of group-4, group-5 and group-6 i.e. a high cholesterol diet, high cholesterol diet + thymol (6 mg/kg, oral) and a high cholesterol diet + thyme oil (20 mg/kg, oral) respectively. Blood samples and body weights both were recorded at intervals of 0, 4, 8 and 11 weeks respectively. Proinflammatory cytokines (TNF-α, IL-1β, IL-6) and acute phase protein (C-Reactive Protein) analyzes was performed to monitor the inflammatory process in the liver. Real-Time PCR method was used to evaluate the mRNA expression levels of the target genes [STAT4, IFNγ, Tbet (tbx), IL-4, IL-5, IL-13, Gata3, IL-17A, GMCSF, RORγ (RORC), IL-9, IL-10, IL -18, Foxp3, IL-8], associated with inflammation of the liver tissue. Grosspathological findings included yellowing, increase in size, thickening and rounding of the liver edges. In all high cholesterol diet groups there was a statistically significant ($p < 0.05$) increase in glucose, triglyceride, total cholesterol and LDL-cholesterol levels. In the groups where the rabbits were fed on a normal diet, thymol and thyme oil were shown to reduce the mRNA expression of the IFNγ gene ($p < 0.05$), thereby inhibiting the inflammatory response of macrophage cells. A 7-fold increase in the expression of the Tbet gene was seen in rabbits fed on a normal diet supplemented with thyme oil which depicts its role as an anti-inflammatory agent.

As a result, thymol and/or thyme oil plays a positive role on the affects of metabolic and immune parameters and may even have a positive epigenetic effect at the gene level in the correction of inflammatory processes associated with hepatic lipidosis.

Keywords: Hepatic Lipidosis, Non-Alcoholic Fatty Liver Disease (Nafld); High Cholesterol Diet; Thyme Oil; Thymol

**The author(s) received financial support for the research from ERU BAP, with Project Code: TDK-2017-7600*

PRELIMINARY FINDINGS OF A STUDY ON ETHICAL DECISION-MAKING OF VETERINARIANS IN TURKEY

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Abstract:

This study aimed to examine the ethical decision-making process of veterinary clinicians when faced with requests for desexing (spaying /neutering). The phenomenological approach, a qualitative research method, was used. The interviewed study group consisted of 21 practicing veterinary clinicians in Antalya, Türkiye. A semi-structured interview form was used as the data collection tool, incorporating a case study called "The Doberman Farm" from Bernard E. Rollin's book "An Introduction Veterinary Medical Ethics. Theory and Cases" A descriptive analysis method was used to analyze the data.

In the evaluation of this case, nine participants expressed the necessity of spaying female dogs living on a stray for population control. Six participants stated that spaying is necessary to improve poor welfare conditions and combat infectious diseases. One participant expressed support for spaying female dogs on strays but opposed neutering male dogs due to concerns about socialization issues. Additionally, eleven participants expressed a positive view of spaying household dogs. Among them, five participants mentioned the benefits of spaying in preventing behavioral disorders (hyperactivity, marking, aggression, etc.), while six participants highlighted the reduction of risks related to diseases such as mammary neoplasia and pyometra. Another participant expressed opposition to neutering male animals due to the risk of obesity, while another participant stated their opposing view based on their lack of experience with disease-related risks in household animals.

Based on the opinions expressed by the participants, it can be concluded that the main determinant in the ethical decision-making process is an approach focused on human health. On the other hand, it can be argued that desexing interventions are among the prophylactic measures concerning animal health and welfare. Specifically, in the context of this case, it can be inferred that veterinary clinicians in Türkiye exhibit a utilitarian approach in their ethical decision-making process.

