7TH INTERNATIONAL VETERINARY CONGRESS

September 04-05, 2017 | Paris, France

Special Session

Day 1

Veterinary 2017

Kungl Krisztina, J Vet Sci Technol 2017, 8:4(Suppl)
DOI: 10.4172/2157-7579-C1-024

Kungl Krisztina

University of Veterinary Medicine, Hungary

Clinical nutrition – Canine nutrition – A fistful of dog food

Introduction and Goals: The feeding RMBDs (so called raw meat-based diets) to dogs and cats reached significant popularity in the past few years in Hungary. In our study, the most common motivations of feeding RMBDs were analysed. Our main goal was to gain an insight into the common reasons of feeding this specific diet, where/when the owners learned about it, what were the most important motivations to choose RMBDs and how satisfied were they with the diet.

Results: Regarding the source of first information about nutrition, among non-RMDB feeders the most common source of advice was a veterinarian (38%), however among RMBD feeders, information came from facebook groups (34%) or "from a friend" (31%). This shows that info about raw meat-based diets reaches dog owners via non-scientific routes, meanwhile, most of the non-RMBD feeders follow diets based on scientific studies, which are advised by qualified persons. 75% of RMBD feeders put emphasise on RMBD as natural diet, which was important for only 10% of non-RMBD feeders, and 47% of mixed diet feeders. Additionally, RMBD feeders pay attention to building a proper muscle structure, weight-control, to have an exact knowledge of what they are feeding, good digestibility dental calculus prevention and improvement of hair-coat quality.
It is remarkable, that 13% of group NY claim RMBD safe, only 1 person expressed concern on infectious pathogens. The results clearly point out that most people have no information or will not take in consideration the risk of pathogens with feeding of RMBD. In the RMBD group facebook groups were the primary (82 %) and for 54 persons (13%) the only information source for the detailed diet. RMBD feeders received detailed info from acquaintance (33%), scientific articles (32%), specific product/brand pages (29%), reader/user review sites and books 26% and 23% from their vet. The non-raw feeders primarily identified the vet as a source of detailed information (53%). From the aspect of complacency there was a significant difference between the groups. 84% of RMBD users were fully satisfied with their feeding practice, while in the other groups satisfaction ranged from moderate to high.

Discussion: RMBDs lack high quality scientific studies documenting their usefulness. Owners first hear about raw diets from non-scientific sources of social network groups and friends, additionally detailed info sources are mostly the same. It is worth noting that many RMBD feeders marked scientific articles as source of information, however, the authors found very limited access to such articles. RMBDs have some advantages, however, the assessment of better hair-coat quality or overall condition are highly subjective and high satisfaction rate is greatly influenced by social network groups. The raw diet users are either unaware or are not willing to admit the increased risk of infection both of their pets and themselves. Additionally public-health risk factors, which are documented in the public domain also must be taken into account when evaluating raw diets. Since the advantages of raw diets e.g. high digestibility can be achieved by other means as well, the authors do not recommend feeding of RMBDs.

Biography

Krisztina Kungl graduated at the Faculty of Veterinary Medicine, Wrocław University of Environmental and Life Sciences, Poland. In the Department of Internal Medicine and Clinic of Diseases of Horses, Dogs and Cats she was responsible teacher for Companion animal clinical nutrition and fodder hygiene. She completed her PhD research on the Effects of dietary supplementation of ω3 and ω6 fatty acids on hair coat and skin in the healthy dog, which resulted in a worldwide patent of the formula with Hoffmann-La Roche Ltd. She currently holds a post at the Department of Clinical Pathology and Oncology, University of Veterinary Medicine, Budapest, Hungary, where she continues nutrition consultation and formulation of individualized home-made diets for dogs and cats. She is an expert in small animal clinical nutrition. Previously she was Veterinary Affairs Manager, Hill's Pet Nutrition Central and Eastern Europe with Russia, also worked for the Hungarian Food Safety Office (HFSO). In addition, she is lecturer of clinical pathology, pathophysiology and nutrition related topics of internal medicine.

Kungl.Krisztina@univet.hu

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Scientific Tracks & Abstracts

Day 1

Veterinary 2017

Major Sessions:

Day 1 September 04, 2017

Veterinary | Veterinary Research | Veterinary Medicine | Veterinary Epidemiology | Veterinary Virology | Veterinary Care & Management | Equine Research and Medicine | Veterinary Pharmacology | Veterinary Microbiology and Pathology | One Health | Veterinary Public health and Zoonosis | Veterinary Surgery | Veterinary Toxicology | Food Safety & Animal Product | Animal Reproduction

Session Chair
Srebrenka Nejedli
University of Zagreb, Croatia

Session Co-Chair
Bernard Faye
Independent camel expert, FAO consultant, France

Session Introduction

Title: **Precolostral detection of *Bovine Parainfluenza* 3 virus infection in a dairy herd**
Ayşe Gencay, Erciyes University, Turkey

Title: **A comparative study from two regions of Mexico for *Babesia caballi* and *Theileria equi*.**
Sergio Orlando Yong Wong, Universidad Autonoma Agraria Antonio Narro. , Mexico

Title: **Quorum sensing in *Pseudomonas aeroginosa***
Belgin Siriken, Ondokuz Mayis University, Turkey

Title: **Do the goats play a role in the spreads of IBR infection under field conditions?**
Sibel Gur, Afyon Kocatepe University, Turkey

Title: **Transfer of large equine embryos in Arabian mares**
Mohamed K. Derbala, Animal Reproduction Research Institute - ARC, Egypt

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Selvinaz Yakan, Agri Ibrahim Cecen University of Eleskirt Celal Oruc Animal Production School, Turkey

Title: **One Health (OH) concept on the assessment of in-vivo antiparasitic activity of nerolidol against the growth and survival of zoonotic haemoflagellate protozoa, *Trypanosoma evansi*.**
Mohd Shukri Baba, International Islamic University Malaysia, Malaysia

Title: **Seromonitoring study of foot and mouth disease in the republic of Azerbaijan (2016)**
Shalala Zeynalova, Republican Veterinary Laboratory, Azebaijan

Title: ***Listeria monocytogenes* in retailed raw chicken meat in Turkey**
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Seyma Ozer Kaya, Firat University, Turkey

Title: **Prevalence of methicillin/oxacillin resistant *Staphylococcus aureus* (MRSA) in stray and pet dogs of Chittagong metropolitan area, Bangladesh**
Tofazzal Md. Rakib, Chittagong Veterinary and Animal Sciences University, Bangladesh

Sibel Gur et al., J Vet Sci Technol 2017, 8:4(Suppl)
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Precolostral detection of Bovine Parainfluenza 3 Virus infection in a dairy herd

Sibel Gur[1], **Ayşe Gencay**[2] and **Fatih Mehmet Birdane**[3]
[1]Afyon Kocatepe University, Faculty of Veterinary Medicine, Department of Virology, Afyonkarahisar, Turkey.
[2]Erciyes University, Faculty of Veterinary Medicine, Department of Virology, Kayseri, Turkey.
[3]Afyon Kocatepe University, Faculty of Veterinary Medicine, Department of Internal Medicine, Afyonkarahisar, Turkey.

Considering calves are born agamaglobulinemic due to syndesmochorial placenta features that prevent immunoglobulin transfer to the fetus from the dam, precolostral Ab presence is directly results of overcome in-utero infection. In this study, samples were obtained from a dairy cattle enterprise which was established nearly 10 year before the sampling, located in Afyonkarahisar province, Central Anatolia. More than 1.500 animal in different age groups having been breeding in closed system intensive breeding management. Number of fertile cows was approximately 1.100. Blood serum samples were has been collected just after the birth from 123 dams and their precolostral calves simultaneously, nearly in three month period.

All of the sampled animals were clinically normal during sampling. According to regular health reports of the herd, diarrhoea and pneumonia in calves and different reproductive problems and mastitis problem in cows were increased especially in last one year. For the detection of BPI3V specific antibody existence, micro virus neutralization test was carried out using SF-4 as a control virus. 1/5 above dilutions was accepted as a positive.

BPI3V specific Ab was found to be 119 of 123 dams (96.7%). Ab titers showed regular bell curve distribution's peak point was 1/20 and 1/40 interval. A slight increase was observed from 1/80 dilution point. Out of their precolostral calves, 31 (25.2%) was Ab positive between 1/5 and 1/80 titer values. Average Ab titer level was higher in the dams of precolostrally positive calves as a result of infection in latest months as can be expected.

Current veterinary practice is based on preventive objective of the diseases which is crucial for intensive dairy breeding enterprises. Precolostral Ab controls of neonates can be preferred as a useful tool for detecting very recent circulated infections to figure out near risks.

Biography

Ayşe Gencay working as Faculty of Veterinary Medicine, Department of Virology, Erciyes University, Turkey. Her experience includes various programs, contributions and participation in different countries for diverse fields of study. Ayşe Gencay research interests reflect in her wide range of publications in various national and international journals.

sibelgr@yahoo.com

Notes:

Sergio O Yong-Wong et al., J Vet Sci Technol 2017, 8:4(Suppl)
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A comparative study from two regions of México for *Babesia caballi and Theileria equi*

Sergio O Yong-Wong, Vicente H Gonzalez-Alvarez, Edgar H Olivas-Calderón, Irais Castillo-Maldonado, Viridiana Contreras-Villarreal, Rafael Rodríguez-Martínez and Francisco G Veliz-Deras
UAAAN, México

The aim of this study was to determine and compare the seroprevalence of *T. equi* and *B. caballi* infection by cELISA and looking for the presence of ticks associated with the occurrence of the Equine Piroplasmosis (EP). Horses from two regions: tropical and subtropical of México were selected (Figure 1). One hundred horses from Torreón, Coahuila and seventy five horses from Villa Corzo, Chiapas with some clinical signs such as jaundice, lethargy, partial anorexia, weight loss and poor performance were selected for sampling. cELISA was used to detect antibodies of *T. equi* and *B. caballi*; and ticks were collected from fifty horse with for each region making a taxonomic study for each tick found as a competitive vector. Chi square test was applied to compare the rates of seroprevalence and were not statistical differences found. Sexes (P>0.05), According with the age, there were more seropositivity horses with less than five years that more than five years old (51% and 36%, respectively; P=0.06). We conclude that Torreón there was not EP infection but was very high prevalence at Villa Corzo, Chiapas and *T. equi* were the most prevalent hemoparasite. The distribution of seroprevalence is on Table 1. For the tick collection we found 32 tick species from 50 horses. *Amblyoma cajennense* 50% Amblyoma maculatum 31.25% Amblyoma imitator 18.75% for Villa Corzo and at Torreon we found 60 tick samples from 50 horses. *Otobius megnini* was 85%, *Rhipicephalus sanguineus* was 8.3% *O. megnini* + *R. sanguineus* was 5.0 and one larve not identificated 1.7%.

Biography

Sergio O Yong-Wong is a veterinarian doctor. He received Master of Science degree from Antonio Narro Agrarian Autonomous University (UAAAN), and Equine Specialist certified by CONCERVET México. He works as a research professor at UAAAN Campus Laguna since 2004 to date. He is a Member of a Medical Veterinary Sciences Department and Animal Production at UAAAN. And he has written some research papers in national and international journals, and is a member of Mexican Association of Veterinary Equine Practitioner.

dryong17@gmail.com

Notes:

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Quorum sensing in *Pseudomonas aeroginosa*

Belgin Siriken[1] and **Veli Oz**[2]
[1]Ondokuz Mayis University, Turkey
[2]General Directorate of Agricultural Research and Policies, Turkey

P. aeruginosa is most well-known as a biofilm-forming bacterium. It is an opportunistic pathogen and majority of the infections are commonly associated with nosocomial infection and infection in immunocompromised hosts. Infections with *P. aeruginosa* are difficult to eradicate, due to their high levels of antibiotic resistance and growth in biofilms. Production of secondary metabolites is controlled by a cell-cell signaling system that is generally described as quorum sensing (QS) or density-dependent gene regulation. QS, bacterial cells send a small diffused signal molecule called autoinducer (AI) to the next bacterial cells for the biofilm formation, and the bacteria contact each other for stimulation and interaction with other bacteria. For this reason, extracellular signals and QS regulation system is very important for presence of biofilm, and it has been considered an attractive target for the development of new treatment strategies. QS regulation in the *P. aeruginosa* is controlled by at least two pairs of gene *[LasI (LasI/lasR) - RhII (RhlI/RhlR)]*, coded N-acylated homoserine lactones. *LasI and RhII* genes are stimulate the signal molecules. While *LasI* codes N-(3-oxododecanoyl) homoserine lactone (3O-C12-HSL) which is a AI sentase, *RhII* codes the N-butyryl homoserine lactone (C4-HSL). As there is a rise of the bacterial population, these signal molecules are produced and saved by *P. aeruginosa* and transcriptional regulators come from the same origin for activation and binding of these molecules, intracellular concentration triple as soon as short time. *LasI and RhI* systems regulate the virulence factors such as elastase, alkaline phosphatase, hydrogen cyanide, exotoxin A, secretor proteins, catalase, rhamnolipid, pyosiyanine, lectins, acylated homoserin lactones (AHLs) and superoxide dismutase production. The third gen couple which helped in regulating QS is PQS-MvfR. The expression of PQS depends on LasR, and Rh1R gene increases in the expression. In conclusion obtained from findings, QS mechanism will make contributions to keep the lights in medical area via improvements of treatment against the antibiotic-resistant *P. aeruginosa* and struggles with it in food processing plant bacterial cells for the biofilm formation, and the bacteria contact each other for stimulation and interaction with the other bacteria for this reason.

Biography

Belgin Sırıken is an expert in Food Microbiology, Safety and Chemical Properties of Particularly Animal Origin Foods. She has completed her PhD at Ankara University, and now she is working as Prof. Dr. at Ondokuz Mayis University, Samsun, Turkey. Her focus is on Molecular Food Microbiology.

bsiriken@omu.edu.tr
bsiriken@yahoo.com

Notes:

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Do the goats play a role in the spread of IBR infection under field conditions?

