

Poster ID: 221

Poster Code:MB1VST

Presenter Name:Jon LaCour

Author: J. LaCour, J. Flanagan, K. Beckers, K. Crissman, J. Sones

Title: Lactobacillus Supplementation Effects on Maternal and Fetal Outcomes of the BPH/5 Preeclamptic Mouse Model

Affiliation: Veterinary Clinical Sciences, School of Veterinary Medicine Louisiana State University

Pennington Biomedical Research Center Louisiana State University

The Sones Lab

Abstract: Background/Rationale: Maternal obesity significantly increases the risk of adverse pregnancy outcomes, including preeclampsia (PE). The etiology of this is unknown. Key features of PE, late gestational hypertension, decidual inflammation, and fetal growth restriction (FGR), are observed spontaneously in BPH/5 mice. Similar to obese preeclamptic women, BPH/5 have increased body weight and gut dysbiosis in pregnancy. We hypothesized that supplementation with anti-inflammatory Lactobacillus sp. in pregnant BPH/5 mice would attenuate obesity, decidual inflammation, and FGR.

Methods/Results: BPH/5 mice were fed ad libitum (lib) and given 5g/kg *L. plantarum* and *L. pentosus* daily or sham treated beginning at embryonic day (e) 0.5 for 6 days. Implantation sites were collected at e7.5 for real-time PCR analyses (n=4/group). BPH/5 treated females had reduced body weight ($p < 0.05$) without a change in food intake nor visceral white adipose tissue mass ($p > 0.05$). Pro-inflammatory cytokines tumor necrosis factor (TNF) α and interleukin (IL)-6 mRNA were reduced in e7.5 implantation sites from treated mice 10 and 30-fold, respectively ($p < 0.05$). BPH/5 treated mice do not have attenuation of late gestational FGR with treatment only in the first third of gestation.

Conclusion: Maternal weight loss in BPH/5 beginning at conception may improve placental development in this model. Future studies of giving Lactobacillus sp. throughout pregnancy should be performed to see the effects of long-term use on maternal/fetal outcomes. Future investigations are needed to determine the effects on pregnancy outcomes in obese women.

Poster ID: 222
Poster Code:MB2PHD
Presenter Name:Melanie Wilson
Author: M. Wilson, E. Savoie, A. Abdelmoneim

Title: Early Developmental Exposure to Lead (Pb), A Risk Factor for Stress Related Disorders Investigated in Larval Zebrafish (Danio Rerio)

Affiliation: Department of Comparative Biomedical Sciences, School of Veterinary Medicine, Louisiana State University, Baton Rouge, Louisiana

Abstract: Exposure to environmental contaminants as risk factor for stress-related disorders remain an inadequately explored domain within the field of toxicology. Lead (Pb), a prevalent environmental contaminant and developmental neurotoxin, has been epidemiologically correlated with several neurological and mental disorders including anxiety and depressive disorders. However, a significant gap remains in our understanding of its precise effects, the underlying mechanisms, and safe levels of exposure. This study aims to investigate the effects of developmental exposure to environmentally relevant concentrations of Pb on acute stress response in larval zebrafish, serving as an indicator of disruption in the stress circuitry and a path to exploring associated molecular alterations. Enzymatically dechorionated embryos were exposed to Lead (II) Acetate between 6 and 120-hours post-fertilization (hpf). Concentrations folding from the maximum contaminant level in drinking water as set by the US EPA were tested and media changes were performed daily. At 120-hpf, Pb-induced effects on survival, development, activity, and behavioral responses to acute stressors (visual and acoustic) and peripheral irritants were evaluated. Changes in the transcript levels of molecular biomarkers for developmental neurotoxicity (DNT) and stress-related disorders were evaluated. Our exposures resulted in centrally driven behavioral alterations in acute stress response and associated changes in molecular biomarkers of DNT and stress-related disorders. This research provides insights into the connection between early-life Pb exposure and the prevalence of stress-related disorders. Further research is necessary to fully understand the mechanisms that underlie the observed behavioral alterations; endeavors our ongoing investigations aim to uncover.