Keywords: Spaying, Castration, Qualitative Research, Phenomenology, Ethical Decision Making Process

*Fırat Üniversitesi BAP

EFFECTS OF PROPOLIS-CONTAINING NANOFIBERS ON CORNEAL WOUND IN RATS

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Abstract:

The cornea is the outermost layer of the eye and is constantly exposed to trauma due to its anatomical location. Propolis is a substance produced by honey bees by mixing the extracts they collect from plants with their secretions. Studies have shown that propolis contains essential biological active substances for the life of organisms, which enhance epithelialization and have strong analgesic, anti-inflammatory, immunomodulatory, antioxidant, antitumor, antibacterial, antifungal, and antiviral effects. In our study, a total of 24 male 2-4-month-old Wistar Albino rats were used, with 8 rats in each group. Rats were anesthetized by injection of xylazine and ketamine, and the corneas were marked with a 3mm punch biopsy to create a clear wound border, followed by removal of the first two layers of the cornea using a corneal knife to create a corneal wound. In the experimentally induced corneal wound, no treated the first group, the second group was treated with nanofibers containing propolis produced by the electrospinning method, and the third group treated water-based topical propolis application. Topical propolis was applied once a day for 3 days, while nanofibers containing propolis were applied once following wound formation. Fluorescein staining was performed on the rats eyes every day throughout the study, and photographs were taken to measure the wound sizes. On the third day, the rats were euthanized under general anesthesia, and histopathological examination was performed on their corneas. In terms of cell infiltration, no significant difference was observed between the propolis and nanofibers containing propolis groups, while the control group showed a higher level of cell infiltration. There was no edema or ulceration observed in any of the three groups. Propolis and nanofibers containing propolis groups showed a significantly positive effect on wound healing compared to the control group.

Keywords: Corneal Wound, Propolis, Nanofibers, Rat

BIOFILM FORMING CAPACITY AND PRESENCE OF BIOFILM-ASSOCIATED VIRULENCE GENES OF ENTEROCOCCUS FAECALIS ISOLATES FROM SLAUGHTERHOUSE ENVIRONMENTS

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Abstract:

This study aims to investigate the presence of biofilm-producing Enterococcus and their biofilm-related virulence factor genes in the slaughter line of a class A cattle slaughterhouse in Kayseri. A total of 300 samples (180 carcasses, 48 knives, 6 saws, 42 hooks, 6 skin bands and surfaces, and 18 samples of slaughterhouse wastewater) were analyzed using conventional methods and PCR. The biofilm-forming abilities of the isolates were determined using congo red agar and microplate testing, and PCR was used to detect biofilm-associated virulence genes (gelE and esp). E. faecalis was isolated from 40 (13.3%) of analyzed samples, of which 35 (87.5%) produced biofilms. The gelE gene was detected in 33 (82.5%) biofilm-positive isolates, from which one (2.5%) contained also esp gene. In conclusion, this study determined the presence of biofilm-positive E. faecalis among the samples taken from a slaughterhouse in Kayseri province, and the relationship between virulence genes and biofilm formation. In conclusion, the isolation of biofilm-forming E. faecalis from the slaughterhouse environment indicates that fecal contamination is common in slaughterhouses. Therefore, if hygienic conditions in the slaughterhouse are not improved, the risk of cross-contamination of carcasses with E. faecalis can be a major concern in the food supply chain.

Keywords: E. Faecalis, Carcass, Cattle, Slaughterhouse, Slaughterhouse Wastewater

EVALUATION OF THE EFFICACY OF CONGO RED AGAR IN DETECTION OF BIOFILM FORMING ABILITIES OF VARIOUS FOODBORNE PATHOGENIC BACTERIA

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Abstract:

This study aimed to evaluate the sensitivity and specificity of Congo Red Agar (CCA) in determining the biofilm-forming abilities of various foodborne pathogenic bacteria in comparison with the microplate (MP) method. A total of 135 isolates obtained from various food and environmental samples, including 36 Staphylococcus aureus, 30 Listeria spp., 35 Escherichia coli, and 34 Salmonella spp. were used. Their biofilm-forming abilities were determined using CRA and MP methods. The agreement between the results of the two methods was investigated by calculating the Kappa coefficient of agreement. Of the 135 isolates examined, 51.1% were identified as biofilm producers in CRA and 53% in MP (P>0.05). Of the tested isolates, Listeria spp. S. aureus, E. coli and Salmonella spp. 60%, 97.2%, 11.4%, and 35.2% of isolates were biofilm positive in CRA, and 56.6%, 100%, 22.8%, and 32.3% in MP, respectively (P>0.05). The CRA was found to be high sensitivity only in S. aureus (97%) among analyzed isolates, while it was higher specificity than the MP method in other isolates [Listeria spp. (%39), Salmonella spp (%59) ve E. coli (%89)]. In conclusion, since the sensitivity of the CRA method was found to be low in the isolates analyzed except S. aureus, the combination of CCA and MP methods would increase the reliability of the findings in determining the biofilm-forming abilities of these bacteria.