Sibel Gur and **Abuzer Acar**
Afyon Kocatepe University, Turkey

Bovine Herpevirus 1 (BoHV1) or Infectious Bovine Rhinotracheitis (IBR) is one of the most important viral infections causing economic losses in cattle breeding. Sheep and goats are less sensitive to the infection but there is no clear information on their role in the continuity in the virus circulation in the field. The purpose of this study was to obtain informain on cross transmission between cattle, sheep and goats under field conditions. For this aim, blood serum samples were collected from this three species having been breeding together at least for 1 year. Samples were obtained from 226 cattle, 1.053 sheep and 277 goats from 17 small-medium scale family type enterprises in Afyonkarahisar province, West Anatolia. BHV1 specific antibody presence and titers was determined using Serum Neutralisation test. Out of 17 farms, BHV1 seropositivity in cattle was detected in 13, between 5.8 and 88.8% proportions, and total of 73 (32.3%) was positive. Out of 1.053 sheep, only one sheep detected as positive (0.09%). Beside sheep and cattle, goat samples were collected from 8 enterprises, and positivity was determined in 4 between 17% and 38.9. In total, out of 277, 58 (20.9%) goat was found to be positive for BHV1. Maximum antibody titter in cattle was 1/8 in cattle while 1/2 in goats. Data of cattle and goats were compared using Cohen's kappa coefficient and substantial agreement and 69.6% value was determined among two species. It was concluded that, goats could have significant role in the transmission under field conditions, not sheep. Goat should be considered as a factor on the control and eradication of BHV1 in cattle.

Biography

Sibel Gür is working at Afyon Kocatepe University, Turkey. Her international experience includes various programs, contributions and participation in different countries for diverse fields of study. Her research interests reflect in his wide range of publications in various national and international journals.

sibelgur@aku.edu.tr

Notes:

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Transfer of large equine embryos in Arabian mares

Mohamed K. Derbala[1] and **M S S Abdou**[2]
[1]Animal Reproduction Research Institute – ARC, Egypt
[2]Cairo University, Egypt

In the vast majority of equine embryo transfer programs, flushing takes place on days 6, 7 or 8 post ovulation. In the present study, embryos could, instead, be obtained on days 10-11 after ovulation. For this purpose, 36 Arabian mares (7-24 years old) were used as donors for embryos and 6 mares were kept as control. Of the 36 donor animals, 2 mares died suddenly and flushing was carried out after excision of the uterus. Recipient mares (N=70) aged 5-10 years, and were kept in embryo transfer facility. The degree of synchronization was -4 to -6 days. The procedure used depended on flushing of the donor mares after detection of embryonic sac using ultrasonography. Large pore AI catheters and external sheath of double guarded uterine swabs were used in the process of embryo transfer. A controllable manual pipette was used in the control process of loading, washing and transfer. This method overcame the problem of burst of large embryos. A high recovery (94.4%) and pregnancy (73.5%) rates could be obtained. Results have also shown that higher pregnancy rate was obtained with recipient mares on day 4 post ovulation, whereas lower pregnancy rates were found in recipient mares on day 6 post ovulation. In conclusion, this study demonstrated that there was a possibility of embryo transfer on day 10-11 post ovulation i.e. after embryo detection with ultrasound scanning. This method permits flushing of mare's uterus after death on 10-11 days of pregnancy for maximum exploitation of the donor mare. Furthermore, concerning mares with a history of low embryo recovery flushing did not take place until the embryo was detected with ultrasound so as to save flushing media and number of flushes.

Biography

Mohamed K. Derbala is working at Animal Reproduction Research Institute – ARC, Egypt. His international experience includes participation in various programs, contributions and participation in different countries for diverse fields of study. His research interests reflect in his wide range of publications in various national and international journals.

Mohamed_equine@yahoo.com

Notes:

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New approaches to wound treatment

Selvinaz Yakan
Agrı Ibrahim Çeçen University, Turkey

Statement of the Problem: This review dealt with new technological developments for effective wound treatment with this review.

Methodology & Theoretical Orientation: Wound treatment with modern methods is based on the creation of a moist environment around the wound. Bandages made of natural and synthetic materials with different absorption capacities and wound dressings such as cotton, wool, and gauze were used in the past. The primary function of this approach was to allow wound exudates to evaporate so that wounded area could dry for elimination of bacterial growth. However, maintaining wound area warm and moist accelerates wound healing. This streamlined approach is based on allowing the movement of epithelial cells for the creation of ideal ambient conditions. Ideal conditions required for wound healing are to allow a moist environment for regeneration of cells and tissues around wound, to provide effective oxygen circulation, and to minimize bacterial contamination.

Conclusion & Significance: Achieving ideal condition improves effectiveness of the treatments for faster wound healing.

Biography

Selvinaz Yakan has completed his PhD in 2012 from Kafkas University and Postdoctoral studies from Agri Ibrahim Cecen University, Eleskirt Celal Oruc Animal Production School, Department of Animal Health. She studied veterinary anaesthesia and analgesia, veterinary ophthalmology, wound healing, and orthopedic surgery. She finished five important projects in her country and is dealing with two projects.

syakan@gmail.com

Notes:

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One health (OH) concept on the assessment of in vivo antiparasitic activity of nerolidol against the growth and survival of zoonotic haemoflagellate protozoa, *Trypanosoma evansi*

Mohd Shukri Baba and **Zainal Abidin Abu Hassan**
Kulliyyah of Allied Health Sciences – IIUM, Malaysia

The concept of One Health (OH) emphasizes on how the involvement of multidisciplinary careers can be jointly approached to ensure the safety and health of humans and animals, as well as to maintain the environmental sustainability. Towards the end of this study, the authors demonstrated how the manipulation of bioactive compound namely nerolidol or 3,7,11-trimethyl-1,6,10-dodecatrien-3-ol ($C_{12}H_{26}O$), extracted from the seed of natural planted spice, *Eiettaria cardamomum* (cardamom), promisingly can solve the endemicity of vector-borne zoonotic manifestation of trypanosomiasis. By assessing the cell morphological changes and toxicity assessment of blood enzymes and vital organs, nerolidol was compared with Berenil ($C_{18}H_{22}N_8O_3$) on the growth and survival of the animal haemoflagellate protozoa *Trypanosoma evansi*. Groups of male ICR strain mice (6–8 weeks old, 20–25 g body weight) were intraperitoneally (i.p) infected with the parasite at 5.0×103 T. *evansi* per mouse and orally given pre-, concurrent- and post-infection treatments with 0.1 ml of nerolidol at 10 µg/ml per mouse. By using Giemsa stained blood slides and examined under the light and scanning electron microscopes (SEM), there was a positive correlation ($p \leq 0.05$, $n=6$) between the mice survival time and the ability to inhibit the parasites growth in pre-infection treatment group. The mice in this group was also recorded the longest pre-patent (42.19±1.2 days) and survival (264.58±0.6 days) period. The morphological changes of T. evansi cells were observed where the undulating membrane was destroyed other than the cell became crescent-shaped and both of the posterior and anterior ends were tapered before the flagellum disintegrated in which lead to death of the cells. Besides, the results for biochemical tests were positively situated in the normal ranged level as well as no abnormalities found on the selected vital organs. This study significantly evidenced that nerolidol could be manipulated for the preservation and welfare of human beings, animals and environment. Thus, it is suggested that the scientists and practitioners from many disciplines needs to initiate to work collaboratively to synthesize and develop the novel solutions towards the trypanosomiasis which was problematize to the policy makers and people who deal with human and veterinary medicine.

Biography

Mohd Shukri Baba has his expertise in parasitology and animal health, as well as enhancing the natural products and endophyte Streptomyces-derivative compounds for curing many zoonotic diseases in improving the health and wellbeing of both human and livestock. As a member of Malaysian Society of Parasitology and Tropical Medicine, he was frequently being invited both locally and internationally as a speaker in many relevant conferences focusing on One Health concept which emphasizes on how the involvement of multidisciplinary careers can be synergistically approached to ensure the safety and health of humans and animals, as well as to maintain the environmental sustainability. Besides, he was also on his track of patenting one promising novel compound for antimalarial drug towards zoonotic simian malarial agent, Plasmodium knowlesi. Latest, he was appointed as Head of Biomedical Science Degree Program in International Islamic University Malaysia, as well as a main reviewer for Biomedical Science degree profession in Malaysia.

mohd_shukri@iium.edu.my

Notes:

Shalala Zeynalova, J Vet Sci Technol 2017, 8:4(Suppl)
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Seromonitoring study of foot and mouth disease in the republic of Azerbaijan (2016)

Shalala Zeynalova
Republican Veterinary Laboratory, Baku

Foot and mouth disease outbreaks have occurred in Azerbaijan in different years. In neighboring states, such as Iran and Turkey, foot and mouth disease epizooty is reported every year. Continuous spread of the disease in these countries causes constant danger for the country. Twice a year livestock and small cattle is vaccinated against the disease as a preventive measure.

The main of this study aim was to surveillance of current situation; define of immunity status new vaccine and non-structural proteins (NSP) of foot and mouth disease in the border rayon's of country for the year 2016. In addition managing control over animals passing through the border.

In March and April, 2016 livestock and small cattle were immunized with trivalent (A, O, Azia1) vaccine in all rayon's of the country. 21-30 days after vaccination, rayon's collected blood samples and sent them to Republican Veterinary Laboratory. Assays were conducted with NSP and solid faze ELISA.

Total 1692 serum samples were collected across the country as a result of this study. The 2.6% of positivity for NSP. The immune status of antibodies against serotype A -60%, Azia 1-70%, O- 60%.

As a result of seromonitoring, it was defined that the epizootic state against foot and mouth disease was stable. The high percentage of positive results among animals passed through the border indicates the necessity for imposing quarantine on imported animals. Accordingly, the used vaccine have been shoved the less effectivity and quality. The positive results obtained show the need to continue the vaccination, however with different vaccine.

Biography

Shalala Zeynalova Karam working as Deputy director in Republican Veterinary Laboratory, Baku. Her international experience includes various programs, contributions and participation in different countries for diverse fields of study. Her research interests reflect in his wide range of publications in various national and international journals.

zeynalovaeddm@gmail.com

Notes:

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Listeria monocytogenes in retailed raw chicken meat in Turkey

Belgin Siriken[1], **Naim Deniz Ayaz**[2] and **Irfan Erol**[3]
[1]Ondokuz Mayis University, Turkey
[2]Kırıkkale University, Turkey
[3]Ministry of Food Agriculture and Livestock, Turkey

Statement of the Problem: The objective of this study to find the prevalence and antimicrobial resistance of *L. monocytogenes* from a total of 116 chicken meat samples including 50 carcasses and 66 meat parts marketed in Turkey.

Methodology & Theoretical Orientation: In the study, immunomagnetic separation (IMS) based cultivation technique, to detect the hlyA gene for the verification of the isolates by PCR, and to identify the genoserotypes of the *L. monocytogenes* isolates by multiplex PCR assay. *L. monocytogenes* isolates were also tested for their susceptibility to eight antibiotic (gentamicin, vancomycin, chloramphenicol, streptomycin, tetracycline, ampicillin, penicillin G and erythromycin) agents using the disk diffusion method.

Findings: 51 *L. monocytogenes* colonies were isolated from 34 (29.3%) chicken meat samples (11 [22.0%] carcasses and 23 [34.8%] pieces of meat) by IMS based cultivation technique and confirmed by PCR. According to the multiplex PCR results, all the 51 isolates were identified as genoserotype IIa (1/2a or 3a), 14 isolates (27.45%) were susceptible to all eight antimicrobial drugs tested, and the remaining 37 isolates (72.54%) were resistant to gentamicin (one isolate 1.96), vancomycin (four isolates, 7.84%), penicillin G (six isolates, 1.76%), streptomycin (nine isolates, 17.64%; resistant or intermediate), tetracycline (seven isolates, 13.72%) and ampicillin (six isolates, 11.76%).

Conclusion & Significance: In conclusion, a relatively high prevalence of *L. monocytogenes* was noted and the isolates were characterized sporadic but sometimes epidemic serotypes. IIa in contrast to the most important epidemiological serotypes I. This study results also showed that antimicrobial resistance is not frequent in the isolates. However, we did not detect number of *L. monocytogenes* in analyzed samples. The presence of *L. monocytogenes* in chicken meat is concerning public health risk.

Biography

Belgin Sırıken is an expert in Food Microbiology, Safety and Chemical Properties of Particularly Animal Origin Foods. She has completed her PhD at Ankara University, and now she is working as Prof. Dr. at Ondokuz Mayis University, Samsun, Turkey. Her focus is on Molecular Food Microbiology.

bsiriken@omu.edu.tr
bsiriken@yahoo.com

Notes:

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Time depend effect of sevoflurane anesthesia on total antioxidant capacity in calves

Selvinaz Yakan[1] and **Onur Atakisi**[2]
[1]Agrı Ibrahim Çeçen University, Turkey
[2]Kafkas University, Turkey

Statement of the Problem: The aim of this study was to investigate the effect of sevoflurane on total antioxidant capacity in calves.

Methodology & Theoretical Orientation: The research was carried out on 15 calves, from newborns to 3-months-old, in operations performed for a variety of reasons. For induction, sevoflurane was given at 5-7% concentration via mask during 15 minutes. Then, endotracheal intubation was performed and the maintenance was set to a concentration of 2.5-4% sevoflurane in 100% oxygen in two hours period. Blood samples were centrifuged at 3500 rpm for 10 minutes at +4°C and the serum samples were obtained. The samples were maintained at -20°C until analyses. Total antioxidant capacity (TAC) was determined using commercial kits using a spectrophotometer (Eo Biotex, USA).

Findings: There was no significant difference recorded on TAC during sevoflurane anesthesia.

Conclusion & Significance: It was determined the sevoflurane anesthesia had no adverse effect on total antioxidant capacity in calves.