Poster ID: 224

Poster Code:MB3VST

Presenter Name:Meridith Helms-Pack

Author: M. HelmsPack, T. Tully Jr., B. Freeman, K. Stansberry, C. Liu, J. Tuminello, C. Lattin

Title:

Poster ID: 225

Poster Code:MB3VST

Presenter Name:Nicole Torres

Author: N. Torres, A. Musso, C. Takawira, M. Lopez, M. Mitchell, K. Scott, D. Scheurer, L. Hale-Mitchell

Title: The Effects of Targeted Pulse Electromagnetic Field Therapy on Canine Osteoarthritis of the Coxofemoral Joint

Poster ID: 228

Poster ID: 230
Poster Code:MB7VST
Presenter Name:Katherine Woolf
Author: K. Woolf, R. Smith, C. Liu

Title: Serum Glucose and Lactate Concentration Changes Over Time in Room Temperature and Refrigerated Canine Whole Blood Samples

Affiliation: Louisiana State University School of Veterinary Medicine, Baton Rouge, LA

Abstract: Glucose and lactate are important values for both diagnosis and continued treatment of veterinary patients. Delays in samples being tested can lead to artificially increased lactate and decreased glucose as a result of glycolysis. Oftentimes samples are refrigerated before testing to arrest glycolysis. The purpose of this study was to test the efficacy of refrigeration on slowing glycolysis and to compare glucose and lactate levels between refrigerated and room temperature samples. Blood samples were taken from 10 healthy canines. A CBC and chemistry was run immediately post draw, then lactate and glucose values were obtained at specific intervals following the blood draw. Rate of change of both lactate and glucose was significant between room temperature and refrigerated samples, with the change being accelerated in room temperature samples. A change in glucose concentrations was found to be significant after 4 hours in room temperature samples, and no significant change was seen in refrigerated samples. A change in lactate concentrations was found to be significant for both room temperature and refrigerated samples at less than 2 hours.

Poster ID: 231

Poster ID: 232

Poster Code:MB9HOR

Presenter Name:Amber Moses

Author: A. Moses, V. Costa, C. Moeller, C. Goodermuth, K. Perkins, S. Withers

Title: Prospective evaluation of immunomodulation induced by vincristine chemotherapy in dogs with treatment-naïve high-grade multicentric lymphoma

Affiliation: Department of veterinary clinical sciences

Abstract: The gold-standard treatment for canine high-grade lymphoma is multi-agent chemotherapy (CHOP). Vinblastine occasionally replaces vincristine in CHOP due to its mild side effects. However, with a response rate of only 7% in naïve lymphoma, vinblastine is considered to have inferior efficacy even though response to vincristine in this setting is unknown. Immunomodulation induced by this protocol has not been thoroughly detailed. The study objectives were to: 1) determine the response rate of vincristine in treatment-naïve canine lymphoma, 2) measure changes in immune cell subsets following vincristine, and 3) correlate changes in immune subsets with clinical response.

Dogs with treatment-naïve high-grade lymphoma receiving a 0.7 mg/m² dose of vincristine

Poster ID: 236
Poster Code:MB11VST
Presenter Name: Ciara Miller
Author: C. Miller, J. A. Gines, N. Gill

Title: Morphological Evaluation of Canine Humeral Symmetry

Affiliation: Department of Veterinary Clinical Sciences

Abstract: Rationale: The contralateral limb serves a crucial role in planning surgical procedures, designing custom implants, and postoperative assessment. Existing studies on canine bone symmetry focus on analyzing small regions or areas of the bone in one plane, but there are no studies that evaluate whole bone morphology. The purpose of this study is to determine the morphologic bone symmetry of the humerus us (y)5 (i)gv52 (an43.6 (c)7.2 (e)10.8 d)1.6 ((y)5 ((m)6.9 (en)4.6 sc)7.1 (i)-3.6 (o)-0.6 (n)476 (al(p)2.6 morphology.

Matera(s)-3.8 ((an43.6 d)176 MI)11.7 (et25 (h)-1.3 (o)10.2 d)176 (s)-3.8 :IBwateralhumeral(

Poster ID: 237

Poster Code:MB12VST

Presenter Name:William Sitterson

Author: William N. Sitterson, John A. Kara, Philip Saint Martin, Yan M. Zermeno, Charles C. Lee

Title: Ketamine Therapy Assessed in a Mouse Model of Alzheimer's Disease

Affiliation: Louisiana State University

Abstract: Alzheimer's disease (AD) affects more than six million Americans, ranking as the seventh leading cause of death in the United States. It is characterized by diminished cognitive abilities, memory loss, an array of decreased visuospatial skills, and changes in personality. Several treatments have been proposed to combat the symptoms associated with Alzheimer's disease, and recent findings suggest that N-methyl-D-aspartate (NMDA) receptor antagonists such as ketamine can provide neuroprotection with a decrease in neuropsychiatric symptoms from AD. Studies show that AD acts in a way that increases the levels of quinolinic acid (QUIN), which is a potent neurotoxin that binds NMDA receptors. AD also increases neuronal and glial cell death. Given ketamine's possible neuroprotective action on neurons, glial cells, and astrocytes, it could demonstrate therapeutic benefit, and even slow the onset of AD in patients. In this study, we propose to examine the prospective neuroprotective effects of ketamine treatments in a mouse model of Alzheimer's disease. We will utilize novel object recognition, Y maze, and open field test in an AD mice model that harbors a single amyloid precursor protein (APP) mutation associated with AD. These mice will be treated with ketamine, and their performances will be compared to mice without any treatment.