Keywords: Biofilm, Congo Red Agar, Food Pathogens, Microplate

DETERMINATION OF CYTOTOXIC EFFECT OF CURCUMIN IN CAT FIBROSARCOMA CELLS

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Abstract:

Objective: Curcumin is a polyphenol component extracted from the rhizomes of Curcuma longa. Curcumin exhibits anti-cancer, anti-viral, antioxidant and anti-inflammatory effects on different diseases. In this study, it was aimed to investigate the cytotoxic effect of curcumin on feline fibrosarcoma cells in vitro.

Material and Methods: To determine the cytotoxic effect of curcumin, feline fibrosarcoma cells were exposed to different concentrations of curcumin (0.5, 1, 2 and 4 mM) for 24 and 48 hours and viability analysis was performed. In addition, changes in cell morphology were examined with an invert microscope.

Results: Our results showed decreased viability of feline fibrosarcoma cells after treatment with different concentrations of curcumin for 24 and 48 hours ($p < 0.05$). The viability of feline fibrosarcoma cells decreased to 82.87%, 62.20%, 59.10%, and 43.01%, respectively, after treatment with 0.5, 1, 2, and 4 mM curcumin for 48 hours ($p < 0.05$) . In addition, invert microscope images confirmed the cell viability results.

Conclusion: The first target in cancer treatment is to increase apoptosis and decrease cell proliferation. Curcumin effectively reduced viability in feline fibrosarcoma cells. It is also recommended to investigate other molecular mechanisms such as apoptotic cell death state.

Keywords: Feline Fibrosarcoma, Curcumin, Cytotoxic Effect

AN ECHOCARDIOGRAPHIC STUDY OF BREED-SPECIFIC REFERENCE RANGES IN HEALTHY FRENCH BULLDOGS

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Abstract:

The objective of this prospective reference interval study was to provide breed-specific echocardiographic values for healthy French Bulldogs. A total of 42 healthy French Bulldogs (Study group) of both sexes (23 females and 19 males) were included in the study. The control group consisted of four other dog breeds (Cocker Spaniel [n = 2], Cavalier King Charles Spaniel [n = 4], Terrier [n = 5], and crossbreed [n = 5]). Standard M-mode, two-dimensional (2D), pulse wave (PW) Doppler, and tissue Doppler imaging (TDI) echocardiographic measurements were obtained from healthy French Bulldogs. The M-mode echocardiographic data obtained from French Bulldogs were compared to the data obtained from the control group. The left ventricular internal dimension at end-diastole (LVIDd; 3.35 cm)/body surface area (BSA m2; 0.53) ratio for the study group was = 6.32. Left ventricular measurements for French bulldogs and internal dimension at end-systole (21.23 ± 3.50 mm) and at end-diastole (33.50 ± 4.12 mm) were found to be significantly higher ($P < .001$) compared to control group values (left ventricular internal dimension at end-systole [LVIDs]; 17.46 ± 2.85 mm, LVIDd; 27.16 ± 4.20 mm, respectively). A statistically significant positive correlation in the French Bulldog group was noted between body weight and M-mode measurements such as EPSS, IVSd, IVSs, LVIDd, LVIDs, and LVPWd.

As a result, French Bulldogs had a greater systolic and diastolic left ventricular volume than the control group. Echocardiographic values reported in this study could be used as specific reference ranges in French Bulldogs.