Biography

Selvinaz Yakan has completed his PhD in 2012 from Kafkas University and Postdoctoral studies from Agri Ibrahim Cecen University, Eleskirt Celal Oruc Animal Production School, Department of Animal Health. She studied veterinary anaesthesia and analgesia, veterinary ophthalmology, wound healing, and orthopedic surgery. She finished five important projects in her country and is dealing with two projects.

syakan@gmail.com

Notes:

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Two validated methods to measure methadone concentrations in dog plasma and umbilical cord by LC-MS/MS

Andrea Barbarossa, Noemi Romagnoli and **Anna Zaghini**
University of Bologna, Italy

Statement of the Problem: Methadone is an opioid μ-receptor agonist commonly used in human and veterinary medicine via systemic or epidural route to achieve intra- and post- operative pain relief. The advantages of the epidural administration of methadone are a lower evidence of side effects, a more profound and prolonged analgesia, and a lower dose required. To date, no information is available about the placental transfer of methadone in dogs and the respective maternal/fetal plasma concentration ratios. The aim of the present study was to develop and validate two methods for the accurate and precise determination of methadone concentrations in bitches plasma and in the umbilical cords of their puppies, after epidural or systemic administration during surgical caesarian section.

Methodology & Theoretical Orientation: Two different techniques were developed for the determination of methadone in the two matrices, using in both methadone-D3 as internal standard. Plasma samples were extracted with acetonitrile and, after centrifugation, the supernatant was evaporated to dryness and reconstituted with mobile phase. Umbilical cords were homogenized, added of formic acid and, after centrifugation, the supernatant underwent a cleanup step on SPE cartridge. The eluted sampled was then evaporated to dryness and reconstituted with mobile phase. All samples were analyzed by liquid chromatography coupled to tandem mass spectrometry.

Findings: The methods have been successfully validated in accordance with current European guidelines, providing satisfying performances over the range 1-250 ng/mL for plasma and 1-250 ng/g for umbilical cord.

Conclusions & Significance: This project raised from the need of determining methadone plasmatic concentration in bitches undergoing surgical caesarian section and in the umbilical cords of their puppies, in order to assess if newborns are less exposed to the drug following epidural administration. The proposed techniques proved to be suitable for the purpose and have been successfully applied to real samples.

Biography

Andrea Barbarossa has his expertise in many aspects of veterinary pharmacology, including antimicrobial resistance, residues and pharmacokinetics/pharmacodynamics studies. In particular, he has been involved in many projects on analgesic and anesthetic drugs in dogs and cats, including ketamine, buprenorphine, medetomidine and methadone. He has years of expertise on analytical chemistry, especially with liquid chromatography-mass spectrometry techniques, which are often the gold standard for this kind of studies.

andrea.barbarossa@unibo.it

Notes:

Emre Kaya et al., J Vet Sci Technol 2017, 8:4(Suppl)
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The effects of lycopene against diethylnitrosamine-induced testicular toxicity: with biochemical, spermatological and histopathological approaches

Emre Kaya, Seval Yilmaz, Seyma Ozer Kaya, Gaffari Turk and **Ali Osman Ceribasi**
Firat University, Turkey

Statement of the Problem: The aim of study was to investigate the possible protective role of lycopene on diethylnitrosamine (DEN)-induced testicular toxicity using biochemical, spermatological and histopathological approaches.

Methodology & Theoretical Orientation: The rats were divided into 8 groups as control, lycopene, DEN(1), DEN(2), lycopene+DEN(1), lycopene+DEN(2), DEN(1)+lycopene and DEN(2)+lycopene. DEN was administered to rats at 200 mg/kg/bw, a single dose i.p for 30 days in DEN(1) groups and for 90 days in DEN(2) groups. Lycopene was administered to rats every other day at 10 mg/kg/bw, gavage for 10 days. Lycopene administration was started 10 days before the DEN administration in lycopene+DEN(1) and lycopene+DEN(2) groups and together with the DEN administration in DEN(1)+lycopene and DEN(2)+lycopene groups. Malondialdehyde (MDA), reduced glutathione (GSH) levels, catalase (CAT), glutathione peroxidase (GSH-Px), glutathione-S-transferase (GST), superoxide dismutase (SOD) activities were determined in testes tissues. Also testes tissues were examined spermatological and histologically.

Findings: MDA levels significantly increased; while GSH, CAT, GST, GSH-Px and SOD activities decreased ($p<0.001$). MDA, GSH levels and antioxidant enzyme activities reached to normal levels with the addition of lycopene; simultaneous-administration with DEN has been more effective ($p<0.001$). Reduction sperm density and motility, weights of reproductive organs, increase in rate of abnormal sperm were observed in DEN groups. Lycopene has provided improvement in spermatological characteristics and weights of reproductive organs. Histopathologically, it was determined that the most significant microscopic change in all experimental groups were dilation in seminiferous tubules; especially in DEN(2) group ($p<0.001$). Additionally, reduction in germinal cell thickness, disorganization and degeneration in germinal epithelium, syncytial cell formations in seminiferous tubules lumen were another change in experimental groups. Decrease in germinal cell thickness was noted in DEN(2), DEN(1), lycopene+DEN(2) and lycopene+DEN(1) groups, respectively.

Conclusion & Significance: DEN-induced oxidative stress leads to the structural and functional damages in the testicular tissue and sperm quality of rats and, lycopene has been able to eliminate these damages.

Biography

Emre Kaya is working in Department of Biochemistry, Faculty of Veterinary Medicine, Firat University, Elazig, Turkey. He is continuing his scientific Studies in various subjects in the same place. His work focuses more on oxidative stress and its prevention.

emre_57000@hotmail.com

Notes:

Seyma Ozer Kaya et al., J Vet Sci Technol 2017, 8:4(Suppl)
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Effect of starvation and refeeding on spermatological parameters and oxidative stress in rats

Seyma Ozer Kaya[1], **Emre Kaya**[1], **Seyfettin Gur**[1], **Seval Yilmaz**[1], and **Ilyas Murat Celiker**[2]
[1]Firat University, Turkey
[2]Elazig Training and Research Hospital, Turkey

Statement of the Problem: This study was aimed to investigate the effect of starvation and refeeding on spermatological parameters and oxidative stress in wistar rats.

Methodology & Theoretical Orientation: Twenty-four healthy male Wistar-Albino rats were used in this study. The animals were randomly divided into four experimental groups, including six rats in each. These groups were arranged as follows: Group 1 served as the control, received food during study. Group 2 were starved 5 days, Group 3 were starved 5 days and refeed 5 days, Group 4 were starved 5 days and refeed 7 days. In this study, weights of body and reproductive organs (testes, epididymites, seminal vesicles, ventral prostate), sperm parameters (concentration, motility) and blood malondialdehyde (MDA), reduced glutathione (GSH) levels, catalase (CAT), glutathione peroxidase (GSH-Px), superoxide dismutase (SOD) activities were determined. Findings: Starvation caused the reduced weights of body and reproductive organs (especially testes and prostate) and sperm concentration ($p<0.05$). In addition, starvation caused the oxidative stress by the increased MDA and GSH levels and the reduced antioxidant enzyme activities in blood ($p<0.05$ and $p<0.001$). Refeeding produced amelioration in spermatological parameters and biochemical indices in blood when compared to starvation group.

Conclusion & Significance: In conclusion starvation has damaging effect and in rat reproductive organs and cells by increasing the lipid peroxidation.

Biography

Seyma Ozer Kaya is working in Department of Reproduction and Artificial Insemination, Faculty of Veterinary Medicine, Firat University, Elazig, Turkey. She is continuing his scientific studies in various subjects in the same place. Her work focuses more on male and female reproductive system problems and its prevention.

sozer@firat.edu.tr

Notes:

Tofazzal Md et al., J Vet Sci Technol 2017, 8:4(Suppl)
DOI: 10.4172/2157-7579-C1-024

Prevalence of Methicillin/Oxacillin Resistant Staphylococcus aureus (MRSA) in Stray and Pet Dogs of Chittagong Metropolitan Area, Bangladesh

Tofazzal Md. Rakib, Md. Shafiqul Islam, Lipi Akter, Ahaduzzaman and **Md. Masuduzzaman**
Chittagong Veterinary and Animal Sciences University, Bangladesh

Methicillin resistant Staphylococcus aureus (MRSA) is a multidrug resistant organism that threatens the effectiveness of antibiotics worldwide. The study was carried out in stray (n=108) and pet (n=50) dogs in Chittagong Metropolitan area, Bangladesh to determine the proportionate prevalence of MRSA strains by molecular techniques and their in-vitro antibiotic susceptibility patterns. Oral swabs (N=158) were collected using sterile cotton swabs and were isolated according to cultural properties and molecular amplification of nuc gene. The isolates were subjected to antimicrobial sensitivity testing by Kirby-Bauer method, and resistant mecA gene of MRSA was detected by polymerase chain reaction (PCR). 37 (34.91%) stray and 17 (34%) pet dogs were found positive for S. aureus, of which 18 (16.98%) stray and 7 (14%) pet dogs were found positive for nuc gene of S. aureus. Highest prevalence of MRSA was found in Bayezid (57.89%) and Kotwali (100%), whereas lowest in Pahartoli (22.22%) and Chandgaon (0%) for stray and pet dogs, respectively. A high percentage of MRSA isolates were resistant to antibiotics, including oxytetracycline (83.33%), azithromycin (77.78%), oxacillin (75.93%), sulfamethoxazole + trimethoprim (74.07%), methicillin (74.07%), ciprofloxacin (74.07%), gentamicin (74.07%), amoxicillin (46.3%) and ceftriaxone (42.59%). So, it can be concluded that MRSA in dogs are prevalent in Chittagong, Bangladesh.

Biography

Tofazzal Md. Rakib received the Doctor of Veterinary Medicine (DVM) and MSc degree from Chittagong Veterinary and Animal Sciences University, Chittagong, Bangladesh. He joined as a Lecturer in the Department of Pathology and Parasitology, CVASU in 2016. His research interest includes pathogenesis of diseases, host-pathogen interaction, pathobiology of infectious diseases, public health concerns of animal diseases, transformation in cancer biology, emerging and reemerging diseases, evolutionary analysis of microorganisms and introducing new economic techniques for the diagnosis and therapy of infections with the application of bioinformatics tools.

rakibtofazzal367@gmail.com

Notes:

7TH INTERNATIONAL VETERINARY CONGRESS

September 04-05, 2017 | Paris, France

Young Researchers Forum Day - 1

Veterinary 2017

Saeed Murtaza et al., J Vet Sci Technol 2017, 8:4(Suppl)
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Effect of exogenous administration of oxytocin on follicular dynamics and milk contents in partially lactating nilli ravi buffaloes

Saeed Murtaza[1], Abdul Sattar[1], Nasim Ahmad[1], Irfan ur Rehamn[1], Muhammad Ijaz[1], Rehana Kousar[2], Muhammad Shehzad[2], Attaur Rehman[1] and **Bilal Ahmad[1]**

[1]University of Veterinary and Animal Sciences Lahore, Pakistan

[2]Nuclear Institute of Agriculture and Biology Faisalabad, Pakistan

In Pakistan, oxytocin is being used extensively in buffalo for milk let-down especially near terminal lactation when it refuse to accept calf for milk let-down. Therefore, exogenous oxytocin is an alternative of calf suckling and the main solution of buffalo milk letdown for dairy farmers but at same time it may be cause of erratic estrous cycle and infertility. Hence, a study was designed to know the effect of different concentration of oxytocin on follicular dynamics and milk contents in Nili-Ravi buffalo. Eight experimental buffaloes were synchronized with single injection of PGF2 after ultrasonography. Daily single injection of oxytocin to each animal @ 15, 30 and 45IU/IM respectively while control was injected with normal saline for 100 days. Ultrasonography was done thrice a week to monitor follicular dynamics during whole estrous cycle. Milk (n=400) was collected and analysed for its contents analysis with milkoscan. Results revealed that size of dominant follicle on left ovary was remarkably different in 30IU & 45IU of oxytocin treatments than 15IU & control. Large follicles were significantly ($P<0.05$) different from control and 15IU. Large follicles were lowest in number at 45IU than control. On right ovary, total follicles and small follicles counts were considerably ($P<0.05$) higher in 45IU than 0IU, 15IU and 30IU while sizes of dominant follicles were different significantly ($P<0.05$) in 0IU, 30IU and 45IU. Medium and large follicles disclosed same trend in all treatments. Among the milk contents: fat% was increased significant ($P<0.05$) in the peak dose 45IU while other contents: SNF, density, lactose, proteins, solids, freeze point and pH were decreased with respect to control. It was concluded that oxytocin had limited effect on follicular dynamics with lowest count of medium follicles in all treatments. Further, it was confirmed that fat% increased with the increase in oxytocin concentration.

Biography

Saeed Murtaza working at University of Veterinary and Animal Sciences Lahore, Pakistan. His international experience includes various programs, contributions and participation in different countries for diverse fields of study. His research interests reflect in his wide range of publications in various national and international journals.

saeedmurtaza@bzu.edu.pk

Notes:

Jobin Thomas et al., J Vet Sci Technol 2017, 8:4(Suppl)
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Oral administration of heat-inactivated *Mycobacterium bovis* reduces the lesion score after challenge with a field strain in red deer

Jobin Thomas†, María Ángeles Risalde†, Miriam Serrano, Iker Sevilla, Mariví Geijo, José Antonio Ortíz, Miguel Fuertes, José Francisco Ruíz-Fons, José de la Fuente, Lucas Domínguez, Ramón Juste, Joseba Garrido, Christian Gortázar*
SaBio (Health and Biotechnology), Instituto de Investigación en Recursos Cinegéticos IREC (CSIC-UCLM), Ciudad Real, Spain.
† Both first two authors contributed equally to this work.
* Corresponding author, E mail: Christian.Gortazar@uclm.es

Statement of the problem: Deer species (family Cervidae) can act as maintenance host for the Mycobacterium tuberculosis complex. Tuberculosis (TB) control in deer, including vaccination, is consequently an area of ongoing research. However, most of the study in deer TB vaccination is focused on using the live bacillus Calmette Guerin (BCG). Oral inactivated vaccines represent an interesting alternative to either oral or parenteral BCG, since neither diagnostic cross-reactions nor vaccine strain survival are likely to occur. The present study documents the response of red deer to heat-inactivated *M. bovis* (IV) followed by challenge with virulent M. *bovis*.

Methodology: We conducted an experiment in six month-old red deer in which three groups of five red deer each were vaccinated with oral IV, oral BCG or were left unvaccinated as controls, respectively. All groups were challenged with a virulent M. *bovis* strain after 70 days and necropsied at 60 days post-challenge. The results of post mortem TB lesions and M. bovis culture scores were documented and serum antibody levels, IFN-γ response, complement component C3 and serum interleukin levels (IL-1β/IL-10/IL-12/TNFα) at different time points of the study were estimated. These parameters were statistically compared between different groups

Results: A reduction in the infection burden was recorded in the IV group. There were significant differences with the control group (53% of lesion reduction). C3 plasma levels increased after challenge, and there were no differences between the groups. The plasma cytokines (IL-1β, TNFα, IFNγ, IL-10, IL-12) levels did not change after vaccination, but IL-1β, TNFα and IL-10 did so following the challenge. The IL-12 and IFNγ levels remained constant throughout the experiment. The IL-1β level increased in all groups, while TNFα and IL-10 levels had a distinct response pattern in the IV group and the control group, respectively.

Conclusion & Significance: The results showed that oral vaccination with IV reduces the TB lesion score in red deer challenged with a *M. bovis* field strain without interfering with the in vivo diagnosis of infection. The cytokines and C3 may contribute to this immune response against mycobacteria, using the IFNγ/IL-10 ratio as an indicator to define disease severity. However, further studies are needed to elucidate the exact mechanisms involved in protection against and immunity to TB in red deer.

Biography

Jobin Thomas completed his bachelor degree and Master degree in Veterinary Science from India. Currently he is pursuing PhD in bovine tuberculosis in IREC, SaBio, UCLM, Spain. His area of research includes post mortem examination, diagnosis, vaccination and host immune response to M. *bovis* in red deer and wild boar.

jobss2k6@gmail.com

Notes:

Jacob Anderson C. Sanchez, J Vet Sci Technol 2017, 8:4(Suppl)
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Singleplex real-time RT-PCR assay of porcine epidemic diarrhea virus (pedv) viral load in pampanga, philippines

Jacob Anderson C. Sanchez[1], **Tambalo Gerald O**[2], **Alili, Rubigilda P**[3], **Domingo** and **Clarissa Yvonne J.**[4]
[1]Pampanga State Agricultural University
[2]AFP Medical Center, Philippines
[3]Central Luzon State University
[4]Central Luzon State University

Pampanga is one of the main sources of pork used for food processing and culinary in Central Luzon, Philippines. Recently, farm owners reported mortality among pigs due to a diarrhea which might be Porcine Epidemic Diarrhea Virus (PEDV). Recent qualitative studies showed the presence or absence of the virus. Here, we aimed to conduct an absolute quantification of the viral load in fecal samples from suspected sucklings and weanlings using a Singleplex Real-time Reverse Transcription Polymerase Chain Reaction (qRT-PCR). We report that the average viral load at the time of collection are Farm S Sucklings, 1.7X10-2 copy numbers (cn); Farm S Weanlings, 21X1010 cn; Farm R Sucklings, 9.0X107 cn; Farm R Weanlings, 1.3X106 cn. PEDV was detected at a sensitivity range of 1.89 X 10-7 up to 1.89 X 101 cn. The viral load reference index was as low as 4.44 X 10-21 cn and as high as 9.82 X 1016 cn. Given the positive result for PEDV and 100% mortality among the collected samples, it can be said that PEDV was present in the two farms of the province. These data may serve as a research-based reference for the Department of Agriculture in crafting and implementing policies for the swine industry. Furthermore, it will encourage the industry to prepare management and preventive measures against the virus.

Biography

Jacob Anderson C. Sanchez is a faculty/researcher of the Pampanga State Agricultural University. His main research objective is to contribute to the field of Veterinary Medicine through Molecular Diagnostics. He is passionate in conducting researches that are essential in ensuring the profit of the marginalized sector. He grew up in a family of veterinarians and farming communities.

jacobsanchezphl@gmail.com

Notes:

Maria F Jorquera-Chavez et al., J Vet Sci Technol 2017, 8:4(Suppl)
DOI: 10.4172/2157-7579-C1-024

Implementation of biometric technology to assess physiological responses to stress and their relation with beef quality

Maria F Jorquera-Chavez, Sigfredo Fuentes, Robyn Warner and **Frank Dunshea**
The University of Melbourne, Australia

Statement of the Problem: The stress that animals experience due to environment and management conditions have become a main concern among producers and the general public. The animal stress during the pre-slaughter process not only impacts the cattle welfare but also the meat quality. Stress has been proven to impact on the eating qualities of beef, such as colour, tenderness, flavour and juiciness, as well as the shelf-life of meat. Studies have shown that physiological parameters can be used as indicators of stress in animals. However, the techniques used to obtain these parameters are often invasive and can increase the stress in animals. Moreover, they are time consuming and labour intensive. The purpose of this study is to define whether non-invasive techniques that measure temperature and Heart Rate (HR) can be used to identify stress levels and predict their effect on meat quality. Methodology & Theoretical Orientation: Infrared and video cameras were placed in four farms and in the abattoir to obtain images, which were analyzed to obtain HR and Temperature by using algorisms in MatLab. These physiological parameters were correlated with indicators of meat quality obtained from the carcasses at the abattoir. Findings: The physiological parameters obtained by these non-invasive methods showed medium to high correlation with ultimate pH and meat colour. In addition, the Heart rate measured at the abattoir showed a significant difference ($P<0.0001$) between cattle that presented DFD or high ultimate pH, and the cattle that did not present these conditions. Conclusion & Significance: Heart Rate appears to have strong relationship with meat quality. In addition, biometric technology could be a useful tool to assess physiological responses to stress in abattoirs. Moreover, results suggest that the data obtained by Biometric methods could be used to assist in improving prediction of beef quality.

Biography

Maria Jorquera- Chavez has expertise in assessing behavioural and physiological responses to stress in animals and on the impact that stress has on the productive performance of dairy and beef cattle. She has become passionate in developing and improving methods to assess and ameliorate stress levels in animals. Her studies are addressed to generate new pathways to assist in improving animal welfare and animal production. She has been involved in the development of these technologies during her studies at The University of Melbourne. These projects are based on several studies related to human emotions when they face different situations. These studies have shown that Biometric technology is a useful tool to identify changes in physiological parameter when people is exposed to different situations. After observing these good results in humans, Maria decided to develop Biometric technologies to be used in research related to animal stress.

mafejorquera@gmail.com

Notes:

Shama Ranjan Barua et al., J Vet Sci Technol 2017, 8:4(Suppl)
DOI: 10.4172/2157-7579-C1-024

Possible zoonotic potentiality and epidemiological features of rotavirus infection in calves in Chittagong, Bangladesh

Shama Ranjan Barua, Tofazzal Md Rakib, Tania Ferdushy, Mohammad Mahbubur Rahman and **Sharmin Chowdhury**
Chiattagong Veterinary and Animal Sciences University, Bangladesh

A cross sectional survey was carried out for the approximation of epidemiological features and zoonotic potentiality of bovine rotavirus A (BRA) infection in neonatal calves in south-eastern part of Bangladesh. Different farm and calf level factors were tested by mixed effect univariable and multivariable logistic regression models to identify significant risk factors for rotavirus infection in calves in the study area. Among the hypothesized risk factors, winter season was found to have higher odds of having the infection in calves compared to summer (OR=6.04; 95% Cl, 1.92-18.96; P=0.002).Higher odd ratio of was observed in >3 weeks of age group compared to ≤ 3 weeks (OR=2.87; 95% Cl, 1.03-8.01; P=0.04), taking of first colostrums after 30 minutes to 2 hours of birth in contrast to within 30 minutes (OR=13.92; 95% Cl, 3.87-50.05; P=<0.001). Zoonotic potentiality of circulating strains was evaluated by sequence analysis. Bovine origin of study isolates clustered with the zoonotic isolates retrieved from NCBI in a same group. Similarity matrices revealed that study isolates has maximum homology of more than 95% at nucleotide level with zoonotic isolates.

Biography

Shama Ranjan Barua is a field veterinarian; He is working as a veterinary surgeon under the Ministry of livestock and fisheries of Bangladesh. He completed his MS in Microbiology from Bangladesh Agriculcutural Universiry. Now, he is studying as PhD fellow, Department of pathology and parasitology, Chittagong Veterinary and Animal Sciences University. He is working on rotavirus and other enteropathogens in calf diarrhea in Bangladesh.

samardvm27@gmail.com

Notes:

Rute Canejo-Teixeira et al., J Vet Sci Technol 2017, 8:4(Suppl)
DOI: 10.4172/2157-7579-C1-024

An exploratory study of dog ownership history: Can owners be typified?

Rute Canejo-Teixeira, Isabel Neto, Ulisboa, Luis V. and **Maria Manuela Niza**
Universidade Nova de Lisboa

Statement of the Problem: The human-dog interaction has a 16000-year history. Within a functional human-dog dyad both the human and the dog benefit from the relationship. Nevertheless, some dyads are dysfunctional, normally due to irresponsible behavior displayed by owners, such as allowing their dogs to roam in public spaces and/or denying them veterinary care, which can be a danger to the dog and society. The study of these dysfunctional dyads has received attention in recent years, specially within the context of dog aggression. However, these dysfunctional dyads are difficult to study since unmotivated owners are unlikely to volunteer personal information, so alternative methods are needed to better understand why human-dog dyads fail. This study analyses owners´ history of dog health care to find patterns that could help clarify what is at the core of these troubled relationships.

Methodology & Theoretical Orientation: A questionnaire was distributed throughout the Lisbon Area to animal hospitals, clinics, anti-rabies vaccination programs, and made available online for 8 months. Owners where asked forced questions regarding the existence of specific occurrences in their history with dog health care (figure 1). MCA and chi-square analysis where completed.

Findings: 1385 valid questionnaires where completed. MCA analysis revealed 3 clusters with associations between chronic illness and hospitalization ($x^2=122.131$, $df=1$, $p<0.001$), vehicular trauma and unspecified trauma ($x^2=127.310$, $df=1$, $p<0.001$) and caring for more dogs and having a dog bite another ($x^2=85.236$, $df=3$, $p<0.001$).

Conclusion & Significance: In this population, owners of dogs with chronic illness could represent function dyads since this was associated with hospitalization, while those who report trauma (vehicular or not) may indicate dysfunctional dyads, where the dog is not adequately controlled. In this study, through the use of a questionnaire focused on owners' history with dog health care, patterns where recognized which could signal dysfunctional dyads.

Biography

Rute Canejo-Teixeira is a PhD candidate with CIISA at the faculty of Veterinary Medicine at the University of Lisbon in Portugal. After first completing a BscH in Biology and a BEd at Queen´s University, Kingston, ON, Canada, she returned to her native Portugal to pursue her DVM. Ruth completed her MIVM with the study of Helicobacter spp. In the dog and cat, having identified H. pylori in a cat (Irish Veterinary Journal 2014 67(1) 4). Before securing a scholarship through the FCT. Rute was a member of the clinical staff at the Veterinary Teaching.

adrutecanejo@gmail.com

Notes:

7TH INTERNATIONAL VETERINARY CONGRESS

September 04-05, 2017 | Paris, France

Special Session

Day 2

Veterinary 2017

Tarun Kumar Gahlot, J Vet Sci Technol 2017, 8:4(Suppl)
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Tarun Kumar Gahlot

Rajasthan University of Veterinary and Animal Sciences, India

Camel science: current scenario and future envision

The biotechnological advancements have made new technologies and skills which are now available to help the identification of new potentialities of camel as an animal of unique attributes which would not only benefit the human and animal health but would be a favorite to researchers. Agranian society and traditional breeders will remain in scenario all the time as they produce and manage most of the camels. Research direction would be therefore more relevant when Agrarian society adopts modern breeding, management and health practices and scientists suggest value addition to this unique species. A focus on nutraceutical value of camel meat and milk may create a big consumer base which would be viewed as unique human health advantage. The camel racing industry must upkeep and modernize their breeding programs to preserve the germ plasm of best racing breeds. A large-scale vaccination program should be on priority in addition to increase in nutrition scale to camels. The diagnostic laboratories and veterinary hospital facilities should be functional in thick camel population zones to prevent morbidity and mortality. The scientific papers published in the *Journal of Camel Practice and Research* indicated a genuine trend of camel science and current research. The missing links of research were drawn out and were enlisted as a future vision of camel science.

Biography

T K Gahlot is a Professor of Veterinary Surgery and Radiology, College of Veterinary and Animal Sciences, Rajasthan University of Veterinary and Animal Sciences, Bikaner, Rajasthan, India. He is Editor in Chief of *Journal of Camel Practice and Research* from more than 23 years. He has edited many books on camels, including: "Selected Research on Camelid Immunology", "Selected Research on Gross Anatomy and Histology of Camels", "*Selected Research on Camelid Parasitology*", *"Selected Research on Camelid Physiology and Nutrition", "Selected Topics on Camelids, Selected Topics on Camelids", "Selected Bibliography of Camelids"* between 1992 and 2000. He has edited proceedings of International Camel Conferences held at Germany, Saudi Arabia and Bikaner (India). He has developed several surgical techniques for dromedary camels specially the Interdental Wiring technique for mandibular fracture repair.

tkcamelvet@yahoo.com

Notes:

Ramadan O Ramadan, J Vet Sci Technol 2017, 8:4(Suppl)
DOI: 10.4172/2157-7579-C1-024

Ramadan O Ramadan

King Faisal University, Saudi Arabia

Esophageal obstruction in camels (*Camillus dromedaries*): An update

Esophageal obstruction is frequently reported in camels. They are caused by ingestion of food or other foreign bodies such as rags and polyethylene bags. In adult animal's obstruction may be caused by bezoars migrating from the rumen or pressure against the esophagus from the neighboring tissues such as abscess, lymph node or cysts. Diagnosis was based on clinical findings, passing stomach tube through the mouth and radiography. Endoscopy was conducted in some instances. Esophagostomy was successful to remove foreign bodies in the cervical region or even in the mediastinal region however rumenotomy was achieved to remove foreign bodies in the cardiac region. The operations were fraught with high success rate but complications were in the form of esophageal fistula.