Keywords: Dog; Echocardiographic; Pulsed Wave Doppler; Tissue Doppler Imaging

**The author(s) has not received any financial support.*

INVESTIGATION OF THE EFFECT OF CALSITRIOL BOLUS AFTER CALVING ON POSTPARTUM UTERUS INVOLUTION AND OVARIAN ACTIVITY IN DAIRY JERSEY COWS

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Abstract:

Investigation of the Effect of Calsitriol Bolus After Calving on Postpartum Uterus Involution and Ovarian Activity in Dairy Jersey Cows

In this study, it was aimed to study the parameters related to the oral administration of calcitriol bolus administered on the 1st postpartum day in Jersey cows and then the incidence of hypocalcemia, dry matter consumption, its effect on body condition score, incidence of mastitis, fertility and subsequent conception rate. For this purpose, a total of 27 pregnant heifers, 13of which were in the study group and 14 in the control group, were followed up with the herd follow-up system for the last 60 days until the calving process, taking into account the dry period and transition period. Animals were recruited into the study 30 days before the expected due date and were followed from calving until the day of conception. The findings were recorded for later evaluation. The cows in the control group were not given any additives containing calcitriol after calving. Calsitriol-containing bolus (PhytoBiotics Active D Bolus) was given orally to the cows in the study group in the first few hours after calving. Active D bolus is a herbal feed supplement containing calcitriol glycosides and ursolic asid. It is aimed to dissolve in the rumen within 6-7 days after the application and to ensure the secretion of basic metabolites. The cows in the control group were not given any additives containing calcitriol after calving. All animals in both grup were similaraccording to the calving age and BCS. As a result of analyzes, it was determined that there were statistical differences between the groups in terms of fertility parameters. In the study group, the incidence of estrus (%) ($P<0,09$), time to conceive again ($P<0,001$) and the number of inseminations per pregnancy ($P<0,003$) were determined. As a conclusion of this study, it was concluded that Active D bolus applied postpartum in Jersey dairy cows may have a positive effect on the prevention of metabolic diseases that may be seen in the postpartum period and may have an effect on uterine involution, ovarian activity and fertility parameters.

Keywords: Keywords: Hypocalcemia, Calcium, Vitamin D3, Postpartum Period, Jersey Breed, Dairy Cattle

ONE HEALTH FOR BETA LACTAMASE CHALLENGE

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Abstract:

Antibiotic resistance (AMR) is an increasingly important crisis. Especially the strains containing beta lactamase (BL) have increased in recent years. BL is an important agent that can hydrolyze almost all antibiotics of the beta lactam group. This enzyme is acquired by exogenous genes or chromosomal mutations. However, bacteria can spread these genes horizontally and vertically among species. Also, the spread of genes providing AMR are not only associated with environmental pathogens but also bacterial natural ecosystems are determinant in this respect. Several interconnected human, animal and environmental habitats can contribute to the emergence, evolution and spread of the problem. The increase of resistant clones and human-related AMR determinants in humans, animals and the environmental microbiome has the potential to change bacterial population genetics at the local and global level. The transmission of AMR or BL occurs at the local level across the borders between different ecosystems, such as farms, hospitals, wastewater treatment plants and natural environments. For this reason, studies under the concept of One Health can screen the spread of resistant bacteria in a wider area (even worldwide) and take appropriate measures. It should never be considered unilaterally for community health and animal health, it should be evaluated with the One Health concept. One health is a term that covers veterinarians, human physicians and other health professionals, but it is a concept that indicates the importance of controlling infectious diseases and the spread of these diseases that can be transmitted from animals to humans and pose a threat to public health.

Beta-lactamase-producing bacteria are frequently recovered from food animals, and many clinically beta-lactam-resistant nosocomial and non-nosocomial infections have also been reported. In this study, the importance of beta lactam resistance and the One Health approach for its solution are explained with clinical examples.

Keywords: One Health, Antibiotic Resistance, Beta Lactamase

DETERMINATION OF RESISTANCE TO ANTIBIOTICS OF E.COLI AND SALMONELLA SPP STRAINS ISOLATED FROM DAIRY FARM AND ITS SURROUNDINGS IN AFYONKARAHISAR REGION

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Abstract:

In recent years, a large number of multi-drug resistant bacteria have emerged that can be transmitted to humans through the food chain. Foodborne and antibiotic resistant pathogens, such as Escherichia coli, Salmonella spp, are a potential source of risk for contamination of the farm environment and products, as they are present in the gastrointestinal tract of animals.

A total of 290 samples, consisting of animal feces, milk, vegetables, soil, animal/vegetable irrigation water, and hand washing water collected from 5 different farms, were included in this study. A sample of each collected feces (1g/10ml), milk (25ml/225ml), vegetables (25g/225ml), soil (10g/90ml), animal/vegetable irrigation water and hand washing water (25ml/225ml) sample was homogenized with 0.1% peptone water and incubated at 37°C for 18–24 hours. After incubation, blood agar, XLD agar and EMB agar were inoculated from the homogenizer and incubated at 37°C for 18–24 hours. Identification of gram-negative colonies at the species level was analyzed by MALDI-TOF MS (BioMerieux, France) and VITEK 2 (BioMerieux, USA) automated system, while antibiotic susceptibility was determined by the VITEK 2 automated system. Detection of antibiotic resistance genes in isolates was performed in SimpliAmp™ (Applied Biosystems, USA) thermal cycler using A.B.T. branded (A.B.T.™ 2X HS-PCR MasterMix with BlueDye), Turkey) specific primers.

In total, 183 microorganisms of 44 different species were isolated from 290 samples. Of these identified isolates, 52 (28.4%) were identified as E.coli and 2 (1.1%) as Salmonella spp. While ereA, SHV, OXA, CTX-M gene regions could not be detected in all 52 E.coli strains, TET A gene was detected in 47, TEM in 48 and TET B gene in 50. No resistance gene was found in two isolated Salmonella spp. strains.

As a result, different antimicrobial resistance genes were detected in E. coli isolates isolated from farms and environmental samples included in our study. Dairy farm and environmental components were determined to contain antibiotic-resistant pathogenic E. coli and Salmonella spp., which pose a potential threat to human health. Workplace personnel related to the factors that cause antibiotic resistance should be trained on food safety and hygiene practices. In addition, preventive health approaches are needed to combat this threat.

Keywords: Escherichia Coli, Salmonella Spp., Antibiotic Resistance Gene, PCR, MALDI-TOF-MS, One Health

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A RESEARCH ON NEONATAL CALF DISEASES IN MILAS PROVINCE

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Abstract:

Calf diseases and deaths in the neonatal period are a major challenge for animal breeders. This study aimed to investigate the common diseases and causes of calf mortality in Milas province. The data of Muğla Chamber of Veterinarians shows that 45 ruminant veterinarians work in Milas district. 34 of them participated in this study through face-to-face interviews. A semi-structured interview method was used in this research. All participants are male and have at least 10 years of professional experience. Veterinarians answered 15 closed-ended questions about calf diseases. The results of the study show that 65% of the calves born get sick during the neonatal period, and 21% die within the first week. 88% of the calves born have diarrhea. The most frequent diarrheal agents are E.coli (53%), Cryptosporidiosis (29%), Rotavirus (9%), Coccidiosis (6%), and others (3%). Treatment was initiated when 50% of the calves were moderately dehydrated. More diseases have been seen in cowsheds where animal keepers are employed. Calves of Holstein cows are more prone to diseases and deaths than other breeds. 76% of animal owners do not follow the vaccination program. 76% of veterinarians think that any disease is transmitted from cow to calf. Antibiotics are mostly used in the treatment of calf diseases, such as quinolone (67%), tetracycline (12%), sulphonamide (12%), macrolide (6%), and others (3%). They stated that the calves had taken enough colostrum, but the quality of the colostrum was not good. The average age of weaning is 2.5 months and animal owners commonly use calf starter feed. The main causes of calf mortality are lack of knowledge of animal breeders (29%), care conditions (26%), insufficient vaccination (21%), inadequate feeding (12%), insufficient and poor quality colostrum (9%), and others (3%). This study has shown that calf diseases and deaths are still a significant problem for animal breeders and it is concluded that the breeders need more education on how to prevent calf diseases.