Biography

Ramadan R O is working at College of Veterinary Medicine, King Faisal University, Saudi Arabia. His experience includes various programs, contributions and participation in different events for diverse fields of study. His research interests reflect in his wide range of publications in various national and international journals.

rramadan@kfu.edu.sa

Notes:

Adel Almubarak, J Vet Sci Technol 2017, 8:4(Suppl)
DOI: 10.4172/2157-7579-C1-024

Adel Almubarak

King Faisal University, Saudi Arabia

Thermal and mechanical nociceptive threshold testing in one humped camels (*Camelus dromedarius*)

Currently, several analgesic drugs such as opioids and NSAIDs have been used effectively in veterinary medicine. However, the clinical efficacy of these drugs for use in camels is still unknown. The aims of this study were to apply thermal and mechanical nociceptive threshold testing techniques in camels and evaluate them with reference to their applications, limitations and the factors which can influence both the testing procedure itself and the animal's responses. Seven healthy camels of different breeds were brought into individual stables a minimum of three days before each experiment to allow re-acclimatization to the study environment. The camels were equipped with a wireless thermal and mechanical threshold testing system (Topcat Metrology Ltd). The display unit was mounted on the humps of the camels with the help of a surcingle and Velcro strips. Mechanical threshold was measured by using a pneumatic actuator, and thermal threshold was measured by using a thermal probe, both attached to the skin of metacarpus. Each camel went through 18 mechanical thermal and thresholds stimulation on 3 occasions at one-week interval. All camels responded to the stimulations, and type of reaction to the stimulus with a clear-cut end-point of stimulation was recorded. In conclusion, nociceptive threshold testing in camel using mechanical and thermal stimuli will be accepted as standard tests in preclinical studies for development of analgesics for camel use.

Biography

A Almubarak is working at Camel Research Centre, King Faisal University, Saudi Arabia. His experience includes various programs, contributions and participation in different events for diverse fields of study. His research interests reflect in his wide range of publications in various national and international journals.

aimubarak@kfu.edu.sa

Abdulsalam Bakhsh, J Vet Sci Technol 2017, 8:4(Suppl)
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Abdulsalam Bakhsh

King Faisal University, Saudi Arabia

An overview of camels' diseases in Saudi Arabia with special reference to MERS- Co V

There are many diseases of camels in Saudi Arabia which are estimated to be 810 000. Eastern province is the largest one of area composing one third of camels in the country. The camels in Veterinary Teaching Hospital of KFU those treated for non-infectious diseases were (763) and infectious diseases (539). In infectious diseases, as following: respiratory 101, enteritis 86, urinary 19, nervous 31, mouth 42, eyes 111 and skin 149 camels were treated. The camel's diseases have been diagnosed by bacteriological, serological, molecular, histopathological and necropsy methods by different laboratories. Mostly reasons for diseases and death have been attributed to climatic changes, different breeding/grazing methods and self-improper measurements. Availability of vaccination program and traditional treatments are carried out. Middle East Respiratory Syndrome Coronavirus (MERS-CoV) has been confirmed in Saudi Arabia with 977 cases and odd case from time to time. Transmission of MERS-CoV has been attributed for different routes behind incontinous occurrence in Saudi Araba (Hemida et al, 2015). Middle East Respiratory Syndrome (MERS) first reported in Saudi Arabia in 2012 is a viral respiratory illness that is new to humans caused by MERS *Coronavirus* (MERS-CoV). *Coronaviruses* are common viruses that most people get some time in their life. MERS-CoV likely came from an animal source in the Arabian Peninsula. Researchers have found MERS-CoV in camels from several countries. Studies continue to provide evidence that camel infections may play a role in human infection with MERS-CoV. Molecular tests are used to diagnose active infection (presence of MERS-CoV) in people who are thought to be infected with MERS-CoV based on their clinical symptoms and having links to places where MERS has been reported. Real-time reverse-transcription polymerase chain reaction (rRT-PCR) assays are molecular tests that can be used to detect viral RNA in clinical samples. Saudi Arabia has warned its citizens to wear masks and gloves when dealing with camels as health experts said the animal was the likely source of the Middle East Respiratory Syndrome (MERS) coronavirus. Many camels were destroyed in endemic areas.

Biography

Abdulsalam Bakhsh is working at Department of Clinical Studies, College of Veterinary Medicine, King Faisal University (KFU), Saudi Arabia. His experience includes participation in various programs, contributions and in different events for diverse fields of study. His research interests reflect in his wide range of publications in various national and international journals.

abakhsh@kfu.edu.sa

Notes:

Julian L Skidmore, J Vet Sci Technol 2017, 8:4(Suppl)
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Julian L Skidmore

Camel Reproduction Centre, UAE

Advanced techniques for embryo transfer in dromedary camels

As the reproductive efficiency of camels is low under natural pastoral conditions the use of embryo transfer is becoming much more popular to increase the reproductive potential of female camels. Good pregnancy rates of 65-75% are achieved after transfer of fresh day 7 embryos into day 5 or 6 recipients. Synchronizing ovulation between donors and recipients, however, poses problems as camels lack the cyclical corpus luteum of spontaneous ovulators. This means that conventional methods used in cattle that involve giving two injections of prostaglandin 11 days apart are unsuitable for use in camels. More recent studies have shown that pregnancy rates of between 50-70% can be achieved in recipients that ovulate too early (i.e. before the donor is mated) if they are treated with meclofenamic acid to maintain the CL, and in recipients that ovulate too late if they are maintained on progesterone from two days before transfer to five days post transfer. However, pregnancy rates are dramatically reduced to <40% after transfer of frozen/thawed embryos. Several factors could contribute to this reduced embryo viability post-thaw, including size of embryo, physical injuries caused by intracellular and extracellular ice formation, cryoprotectant toxicity, osmotic stress and chilling injuries. In addition, freezing and thawing can irreversibly disrupt the organization of an embryo's cytoskeleton and thereby reduce its ability to subsequently develop, so further work is required to improve slow-freezing and vitrification techniques so that pregnancy rates increase after transfer of frozen/thawed embryos.

Biography

Julian L Skidmore has completed her Graduation from University of Cambridge (UK) with a PhD in "Reproduction of the dromedary camel" in 1994. After completing her PhD in 1994 she has remained at the Camel Reproduction Centre in Dubai, United Arab Emirates, as Scientific Director leading a team of scientists covering all aspects of camel reproduction physiology with particular emphasis on embryo transfer of fresh, cooled and frozen embryos, artificial insemination of fresh and frozen semen and hybridization of New and Old-World camelids.

luluskidmore@yahoo.com

Notes:

Serge Muyldermans, J Vet Sci Technol 2017, 8:4(Suppl)
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Serge Muyldermans

Vrije Universiteit Brussel, Belgium

Nanobodies: A versatile single-domain antibody format from camel heavy chain only immunoglobulins

All camelids (llama and camels) possess unique antibodies comprising a homodimer of heavy chains only. The antigen of these heavy chain-only antibodies is recognized by virtue of one single variable domain, known as VHH. A straightforward technology was developed to immunize a camelid, to clone the repertoire of VHHs, from which the antigen-specific fragments are rapidly identified after phage display selections. The resulting monoclonal, recombinant, antigen-binding single-domain antibody fragments are also referred to as Nanobodies (Nbs) because of their size of 4 nm height by 2.5 nm in diameter.

Nanobodies are well produced in microbial systems, very robust and highly soluble. They bind their cognate antigen with high affinity and specificity. Very often the Nanobody recognizes an epitope that is difficult to target with human or mouse antibodies. The 'humanization' or 'PetizationTM' of Nanobodies is/should be straightforward. Probably, the largest advantages of Nanobodies come from their strict monomeric behavior, the ease to tailor them into larger pluripotent constructs and their functionality when expressed intracellularly.

Such beneficial properties of Nanobodies over other antigen-binding fragments from conventional antibodies inspired many researchers to employ Nanobodies as a versatile tool in various innovative applications in biotechnology and medicine as:

- a research tool to immune-capture the antigen from complex mixtures,
- a potent probe to trace (or eliminate) target antigen within living cells,
- an excellent diagnostic tool for non-invasive in vivo imaging of tumors, or inflammation
- a therapeutic tool to eradicate tumors or infections in animal models,
- an anti-venom to protect animals from scorpion or snake envenoming

Biography

Serge Muyldermans obtained a PhD at the 'Vrije Universiteit Brussel', Brussels, Belgium in 1982. He was a postdoc at this university at the time the functional Heavy-chain only antibodies were discovered in camelids. He developed a streamlined method to identify rapidly the antigen-specific, single-domain antibody fragments derived from the unique Heavy chain antibodies of cameldids, This technology was used to found Ablynx NV in December 2001, a Belgian private biotech company actively developing protein therapeutics based on single variable domains or NanobodiesTM and currently employing 300 people. In 2003, he became professor at the 'Vrije Universiteit Brussel' where he is heading the camel-antibody engineering group in the laboratory for Cellular and Molecular Immunology. Apart from using the Nanobodies as a research tool, we are developing some of our Nanobodies for in vivo diagnostics and for therapy.

svmuylde@vub.ac.be

Notes:

Bernard Faye, J Vet Sci Technol 2017, 8:4(Suppl)
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Bernard Faye

Independent camel expert, FAO consultant, France.

The current change in camel farming: the consequences on health status of the camels

At the world level, the camel farming is changing in many countries in relationship with 3 main drivers: The market integration of the camel products in a globalized and more urbanized world, the climatic changes leading to a scarcity of the natural resources and consequently to the intensification of camel production, and the growing interest for the camel products (especially milk and meat) due to their dietetic and medicinal properties (true or expected). Especially, the intensification of camel farming (in-door feeding, use of biotechnology of reproduction, milking machine, etc.) has a significant impact on the health status of the animal. Among the changes induced by the modern farming system, we can list the followings: The change from poor nutritive but diversified feeding in desert to monotonous but rich diet (energy-protein) with a decrease in the mobility; the early weaning of the camel calf for getting the milk; the concentration of the animals, formerly poorly gregarious and the use of techniques (for example milking machine) based on cow's management not necessary adapted to camel. Those changes could lead to the increasing risk of metabolic diseases, to the emergence of "diseases of production" (infertility, mastitis), and to a large dissemination of parasitic diseases (as mange for example). Face to these changes, the veterinarian has to develop investigations or specific approaches (like Ecopathology) to document the health status of the camels in this new context. Some examples are given in the present communication.

Biography

Bernard Faye was Scientific Project Manager in Animal Production sector at the International Cooperation Centre for Agronomic Research in Development (CIRAD-France) and currently, he is an independent International Camel Expert. He has obtained his Doctorate in Veterinary Medicine at Lyon (France) in 1974, then his MSc in Animal Nutrition and Endocrinology in 1980. After an eight-years African experience both in development (Niger) and in research (Ethiopia), he has obtained his PhD in Animal Epidemiology in 1995 (Paris University), then the habilitation to manage research team (HDR) at Montpellier University in 1998. After African period, he was Epidemiologist at the Ecopathology lab (National Agronomic Research Institute -INRA) at Clermont-Ferrand (France) and the Head of this lab for ten years. In 1996, he has joined CIRAD-Montpellier as the Head of Animal Production program. In 2010, he has joined FAO as Consultant in Saudi Arabia in the Camel Center at Kharj.

faye@cirad.fr

Notes:

Jagdish Lal Choudhary, J Vet Sci Technol 2017, 8:4(Suppl)
DOI: 10.4172/2157-7579-C1-024

Jagdish Lal Choudhary

Maharana Pratap University of Agriculture & Technology, India

Synergic effect of different levels of dietary energy on nutrient utilization, work performance, physiological reactions and biochemical attributes of draught camel

An experiment was conducted on nine draught camels (7-9 years old and 574 ± 10.7 kg BW) to study the effect of energy supplementation fed Moth Straw (Phaseolus acontifolius Jacq.) based diets along with various levels of energy in concentrate mixtures. The camels were randomly divided into 3 groups of 3 animals each and allotted 3 dietary treatments i.e. T1: 65% TDN in concentrate mixture, T2: 70% TDN in concentrate mixture and T3: 75% TDN in concentrate mixture along with dry moth straw fed ad libitum as sole roughage. The concentrate mixture was fed as per requirement of draught camels. The camels were subject to payload of 2.8 kg/kg body weight (18% BW) on a 2-wheeled camel cart. The camels covered 25.5 km distance in 2.65±0.02 to 3.19±0.03 hr at an average speed of 1.71±0.09 m/sec in a continuous work during winter season. The total dry matter intake (TDMI) was significantly (P<0.05) higher in T3 as compared to T2 and T1 groups while non-significant different was observed between T2 and T1 groups. The DCP and TDN intake was significantly (P<0.05) higher in T3 and T2 groups as compared to T1 group. The digestibility of DM, CP and NFE was higher (P<0.05) in draught camels fed on higher energy concentrate mixture but there was non-significant difference between the treatment for digestibility of OM, CF and EE. The DE and ME contents did not differ significantly among the treatment groups. All draught camels were trained to pull the multipurpose tool carrier two wheeled cart. The draught was varied by varying payload on the two-wheeled camel cart and hydraulic dynamometer was used for measuring the draught. The draught (kgf) and power output (hp) was highest (P<0.05) in T3 as compared to other treatment groups. The maximum variation in physiological responses was noted at 2.8 kg/kg body weight (18% BW) on a two-wheeled camel cart. However, increase in rectal temperature, respiration and pulse rate was 36.42±0.14, 37.73±0.13, 15.72±0.40, 18.92±0.13, 45.9±0.32, 49±0.02 before and after carting. The blood serum was collected and analyzed to change in the biochemical attributes before and after carting. The serum glucose, lactate, cholesterol and aspartate transaminase activity changed significantly (P<0.05) during draught of camels. The results indicated that the nutrient utilization and draught performance was better in camels fed higher energy levels in concentrate mixture and covered distance without any hurdle and tolerate the work stress efficiently without any apparent ill effect on the health.

Biography

J L Chaudhary is working as Professor and the Head at Department of Animal Production, Rajasthan College of Agriculture, Maharana Pratap University of Agriculture and Technology, India. His experience includes various programs, contributions and participation in different events for diverse fields of study. His research interests reflect in his wide range of publications in various national and international journals.

chaudharyjl@yahoo.com

Notes:

Turkey Shawaf, J Vet Sci Technol 2017, 8:4(Suppl)
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Turkey Shawaf

King Faisal University, Saudi Arabia

Analysis of serum and cerebrospinal fluid in clinically healthy dromedary camels (*Camelus dromedaries*)

Analysis of cerebrospinal fluid (CSF) is a valuable aid in the diagnosis of neurological disorders in man and animals. Previous reports documented the normal constituents of CSF in camel cadavers after slaughter. The purpose of the present paper was to establish a safe technique of sampling CSF from live camels and compare the obtained values with their serum constituents. An experimental design was performed in seven apparently healthy camels. There were 4 males and 3 females of 4-9 years old. The animals were clinically examined then blood samples were obtained from the jugular vein for serum biochemical analysis. Each camel was then sedated with an intravenous injection using 2% xylazine hydrochloride. The caudal part of the neck was aseptically prepared. CFS sample was withdrawn from the Atlanto-occipital articulation. Lateral radiographs of the neck were obtained while the needle was *in situ*. Eighteen biochemical parameters were determined from the serum and CSF of each camel. Serum had most of CSF tested parameters and was extremely significant in comparison to serum parameters. CSF parameters had lower concentration of all the studied parameters than the serum, except for the sodium and chloride. The mean value of sodium (150.3±1.70 mmol/l) and chloride (114.5±1.49 mmol/l) in CSF were significantly ($P<0.03$) higher than their mean values in serum; 154.5±0.92 mmol/l and 131.3±2.5 mmol/l respectively. Gender had no relevant effect on the most CSF measured parameters.

Biography

Turkey Shawaf is working at Department of Clinical Studies, College of Veterinary Medicine, King Faisal University, Saudi Arabia. His experience includes various programs, contributions and participation in different events for diverse fields of study. His research interests reflect in his wide range of publications in various national and international journals.

tshawaf@kfu.edu.sa

Notes:

Surong Hasi, J Vet Sci Technol 2017, 8:4(Suppl)
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Surong Hasi

Inner Mongolia Agricultural University, China

Study on in vivo activities of CYP3A enzyme in Bactrian camel with specific probe drug

The aim of the research is to study the in vivo activities of Bactrian camels' CYP3A enzymes by investigating the pharmacokinetic characteristics of CYP3A specific probe drug Midazolam in Bactrian camel, and the effect of Itraconazole on the pharmacokinetic behavior of Midazolam was studied simultaneously. Firstly, five healthy adult Bactrian camels were intramuscularly injected with the single dose of 0.1 mg/kg Midazolam, and then blood samples were collected from the jugular vein at different time following the administration. Secondly, after 7 days drug clearance period, these five experimental camels were injected intramuscularly with the single dose of 0.1 mg/kg Itraconazole for 4 consecutive days, and following 2 h of last injection, Bactrian camels were administered intramuscularly with the single dose of 0.1 mg/kg Midazolam again. Blood samples were collected by same route and same intervals as previous, and the plasma was separated by centrifugation. The plasma concentration of Midazolam was determined high performance liquid chromatography-UV detection, and the pharmacokinetic parameters of Midazolam were analyzed by WinNonLin 7.0 with non-compartmental model. The pharmacokinetic parameters of Midazolam in group probe drug only and in group enzyme inhibitor plus probe drug were as follows: the $T_{1/2}$ was 2.5±0.073 h and 3.674±0.29 h, T_{max} was 0.85±0.09 h and 0.54±0.06 h, C_{max} was 0.62±0.12 μg/mL and 0.80±0.06 μg/mL, AUC_{0-t} was 1.47±0.35 h•μg/mL and 2.15±0.15 h•μg/mL, V_d was 259.17±41.29 mL/kg and 152.09±22.49 mL/kg, CL was 53.46±14.25 mL/h/kg and 34.3±5.13 mL/h/kg, and MRT was 3.71±0.16 h and 4.60±0.52 h, respectively. Therefore, all the $T_{1/2}$, T_{max}, C_{max} and MRT of Midazolam in Bactrian camels were relatively low which indicated that Bactrian camels' CYP3A enzyme possess high activity on metabolism of Midazolam. Furthermore, the CYP3A enzyme was significantly inhibited by Itraconazole which can increase the $T_{1/2}$, C_{max}, AUC and MRT, and can reduce the T_{max} of Midazolam in Bactrian camel.

Biography

Surong Hasi is currently working as a professor in college of veterinary medicine, inner mongolia agricultural university, and is a director of camel protection association of Inner Mongolia. His research interests are mainly focused on the pharmacokinetic characteristics of veterinary drugs in different species, drug-drug interactions in animals, pharmacological activities of camel milk and Bactrian camel CYP enzymes.

baohaas@163.com

Notes:

Guleng Amu, J Vet Sci Technol 2017, 8:4(Suppl)
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Guleng Amu

Inner Mongolia Agricultural University, China

Pharmacokinetics of specific probe drugs of CYP1A enzyme: The acetaminophen in Bactrian camels

Acetaminophen is a medication used to treat pain and fever, also is a specific probe substrate of CYP1A enzyme. The pharmacokinetic characteristics of Acetaminophen in Bactrian camels were studied in this paper. The experimental Bactrian camels were randomly divided into two groups: group probe drug only and group enzyme inhibitor plus probe drug, respectively. A crossover design was carried out in two experimental periods following 15 days of drug clearance period. Acetaminophen was intramuscularly injected to 6 female camels by 4 mg/kg in group probe drug only, and equal number of female camels was intramuscularly administered by 4 mg/kg of Acetaminophen following 4 consecutive days of intramuscular administration of lomefloxacin by 0.4 mg/kg in group enzyme inhibitor plus probe drug. And then the blood samples were collected at different time intervals after administration of Acetaminophen, and the plasma was separated by centrifugation. The plasma concentration of Acetaminophen was determined by high-performance liquid chromatography (HPLC) after the samples' protein was precipitated by methanol directly, and the pharmacokinetic parameters of Acetaminophen were calculated by WinNonLin 7.0. The pharmacokinetic parameters of Acetaminophen in group probe drug only and in group enzyme inhibitor plus probe drug were as follow: the elimination half-life (T1/2) was 7.34±0.57 h and 8.98±0.31 h, the time to peak concentration (T_{max}) was 1.70±0.51 h and 0.833±0.31 h, the maximum plasma concentration of (C_{max}) was 1.27±0.83 μg/mL and 1.53±0.46 μg/mL, the area under the curve (AUC_{0-t}) was 7.60±0.45 μg•h/mL and 10.71±0.25 μg•h/mL, the apparent volume of distribution (V_d) was 3787.81±236.37 mL/kg and 2885.98 ±73.11 mL/kg, the clearance (CL) was 359.35±33.49 mL/h/kg and 222.75±8.79 mL/h/kg, and the mean residence time (MRT)was 10.35±0.84 h and 13.04±0.55 h, respectively. Therefore, the Acetaminophen was rapidly absorbed and slowly eliminated by Bactrian camel, and the Bactrian camels' CYP1A enzyme was significantly inhibited by lomefloxacin which can increase the $T_{1/2}$, C_{max}, AUC and MRT of Acetaminophen and reduce the T_{max} of Acetaminophen in Bactrian camel of China.

Biography

Guleng Amu is currently working as a Professor in College of Science, Inner Mongolia Agricultural University. Her research interests are mainly focused on Biomedical Engineering and Biological Physics.

amoolg@163.com

Notes:

Amit Sangwan, J Vet Sci Technol 2017, 8:4(Suppl)
DOI: 10.4172/2157-7579-C1-024

Amit Sangwan

Lala Lajpat Rai University of Veterinary and Animal Sciences, India

Computed tomographic and radiographic imaging of stifle joint of camel (*Camelus dromedarius*)

Computed radiography and computed tomographic scanning of normal stifle joint of camel obtained from cadaver was studied and compared. The radiography revealed only the bony structures involved in the joint whereas CT scan revealed both bony and soft tissues. Lateral, cranio-caudal and caudo-cranial radiographs were taken which revealed all bones and articular surfaces of stifle joint, CT scan studies were done on 3D, transverse and sagittal sections. Medial patellar ligament was not evidenced, however the medial femoropatellar ligament was distinguishable. Other important anatomical structures evidenced were cranial and caudal cruciate ligament, medial collateral ligament, lateral patellar retinaculum, middle patellar ligament, attachments of lateral and medial menisci and most of the associated muscles around stifle joint. CT scan also revealed the bony structures of the joint i.e. femoral trochlea, femoral condyles, tibial condyles, intercondylar tubercles, patella, tibial tuberosity etc. the purpose of this study was to provide a detailed computed tomographic anatomic reference for the dromedary stifle joint.

Biography

Amit Sangwan working at Lala Lajpat Rai University of Veterinary and Animal Sciences, India. His research interests reflect in his wide range of publications in various national and international journals.

90amitsangwan@gmail.com

Notes:

7TH INTERNATIONAL VETERINARY CONGRESS

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Session Chair
Ramesh C. Gupta
Murray State University, USA

Session Co-Chair
Krisztina Kungl
University of Veterinary Medicine, Hungary

Session Introduction

Title: **Studying basal blood plasma catecholamine concentrations in donkey (*Equus asinus*)**
Aristide Maggiolino, University of Bari, Italy

Title: **Dietary inclusion of *Pistacia terebinthus* (terebinth) seed in layer diet and its impact on internal egg quality parameters during different storage time**
Abdur Rahman, University of Veterinary and Animal Sciences, Pakistan

Title: **Anti-fasciolic effect of *Nigella sativa* and Fumaria parviflora in naturally infected buffaloes**
Asma Waheed Qureshi, Abdul Wali Khan University, Pakistan

Title: **Chemical detoxification of AFB1 in experimental quails using commercially available toxin binders**
Muhammad Younus , University of Veterinary and Animal Sciences, Pakistan

Title: **Presence of *Salmonella* spp. in ground beef and cattle meatball**
Belgin Siriken, Ondokuz Mayis University, Turkey

Title: **Investigation of probiotic properties of chicken originated *Enterococcus faecium* and Lactobacillus species**
Alper Ciftci, Ondokuz Mayis University, Turkey

Title: **The investigation of the effects of cholesterol and *Lactobacillus acidophilus* on some biochemical parameters in rats**
Gulay Ciftci, Ondokuz Mayis University, Turkey

Title: **Antioxidant activities, phenolic compounds, and vitamin C contents of green, red, and yellow pepper fruits**
Hussein A. Abdel-aal, Minia University, Egypt

Aristide Maggiolinoi et al., J Vet Sci Technol 2017, 8:4(Suppl)
DOI: 10.4172/2157-7579-C1-024

Studying basal blood plasma catecholamine concentrations in donkey (*Equus asinus*)

Aristide Maggiolino
University of Bari, Italy

Statement of the Problem: Catecholamines are among the most frequently investigated parameters for studying short-term welfare problems providing information regarding sympathoadrenal activity in response to acute stress conditions. The aim of the study was to evaluate levels of basal plasma catecholamines (adrenaline, noradrenaline and dopamine) in healthy donkeys.

Methodology & Theoretical Orientation: A total of 962 Martina Franca donkeys were used for this study: 684 females and 278 males, aged from 4 months to 24 years. Animals were subdivided into four age categories: under 12 months old, from 13 to 36 months, from 37 to 120 months and over 120 months. Blood samples were collected from jugular vein. At sampling, donkeys' reaction was evaluated and subdivided into 3 different categories: no reaction; donkeys move the head; and donkeys tend to flee. The dataset of animals with 'no reactions' was used to calculate confidence intervals and was subjected to two-way ANOVA considering age and as independent variables to describe basal catecholamines values. The whole dataset was subjected to one-way ANOVA considering reaction as independent variable. Moreover, Pearson's correlation coefficients between the 3 catecholamines were also evaluated.

Findings: Confidence intervals (CI) for noradrenaline concentration ranged between 239.98 ng/L and 255.07 ng/L, for adrenaline between 129.27 ng/L and 137.90 ng/L, dopamine concentrations between 149.62 ng/L and 160.80 ng/L and noradrenaline/adrenaline ratio between 1.91 and 2.05. Age and reaction to sampling affect catecholamine concentrations.

Conclusion & Significance: Catecholamines are particularly sensible and respond to minimal acute stress. Younger animals were probably more sensitive to contact with humans, considering that older animals are more used to being near man. However, when catecholamines are measured, it is necessary to observe also animal reaction to blood collection because could be itself cause of level alteration.