Keywords: Calf Diseases, Diarrheal Agents, Neonatal Period

A RETROSPECTIVE STUDY ON CYSTIC ECHINOCOCCOSIS IN LIVESTOCK IN NORTHERN TÜRKIYE

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Abstract:

This study was conducted retrospectively to evaluate the cystic echinococcosis status of farm animals from samples sent to Samsun Veterinary Control Institute of the Ministry of Agriculture and Forestry between January 2016 and December 2022. A total of 990 cattle, 818 sheep and 160 goat necropsy materials were examined histopathologically and macroscopically and the total cystic echinococcosis positivity rate in livestock was found to be 3.1% (61) in some provinces in northern Türkiye. Cysts were detected in at least one of the lung and liver in all cases. Cysts were found in the liver in 24 cases (39.3%), in the lung in 23 cases (37.7%) and in both lung and liver in 11 cases (18%). In addition, cysts were found in the lung and spleen in 1 case, in the kidney and liver in 1 case and in the heart and liver in 1 case. The positivity rate was higher in sheep than in other ruminants and the difference with other ruminant species was statistically significant ($p<0.001$). The difference between the prevalence rates according to years was statistically significant ($p=0.001$). Türkiye is described as a highly endemic region for Echinococcus granulosus and Echinococcus multilocularis. The information presented in this study will contribute to the status of cystic echinococcosis in livestock in northern Türkiye and to the development of prevention and control strategies.

Keywords: Cystic Echinococcosis; Postmortem Examination; Farm Animals; Histopathology; Prevention And Control

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POSTER PRESENTATIONS

QUALITATIVE HISTOLOGIC ASSESSMENT VS. GEOMORPHOMETRIC ANALYSIS OF NERVE FIBER SHAPE AFTER THE INTRANEURAL APPLICATION OF LIPOSOMAL BUPIVACAINE

Lejla Dervisevic[a], Zurifa Ajanovic[b], Ilvana Hasanbegovic[c], Amela Dervisevic[d], Almira Lujinovic[e], Maida Sahinovic[f], Jasmina Biscevic Tokic[g], Dzan Ahmed Jasenkovic[h]

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Abstract:

Introduction: The preserved form of all components of the nerve fiber is a prerequisite for the proper conduction of the nerve impulse. various factors can change the shape of nerve fibers. In everyday practice, qualitative histological analysis is the gold standard for detecting changes in shape. Geometric morphometry is an innovative method that objectively enables the assessment of changes in nerve fibers' shape after local anesthetics action.

Methods and materials: A total of sixty sciatic nerves were used as material, which was intraneural injected with saline solution in the control group (n=30), and a solution of 1.33% liposomal bupivacaine (n=30) in the test group. After the animals were sacrificed, nerve samples were taken and histological preparations were made. The preparations were first described and examined using a qualitative histological method, after which digital images were made. The images were entered into the MorphoJ program and processed using the method of geometric morphometry.

Results: Qualitative histological examination revealed no differences in nerve fibers after intraneurally applied physiological solution and liposomal bupivacaine. Using the method of geometric morphometry, a statistically significant change in the shape of axons was found after intraneurally applied saline solution and liposomal bupivacaine ($p=0.0059$).

Conclusion: No significant differences in histological changes were found after the qualitative histological analysis of nerve fiber cross-section preparations. A statistically significant change in the shape of nerve fiber axons was observed after geometric morphometric analysis of digital images after intraneural application of saline and liposomal bupivacaine.

Keywords: Liposomal Bupivacaine, Nerve Fiber, Qualitative Histology, Geometric Morphometry, Shape

BLOOD PRESSURE MONITORING IN CATS AND DOGS

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Abstract:

Blood pressure is a parameter that represents the pressure exerted by blood on the walls of blood vessels and is considered a critical indicator for evaluating the overall health status of animals. Timely detection and monitoring of hypertension, especially, are of vital importance. This review examines the importance of blood pressure in cats and dogs and the methods used for blood pressure monitoring.