Biography

Aristide Maggiolino is a Research Fellow in Animal Science at the Department of Veterinary Medicine of Bari University "A. Moro" (Italy). In the last years his researches focused on equid production, both for milk and meat from horses and donkeys. Several draught horses, such as donkey's breeds risk extinction are nowadays endangered for the lack of an economically sustainable use. The main aim of his research is the evaluation of catecholamine plasma levels in donkeys because of their involvement as indicator of acute stress, considering innovation that this species is going to live for new techniques and technologies introduced in farm management.

aristide.maggiolino@uniba.it

Notes:

Abdur Rahman et al., J Vet Sci Technol 2017, 8:4(Suppl)
DOI: 10.4172/2157-7579-C1-024

Dietary inclusion of Pistacia terebinthus (terebinth) seed in layer diet and its impact on internal egg quality parameters during different storage time

Abdur Rahman[1], Ismail Bayram[2], Eyup E Gultepe[2],Cangir Uyarlar[2], Amir Iqbal[2], Suleyman Hacısalihoglu[2], Ümit Ozçınar[2] and **Ibrahim S Cetingul [2]**
[1]UVAS, Pakistan
[2]AKU, Turkey

Statement of the Problem: Egg quality losses during storage period from laying to transportation pose hazardous damage to farm economics. Sustainability and maintenance of internal egg quality can be achieved by alternative therapy like herbal and plants products. Current study was designed to investigate the effects of dietary supplementation of Pistacia terebinthus seed meal in laying hens on egg quality traits during different storage time. Methodology & Theoretical Orientation: For this purpose a total of 192 Babcock white laying hens were divided into 6 groups with 4 subgroups in each and fed diets containing 0, 10, 20, 30, 40 and 50 g kg-1 terebinth (Pistacia terebinthus) to each group accordingly. At the end of experiment, 48 eggs were collected from each group at 2 consecutive days. From the first day collection, 12 eggs from each group was analysed on the same day without storage. Remaining eggs were stored at +4°C. Then after 10, 20 and 30 days of storage, 12 eggs from each group were analyzed for internal egg quality parameters. Findings: Results revealed that terebinthus has shown significantly positive effect ($P<0.05$) on haugh unit values at 20 g kg-1 and 40 g kg-1 inclusion rate at days 30 of storage. Similarly, yolk color index value was also increased ($P<0.05$) at 3% inclusion level of terebinthus at days 20 of storage while egg shell breaking strength and egg weight remained unaffected ($P>0.05$) at various dose levels during different storage duration. Conclusion & Significance: It is concluded that terebinthus seed meal could be used to extend the storage time of eggs without adverse effects on quality of eggs.

Biography

Abdur Rahman is Lecturer in Animal Nutrition section at College of Veterinary and Animal Sciences, Jhang (Sub Campus UVAS, Lahore) and holds DVM Degree, MPhil and PhD in Animal Nutrition. He has more than seven years teaching experience at UVAS, Lahore and CVAS, Jhang. He is actively engaged in teaching and research. He has worked in many research projects at Pakistan and Turkey. He has published more than 15 research papers in international journals. He is providing services to different livestock farmers as well.

abdurrehman@uvas.edu.pk

Notes:

Asma Waheed Qureshi et al., J Vet Sci Technol 2017, 8:4(Suppl)
DOI: 10.4172/2157-7579-C1-024

Anti-fasciolic effect of *Nigella sativa* and Fumaria parviflora in naturally infected buffaloes

Asma Waheed Qureshi[1], **Akhtar Tanveer**[2] and **Azhar Maqbool**[3]
[1]Abdul Wali Khan University, Pakistan
[2]University of the Punjab, Pakistan
[3]RIPAH International University, Pakistan

In present study *Nigella sativa* (seeds) and *Fumaria parviflora* (aerial), were used to treat buffaloes naturally infected with fasciolosis and their efficacy (%) was compared. In vivo, pre-and post-treatment (50 mg, 100 mg and 150 mg/kg body weight of the two medicinal plants) fecal egg-counts were determined following standard fecal egg count reduction in buffaloes (Babulus sp.) of Nili Ravi breed naturally parasitized with Fasciola sp. The infected buffaloes were randomly divided into 3 main groups i.e., A, B and C. Animals in groups A and B were further sub divided into three sub groups i.e., A1, A2, A3; B1, B2, B3. Sub-groups A1 and B1 were given dose level of 50 mg/kg body weight, A2, and B2, 100 mg while A3 and B3, 150 mg/kg body weight of *Nigella sativa* (seeds) and Fumaria parviflora (aerial), respectively. The group C having infected animals served as control. The two medicinal plants were found significantly ($P<0.05$) effective (42-100%) and safe to use against fasciolosis.

Biography

Asma Waheed Qureshi is working at Department of Zoology, Abdul Wali Khan University, Mardan, Pakistan. Her experience includes various programs, contributions and participation in different countries for diverse fields of study. Her research interests reflect in her wide range of publications in various national and international journals.

asmawqureshi@yahoo.com

Notes:

M. Younus et al., J Vet Sci Technol 2017, 8:4(Suppl)
DOI: 10.4172/2157-7579-C1-024

Chemical detoxification of AFB1 in experimental quails using commercially available toxin binders

M. Younus[1], **S. Mahmood**[1], **A. Aslam**[1], **A.A. Anjum**[2], **A. U. Khan**[2], **A. Idrees**[1] and **M.L. Sohail**[3]
[1]Department of Pathology, University of Veterinary and Animal Sciences, Lahore (54000), Pakistan
[2]Department of Microbiology, University of Veterinary and Animal Sciences, Lahore (54000), Pakistan
[3]Department of Clinical Medicine and Surgery. University of Veterinary and Animal Sciences, Lahore

AFB1 causes public health hazards by affecting 25% of world's food crops. For optimum production performance from poultry, proper detoxification of AFB1 in feed is mandatory. This study was designed to analyze the chemical detoxification potential of four commercially available toxin binders (activated charcoal, kaolin, vitamin E and selenium, myco-AD) in experimental quails fed with AFB1 added diets. For this purpose, 360 quail birds (divided in 6 groups) were reared in experimental conditions. Positive and negative control groups were fed basal diet and basal diet with 0.5mg/kg AFB1, respectively. Treatment groups were fed 4 different experimental diets with 0.5 mg/kg of AFB1 contamination and chemical binders added according to recommended dose rate. Growth parameters (feed intake, body weight gain & feed conversion ratio), hematology (hemoglobin, hematocrit, erythrocyte sedimentation rate, total leukocyte count), immune response and histopathology of soft organs (liver, kidney, lungs) of all the experimental birds were weekly recorded for 6 weeks and results were analyzed by Repeated Measure of ANOVA and Duncan Multiple Range Test. Results showed significant reduction in all the deleterious effects of AFB1 in all the tested parameters during the course of study. All the toxin binders brought significant changes ($P < 0.05$) in tested parameters. The active ingredient of Myco AD (Hydrated sodium calcium aluminosilicate, HSCAS) and Vitamin E and selenium were found as better detoxifying agent among the toxin binders used in this study. This study reports the success of commercially available toxin binders as chemical detoxification agent for the quails, an emerging protein source in thickly populated developing countries.

Biography

Muhammad Younus has completed his PhD at the age of 38 years from University of Veterinary & Animal Sciences, Lahore and postdoctoral studies from University of Minnesota, USA. He is the Principal of College of Veterinary & Animal Sciences, Jhang Sub-Campus, University of Veterianry & Animal Sciences, Lahore-Pakistan. He has published more than 135 papers in reputed international journals and has been serving as Professor of Pathology & Public Health. He has won at least six academic merit scholarships, Star Award 2009 by South Asians Publications, Excellence Award 2013, 2014, 2015 and 2016 by PVMC and PVMA, Research Productivity Award 2013, 2014 and 2015 by PCST, Govt. of Pakistan, Best University Teacher Award 2014 by HEC, Islamabad. Distinguished leadership award international, 2016 by University of Minnesota, USA.

younusrana@hotmail.com

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Belgin Sırıken et al., J Vet Sci Technol 2017, 8:4(Suppl)
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Presence of *Salmonella* spp. in ground beef and cattle meatball

Belgin Sırıken[1], **Ceren Yavuz**[2] and **Tuba Yıldırım**[2]
[1]Ondokuz Mayis University, Turkey
[2]Amasya University, Turkey

Statement of the Problem: Nowadays, millions of people have died because of the foodborne diseases. Cattle origin meats have also important role in human salmonellosis. The aim of this study was to determine *Salmonella* spp. in ground beef and raw meatball (cattle origin) samples consumed in Amasya province, Turkey.

Methodology & Theoretical Orientation: In the study, a total 100 samples (50 ground beef and 50 meatball samples) randomly collected from supermarkets and butchers in Amasya province were analyzed. Two enrichment step classic culture technique was applied for the microbiologic isolation. For the isolation, Buffered Peptone Water (BPW) was used for pre-enrichment step and Rappaport Vassiliadis Broth (RV-Broth) was applied for selective enrichment step and Xylose Lysine Tergitol 4 (XLT4 with supplement) was used for the selective agar. For the confirmation of the isolates in molecular levels, single target PCR assay was used. For this purpose, *invA* and *oriC* genes were determined in the isolates.

Findings: *Salmonella* spp. were determined in 6 (6%) of samples. Distribution of 6 samples; 4 (n=50, 8%) of 6 was determined in ground beef samples and 2 (n=50, 4%) of 6 was determined in meatball samples.

Conclusion & Significance: Global incidence of *Salmonella* spp. infections in humans has shown a significant increase. There have been various *Salmonella* isolation ratio of ground beef and meatball samples reported from different part of the world, and the results are changing from 0.0% to 26.7%. In the Turkey, *Salmonella* spp. contamination ratio is changing from 0.0% to 18.0%. Our study results are between these ratios. To our knowledge, there has not been a study on this matter. As a result, ground beef and meatballs were contaminated with the most widespread foodborne bacteria, *Salmonella* spp. These kinds of samples may be a potential vehicle of transmission of Salmonella spp. to humans. Therefore, it is determined that *Salmonella* could be threat to public health via consumed ground beef or meatball samples.

Biography

Belgin Sırıken is an expert in Food Microbiology, Safety and Chemical Properties of Particularly Animal Origin Foods. She has completed her PhD at Ankara University, and now she is working as Prof. Dr. at Ondokuz Mayis University, Samsun, Turkey. Her focus is on Molecular Food Microbiology.

bsiriken@omu.edu.tr
bsiriken@yahoo.com

Notes:

Alper Ciftci et al., J Vet Sci Technol 2017, 8:4(Suppl)
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Investigation of probiotic properties of chicken originated *Enterococcus faecium* and *Lactobacillus* species*

Alper Ciftci and **Yagmur Kocak**
Ondokuz Mayis University, Turkey

Statement of the Problem: In this study, the isolation of *Lactobacillus* spp. and *Enterococcus faecium* and investigation of usage potential of isolated bacteria as probiotic were aimed.

Methodology & Theoretical Orientation: In a study, 50 chicken intestines were investigated which were taken from a commercial chicken slaughter house in Samsun region. The samples were taken from intestine mucosa and inoculated to the selective mediums for the isolation of *Lactobacillus* spp. and *E. faecium*. Suspected colonies were identified by PCR. The isolated bacteria were investigated for bile (0.5-1%) and pH (3-5) resistance by bile and pH tolerance tests, respectively. The hydrophobicity's of the isolates were tested by using 0.03% Congo Red Agar. The antibiotic resistances of the isolates were determined by Agar Gel Disc Diffusion Test with using 9 antibiotic discs. The Radial Diffusion Method was used for determining the antagonistic effects of the isolates against *Escherichia coli*.

Findings: Twenty E. *faecium*, 21 *Lactobacillus* spp. (9 of them were L. *acidophilus*) isolated from samples. All the isolates were found as resistant to tested bile and pH conditions. All the isolates were hydrophobic, but none of them had an antagonistic effect against *Escherichia coli*. Eight of E. *faecium* isolates were found as resistant to 8 antibiotics. One *Lactobacillus* spp. (other than L. *acidophilus*) and 1 L. *acidophilus* isolates were resistant to 5 and 7 antibiotics, respectively. These isolates were evaluated as multi-antibiotic resistant strains.

Conclusion & Significance: In conclusion, we evaluated that all the isolates were hydrophobic, resistant to bile and low pH conditions; but none of them had an antagonistic effect against *Escherichia coli* in tested conditions. These results indicated that the multi-antibiotic resistant strains of *E. faecium, L. acidophilus* and *Lactobacillus* spp. isolates had a potential of using as a probiotic and further in vivo studies had to be essential for these strains.

*This work is supported by Scientific Research Projects Commission of Ondokuz Mayis University (Project No: PYO.VET11904.16.016).

Biography

Alper Ciftci is an expert in Molecular Microbiology and Vaccine Development. He has completed his PhD at Ankara University, and now he works as Associate Professor at Ondokuz Mayis University, Samsun, Turkey. He focuses on working development and validation of commercial products such as vaccine and diagnostic kits.

aciftci@omu.edu.tr

Notes:

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The investigation of the effects of cholesterol and *Lactobacillus acidophilus* on some biochemical parameters in rats*

Gulay Ciftci, Umit Ozcan, Burcu Onuk, Murat Guzel, Metin Cenesiz and Alper Ciftci
Ondokuz Mayis University, Turkey

Statement of the Problem: The investigation of the effects of the administration of *Lactobacillus acidophilus* to rats fed with 2% cholesterol on the changes in total protein (TP), albumin (Alb), total cholesterol (TC), triglyceride (TG), low density lipoprotein (LDL), oxidized low-density lipoprotein (Ox-LDL) and high-density lipoprotein (HDL) was aimed.

Methodology & Theoretical Orientation: The animal material comprised of 30 adult-male-Sprague-Dawley-rats. Rats were divided into three groups. Control group (C) was fed with standard rat food for 8 weeks. Hypercholesterolemic group (HC) was fed with a ration comprising of the food with 2% cholesterol for 8 weeks. Hypercholesterolemic and probiotic-administrated group (HCL) was fed with a ration comprising of food with 2% cholesterol for 8 weeks and fed orally with $2x10^8$ cfu/ml/day *L.acidophilus* probiotic for the last 4 weeks of the trial. At the end of 8 weeks, the serum levels of TP, Alb, TC, TG, LDL and HDL were detected by auto-analyzer. The level of Ox-LDL was measured by ELISA in brain supernatants.