It is indicated for monitoring animals at risk of systemic hypertension, those showing signs of organ damage, suspected hypotension, and animals under sedation or anesthesia. Blood pressure measurement can be performed in the sternal or lateral position, with measuring in a sitting position providing convenience for cats.

For dogs, normal blood pressure values range from 110 to 190 mm Hg for systolic blood pressure and 55 to 110 mm Hg for diastolic blood pressure. In cats, normal values are defined as 120 to 170 mm Hg for systolic blood pressure and 70 to 120 mm Hg for diastolic blood pressure.

Blood pressure can be measured invasively or non-invasively. Invasive measurement directly assesses arterial pressure and is considered the gold standard method. Monitoring is achieved by connecting a catheter placed in an artery to a monitor via a transducer. The catheter can be inserted into the dorsal pedal artery and coccygeal artery, or rarely into the lingual, radial, and auricular arteries.

Non-invasive methods are divided into the Doppler technique and the oscillometric method. Non-invasive techniques offer easy equipment availability and application. However, operator inexperience and incorrect cuff size selection can lead to inaccurate results. In the Doppler technique, a probe is placed on the artery distal to the cuff to perform measurements. The oscillometric method involves an automated device that inflates and gradually deflates the cuff. Measurements obtained through this technique are suitable for calm or sedated patients.

Keywords: Blood Pressure, Cat, Dog, Monitoring, Doppler, Oscillometric

A CASE OF OVARIAN CYSTS IN A GUINEA PIG

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Abstract:

A 4-year-old intact female guinea pig (Cavia porcellus), weighing 0.9 kg, was admitted to the Small Animal Hospital, Fac. of Vet. Med. in Ankara for vaginal discharge coexisting with worse physical condition and abdominal enlargement. She also had an alopecia complaint. Transabdominal ultrasonographic examination revealed a fluid accumulation in uterus. Ovariohysterectomy was performed. During the surgical procedure, cystic ovaries were found. Ovaries and uterine horns were examined pathologically and it was diagnosed as polycystic ovarian. Macroscopically, both ovaries exhibited cysts with a diameter of 3.2 cm in the left ovary and 2.9 cm in the right ovary. These cysts had distinct transparent capsules, were fluctuant to touch, and contained a yellow liquid that leaked when incised. The uterine serosa appeared dark red in color. Microscopically, cysts lined with compressed epithelial cells were prominent in all microscope fields. In uterus, vessels displayed hyperemia and free erythrocytes were observed in the serosa. Ovarian cysts are nonfunctional, fluid-filled that can develop spontaneously in guinea pigs. The cysts cause irregular estrus cycles, persistent heat, infertility and hair loss are associated with hormones such as estrogen. Cyst sizes are highly variable and it is thought that there may be a correlation between the age and the size of the cyst. It is usually observed bilaterally, but in unilateral cases, it is more frequently formed with the right ovary. The most common clinical sign is progressive hair loss without an abnormal appearance on the skin. Non-specific symptoms such as loss of appetite, lethargy or vocalization may also be seen, and guinea pigs may be defined as pear-shaped due to abdominal tension. Although ovarian cysts are a common pathology in guinea pigs, they are often misdiagnosed or can be confused with other diseases. In addition, since it is one of the common small mammal that is housed as a pet today, it would be appropriate to recommend a early sterilisation as in small animal medicine.

Keywords: Guinea Pig, Cavia Porcellus, Ovarian Cyst, Vaginal Discharge, Alopecia

TICK-BORNE INFECTIONS IN HORSES

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Abstract:

Global warming, environmental and ecological changes and the availability of suitable habitats increase the prevalance of ticks, and the importance of tick-borne diseases affecting animals and humans is increasing worldwide. The main tick-borne diseases of horses are equine piroplasmosis (EP) caused by Theileria equi and Babesia caballi, equine granulocytic anaplasmosis (EGA) caused by Anaplasma phagocytophilum and Lyme disease caused by Borrelia burgdorferi. Equine piroplasmosis is one of the two protozoan diseases that must be reported to the OIE and can cause serious health problems in horses. EP causes restrictions on the international movement of horses and economic losses in the global horse trade. A.phagocytophilum, which causes an acute febrile illness in horses known as EGA, has a wide host range and is also of public health importance due to its zoonotic nature B.burgdorferi, the causative agent of Lyme disease, which affects humans and different animals, can cause neuromuscular effects in horses and poor performance in sport horses. In addition to the ones mentioned here, Coxiella burnettii, the causative agent of Q fever, which is a worldwide zoonosis, and different Rickettsia species, which are considered to have high zoonotic potential, and different piroplasmida species, which are considered specific to other animal species, are reported to be detected in horses. Diagnosis, prevention and control of diseases are closely related to the awareness of horse owners, physicians and researchers. The aim of this review is to present a list of tick-borne agents detected in horses, to introduce ways of protecting horses from ticks, and also to emphasise the importance of the subject in the "one health" concept in terms of zoonotic species.

Keywords: Tick Borne, Infection, Horse

IS MILK A RISKY FOOD FOR TOXOPLASMOSIS?

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Abstract:

Toxoplasmosis caused by Toxoplasma gondii (T. gondii) is a protozoan disease of zoonotic importance, spreading worldwide and causing economic losses. The risk of contracting Toxoplasma infection varies in different human populations, depending on culture and eating habits. It is a fact that most Toxoplasma infections in immunocompetent individuals are asymptomatic. Whereas according to the Quality or Disability Adjusted Life Years (QALY/DALY) approach used for the quantitative estimation of the burden of disease, the value calculated for T. gondii (both acquired and congenital Toxoplasmosis) was found to be higher than other foodborne pathogens. This study aimed to present the risk of T. gondii in milk and its presence in milk and dairy products by screening the literature.

T. gondii has three life stages in its biology, oocyst, tachyzoid and tissue cyst, which can infect humans and other hosts. The main foods that transmit this parasite are meat and meat products through tissue cysts, water through oocysts, poorly washed fresh vegetables and fruits, molluscs and fish, and milk and dairy products through tachyzoites.

The biological stage of T. gondii excreted in milk by the acutely infected host is the tachyzoite, and regeneration of T. gondii tissue cysts in the peripartum period, and a recirculating, excretable tachyzoite hypothesis is possible. Milk is also a food susceptible to oocyst transmission through faecal contamination. Transmission consuming raw goat milk to humans has been documented, and unpasteurized goat milk is considered a source of Toxoplasmosis in rural children. According to the literature, the prevalence of T. gondii in various milk types varies between 1.07% and 88.9% according to the PCR method.

In conclusion, Toxoplasmosis has considerable importance in the "One Health" concept. Monitoring the disease to control zoonotic and foodborne contamination is essential. Therefore, milk and dairy products should consider for foodborne Toxoplasmosis.

Keywords: Toxoplasmosis, Risky Food, Milk, Polymerase Chain Reaction

SENIOR RESEARCHER OF THE YEAR

VEHBİ GÜNEŞ

YOUNG RESEARCHER OF THE YEAR

EMİNA DERVIŠEVIĆ

BEST ORAL PRESENTATIONS

1ST GENCAY EKİNCİ

"INVESTIGATION OF THE IMMUNOGENIC ACTIVITIES OF THYME (THYMUS VULGARIS) OIL AND THYMOL IN RABBITS WITH EXPERIMENTAL HEPATIC LIPIDOSIS"

2ND DENİZ YENİ

"THE EFFECT OF ARBUTIN ON THE CRYOPRESERVATION OF RAM SPERM"

3RD TOLGA MERİÇ TÜMBEK

"INVESTIGATION OF THE HEALING EFFECTIVENESS OF PINE RESIN IN EXPERIMENTALLY INDUCED CORNEAL WOUND IN RATS"

BEST VISUAL PRESENTATIONS

1ST ARZU ESEN

" A CASE OF OVARIAN CYSTS IN A GUINEA PIG "

2ND DOĞAN CAN HANEY

" EFFECT OF PLATELET-RICH FIBRIN ON WOUND HEALING IN A DOG WITH COMORBIDITIES "

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