Findings: The slightly increase of TP level ($p>0.05$) in HC group was determined compared to control group. In HCL group, this level slightly decreased ($p>0.05$). The changes in albumin level among the groups were not significant ($p>0.05$). It was detected that TC level in HC group increased ($p<0.05$); but in HCL group, it decreased and approached to the level of control group ($p<0.05$). The TG level in HC group increased compared to control group ($p<0.05$); but in HCL group, it decreased compared to HC group ($p<0.05$). It was determined that the level of HDL in HC group decreased compared to control group ($p<0.05$), but increased in HCL group ($p>0.05$). The changes in Ox-LDL level in HC group was determined as increased compared to control group ($p<0.05$); but in HCL group, it decreased compared to HC group ($p<0.05$).

Conclusion & Significance: It was thought that the administration of *Lactobacillus acidophilus* as a probiotic might be useful in reducing the cholesterol level.

* This study was supported by the Scientific and Technological Research Council of Turkey (TUBITAK) (Project No: 115O908)

Biography

Gulay Ciftci is an expert in Molecular Biochemistry and Proteomics. She has completed her PhD at Ankara University, and now she works as Associate Professor at Ondokuz Mayis University, Samsun, Turkey. She focuses on working hormones, proteins and genes.

gciftci@omu.edu.tr

Notes:

Hussein. A. Abd El-aal et al., J Vet Sci Technol 2017, 8:4(Suppl)
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Antioxidant activities, phenolic compounds, and vitamin C contents of green, red, and yellow pepper fruits

Hussein. A. Abd El-aal[1], **Areeg S. Aly**[2] and **Reham G. Abdelsabour**[2]
[1]Department of Food Science, Minia University, Minia, Egypt,
[2]Department of home economic, Faculty of Specific Education, Minia University, Minia, Egypt

Pepper is an important crop in the world, because of its economic importance, also due to the nutritional and medicinal value of its fruits and spices used as food flavorings. Their fruits are considered a good source of antioxidant and biologically active compounds, such as carotenoids, flavonoids, vitamins, capsaicinoids and mineral elements. The objective of this study was to evaluate the antioxidant activity and vitamin C content of different color pepper fruits. Three sweet pepper cultivars (*Capsicum annuum L.*), blocky Red, blocky Yellow and green, and one hot (*Capsicum frutescens*) tabasco green and ripped tabasco (red). Proximate composition, total soluble solids, vitamin C content and color (L, a, b) were determined. Ether extracts were studied to evaluate total phenolic compounds, total flavonoids, and 1,1-diphenyl-2-picrylhydrazyl (DPPH) radical scavenging activity. Tabasco red had the highest value of total solids (10.83%), protein (2.16%), ash (1.06%) and vitamin C (215.05mg/100g) fresh matter. Total phenolic contents ranged from 214.3to 489.7mg as garlic acid/100g, and total flavonoids ranged from 186.1 to 467.2 mg as quarestin/100g fresh sample, respectively. Ripped tabasco red had significantly ($P \leq 0.05$) higher value of DPPH scavenging activity (78.65 %) than other samples. Green had lower content of total phenolic compounds , vitamin C, and antioxidant activity than yellow and red samples.These results illustrate that red pepper had high content of total phenolic, flavonoids and vitamin C and exhibit strong antioxidant activity.

Biography

Hussein. A. Abd El-aal working at Department of Food Science, Minia University, Minia, Egypt. His experience includes various programs, contributions and participation in different events for diverse fields of study. His research interests reflect in his wide range of publications in various national and international journals.

huss_galil@yahoo.com

Notes:

Alessandro Di Cerbo, J Vet Sci Technol 2017, 8:4(Suppl)
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Unexpected high concentration of antibiotic residues in sera of cats

Alessandro Di Cerbo
University G. d`Annunzio of Chieti-Pescara, Italy

Food allergies and food intolerances are clinically difficult to discriminate and are classified as adverse food reactions, whose causes are numerous. We evaluated the effect of a nutraceutical diet in relieving evident clinical symptoms related to cutaneous adverse food reactions such as drooling, back and neck intense itching, neck eczema, chronic conjunctivitis and stomatitis and skin lesions in 18 indoor-housed clients-owned cats. Cytological evaluations of ear, skin and gingival swabs revealed an increased turnover of keratinocytes while the oxytetracycline ELISA determination showed an unexpected high amount of oxytetracycline in all cats at the first visit. All cats were then randomly assigned to receive a standard (SD group) or a nutraceutical diet (ND group) for 60 days. We observed a significant reduction of the mean serum concentration of oxytetracycline, pruritus intensity and skin lesion severity ($p<0.01$, $p <0.001$, and $p<0.001$, respectively) in the ND group as well as a significant improvement in the clinical picture. Although a direct correlation between oxytetracycline presence within cat sera and CAFR-related symptoms has never been described, this study highlights the benefit of a specific nutraceutical diet supplementation in improving clinical symptoms and skin lesions in cats with CARF.

Biography

Alessandro Di Cerbo has obtained his Bachelor's degree in Medical and Pharmaceutical Biotechnologies at University Vita-salute San Raffaele (Milan, Italy) in 2005. In 2007 he has achieved his Master's degree in Medical Biotechnology at University of Modena (Italy), in 2011 he has obtained the title of PhD in Nanoscience and Nanotechnology at the same University and in 2016 he got the Specialization in Clinical Biochemistry at University "G. d'Annunzio" of Chieti (Italy). His scientific activities are highly interdisciplinary, ranging from nanotechnology to nanomedicine, microbiology, nutrition and translational medicine. He has published more than 50 papers in reputed journals.

alessandro811@hotmail.it

Notes:

Shehla Gul Bokhari et al., J Vet Sci Technol 2017, 8:4(Suppl)
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Sonographic findings in horses affected with tendinopathies and associated soft tissue injuries of various joints, from Lahore, Pakistan

Shehla Gul Bokhari, Saima Masood, Azmat Ullah, Sadaf Aslam, Aamir Noor and **Umair Israr**
University of Veterinary and Animal Sciences, Lahore

In this study, tendinopathies and other soft tissue injuries were assessed in horses, in Lahore, Pakistan. Forty-eight horses were randomly selected and divided into three equal groups (n=16) i.e. Group A (Race), Group B (Polo) and Group C (Draft-purpose); each group was further subdivided into two equal sub-groups i.e. sound (n=8) and unsound (n=8). Soft tissue structures from various joints including elbow, carpus, fetlock, stifle, hock, and flexor tendons were scanned based on various sonographic parameters, including echogenicity, fiber alignment, severity of injury, soundness via ultrasound and the degree of prognosis, respectively. The results showed that echogenicity of lesions was highly significant (P≤0.014) in Groups A and B. Fiber alignment was also highly significant for Group B (Polo), followed by Group A (Race Horses), and significant for Group C (Draft-purpose). Severity of injury was highly significant (P≤0.003) for both Groups A and C. Soundness via ultrasound was highly significant for all three groups (P≤0.002 for Race and Polo, and (P≤0.012 for Draft Purpose); whereas status of prognosis was highly significant for Group A (P≤0.001), followed by Groups B and C (P≤0.006). Conclusively, injuries were more pronounced in Race horses, followed by Polo horses and subsequently Draft purpose horses.

Biography

Shehla Gul Bokhari is a PhD in Veterinary Small Animal Surgery. She additionally has expertise in small animal ultrasonography. She is the first one to launch equine tendon sonography in Pakistan. She holds 13 years of teaching, clinical and research experience. Currently, she works as Assistant Professor, at the Pet Hospital of University of Veterinary and Animal Sciences, Lahore, Pakistan.

shehla.gul@uvas.edu.pk

Notes:

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Sonographic determination of liver size and correlations with body surface area in hepatitis-afflicted dogs

Shehla Gul Bokhari, Imran Hussain, Sadaf Aslam, Muhammad Awais, Abid Hayat, Saima Masood and **Raheela Akhtar**
University of Veterinary and Animal Sciences, Pakistan

In Pakistan, sonographic findings regarding liver problems in pets have not yet been reported. This study characterized the various stages of liver disease for precise prognosis and treatment prospects in dogs in Lahore city. Liver size was sonographically ascertained and correlated with laboratory findings in 21 client-owned dogs divided into three groups (A, B, C), n=7. Group A comprised of healthy dogs which served as control. Group B comprised of dogs scanned for acute hepatitis, while Group C comprised of dogs suffering from chronic hepatitis. Based on presenting clinical findings, liver was scanned in B-mode using 5.0 MHz transducer. Hematology and biochemistry profile were assessed and body surface area calculated. Hypoproteinemia and bleeding diathesis supervened in hepatitis-afflicted dogs (Groups B and C), manifested by a significant decrease in albumin and platelet counts ($P<0.00$), and prolonged prothrombin time (PT) and APTT ($P<0.00$). ALT showed a significant increase ($P<0.028$) while increase in bilirubin was highly significant ($P<0.00$) for both Groups B and C. Correlation analysis between sonographically determined liver size and body surface area (BSA) revealed a strong correlation (0.9) between liver size and BSA in the acute hepatitis group, moderate (0.6) correlation in the Control Group; while, the Chronic Hepatitis Group C depicted a negative correlation (-0.5). Conclusively, sonographic liver size correlated well with BSA and with laboratory findings and the clinical picture. Conclusively, sonographic findings correlate well with clinical picture in acute and chronic hepatitis in dogs.

Biography

Shehla Gul Bokhari is a PhD in Veterinary Small Animal Surgery. She additionally has expertise in small animal ultrasonography. She is the first one to launch equine tendon sonography in Pakistan. She holds 13 years of teaching, clinical and research experience. Currently, she works as Assistant Professor, at the Pet Hospital of University of Veterinary and Animal Sciences, Lahore, Pakistan.

shehla.gul@uvas.edu.pk

Notes:

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Production of pashmina (cashmere) goat through handmade cloning technique using continuous culture system

Riaz Shah, Abrar Malik, Maajid Bhat, Firdous Khan, Syed Hilal, Mujeeb Fazili, Mudasir Andrabi, Nadeem Shabir and Nazir Ganai
SKUAST Kashmir, India

Statement of the Problem: Pashmina (cashmere) goat is among the few species of livestock which can survive in their inhabitant harsh cold arid climate. This goat produces world's finest fibre. Due to high risk of genetic loss via inbreeding, reproductive technologies need to be implemented. Cloning is the fastest way to multiply the limited superior germplasm. Handmade cloning (HMC) is an alternative method of cloning which eliminates the use of costly sophisticated micromanipulator tools demanding greater degree of skill, in comparison to SCNT. The present study was designed to optimize *in vitro* continuous culture system for development of zona free handmade cloned pashmina goat blastocysts and they're *in-vivo* development after laparoscope aided intra uterine transfer into synchronized recipients.

Methodology & Theoretical Orientation: Skin derived fibroblasts at 5th to 9th passage was used as nucleus donor cells for HMC experiments. Cumulus–oocyte complexes (COCs) were *in vitro* matured and stripped of their cumulus investment and zona pellucida. Protrusion cone-guided bisection was performed for enucleation. Electro-fusion was carried out to generate triplets (two demicytoplasts and a donor cell). The reconstructed zygotes were then activated and cultured in different experimental groups wherein we compared different culture media and culture systems. The blastocysts were transferred into synchronized recipient goats by laparoscope aided transfer technique. Pregnancies were diagnosed through USG after 45 days of transfer. Identification and confirmation of the clone born was performed via microsatellite marker analysis.

Findings: The cleavage and blastocyst rates were determined at day 7 of embryo culture. G1. G2 medium gave the best cleavage percentage (86.84±2.26) while as RVCL (commercial medium from Cook^{TM}, Australia) gave the best blastocyst percentage (15.01±4.58). WID (well in drop) culture system was found to be most efficient with highest cleavage and blastocyst percentages i.e., 84.34±4.15 and 21.65±1.69 respectively. On day 45 post embryo transfer into 19 receipients, 3 pregnancies were detected out of which only one carried to term.

Conclusion & Significance: Using cost effective HMC technique, we successfully report the live birth of first handmade cloned cashmere goat. The birth weight of the cloned kid was 2.4 kg, like female kids from naturally bred Pashmina goats during the same period. No significant differences in growth rate between cloned goat and naturally bred goats (1.2 kg/month) were observed till it reached sexual maturity. Also, estrous cycle of the cloned goat was observed to be normal and bred normally. In our study, the embryos were cultured in a serum free media which could explain the normal birth weight of the cloned kid. Microsatellite analysis confirmed that the cloned kid was genetically identical to the fibroblast cell donor dam. In conclusion, this study elucidated the production of hand-made cloned blastocysts using a continuous culture system and birth of healthy cloned kid from Pashmina goat

Biography

Riaz Shah has completed his Graduation in Veterinary Sciences and Master's/PhD degree in Animal Biotechnology with specialization in Livestock Reproductive Biotechnology and Post-doctoral experience from AgResearch Ltd., Ruakura Research Centre, Hamilton, Newzealand in area of goat cloning. His current areas of research are the Application of Advanced Reproductive Technologies like IVF, SCNT and Stem Cell Production for augmenting production of Livestock. The recent successes in cloning of livestock (Buffalo and Pashmina goat) first time in India through Handmade Cloning technique during his research endeavors at National Dairy Research Institute, Haryana and SKUAST-K, Kashmir, India, has opened opportunities to achieve excellence in the application of such techniques for transgenic animal production and stem cell research. He is currently working as a Professor and Head, Division of Animal Biotechnology at Faculty of Veterinary Sciences in SK Agricultural University, Srinagar, J&K, India.

Notes:

drriazshah@gmail.com