Poster ID: 238

Poster Code:MB13VST

Presenter Name:Patrik Rollefson

Author: K. Niaz, D. McAtee, P. Adhikari, P. Rollefson, M. Ateia, A. Abdelmoneim

Title: COMPARING THE DEVELOPMENTAL AND BEHAVIORAL EFFECTS OF EXPOSURE TO PFAS-CONTAINING AQUEOUS FILM FORMING FOAM TO PROPOSED PFAS ALTERNATIVES USING THE ZEBRAFISH MODEL

Affiliation: Department of Comparative Biomedical Sciences, Louisiana State University, Baton Rouge, LA. Department of Chemical and Biomolecular Engineering, Rice University, Houston, TX.

Abstract: For decades, aqueous film-forming foams (AFFFs) containing per- and poly-fluoroalkyl substances (PFAS) have been used to combat flammable liquid fires. However, with increasing concerns about the human health risks associated with exposure to PFAS, there is a growing interest in developing PFAS-free alternatives. Evaluating the safety of these alternatives prior to widespread use is imperative. The zebrafish embryo model offers an excellent alternative to evaluate the toxicity of chemicals at high throughput capacity and assess their biological actions. In this study, we evaluated the developmental and behavioral effects associated with early developmental exposure (6-20 hours post fertilization (hpf)) of zebrafish to a PFAS-containing AFFF (Buckeye) and two proposed alternatives (Ecopol and Angus). We targeted 0.01% of the working concentration of each chemical and folds lower (5-

Poster ID: 240

Poster Code:MB15VST

Presenter Name:Dominic Scheurer

Author: D. Scheurer, N. Torres, L. Ham Mitchell, M. Mitchell, K. Scott

Title: Designing a Method to Deliver Noninvasive Pulsed Electromagnetic Field Therapy (PEMF) to Raptors

Affiliation: Department of Veterinary Clinical Sciences, School of Veterinary Medicine, Louisiana State University, Baton Rouge, LA

Abstract: Pulsed electromagnetic field (PEMF) therapy can be used as adjunctive therapy by manipulating cellular magnetic fields. When electromagnetic waves interact with tissues, a cascade of biological processes are affected. Usage of PEMF therapy in veterinary medicine is expanding, with many devices designed for use in companion animals.

Administration of PEMF therapy in avian patients requires restraining the patient, which makes it difficult to investigate the practical applications and efficacy of PEMF therapy in the field of avian medicine. This study sou3.9 (.)3.5 0 Tc 0 Tw ls 80s.inp1(y)9 EMC /P w 0 -1.1(M)4.8 (F)9.

Poster ID: 241

Poster Code:MB16VST

Presenter Name:Katie Black

Author: K. Black, S. Bordelon, J. Raney, Dr. B. Dubansky

Title: Morphological Influence of Osteoderm Development in the American Alligator
(*Alligator mississippiensis*) and its Implications for Understanding Heterotopic Ossification

Poster ID: 242

Poster Code:MB17VST

Presenter Name:Mackenzie Hebert

Author: M. Hebert, N. Falconnier, N. Wenzlow, C. Menk, F. Del Piero, J. Lee, E. Sasaki

Title: Multifocal Polyphasic Myositis in 14 Pelicans

Affiliation: Louisiana State University School of Veterinary Medicine;

Animal Disease Diagnostic Laboratory & Department of Pathobiological Sciences, Louisiana State University School of Veterinary Medicine

Abstract: Signalment and History: Between 9/2022 and 6/2023, six pelicans were submitted to Louisiana Animal Disease Diagnostic Laboratory (LADDL) for necropsy and

Poster ID: 243
Poster Code:MB18VST
Presenter Name:Janay VelezLeon
Author: J. VelezLeon, B. Leise, J. Cremer

Title: Can PainAssociated miRNAs be Used as Biomarkers for Colic in Horses?

Affiliation: Veterinary Clinical Sciences, Equine Health & Sports Performance Program

Abstract: Subjective pain scoring systems have been evaluated in horses using facial expressions, location in the stall, and response to external stimuli. However, utilizing an

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Poster Code:MB19VST

Presenter Name:Corrine Wang

Author: C. Wang, A. Vatta, M. Mitchell

Title:

Poster ID: 246
Poster Code:MB21VST
Presenter Name:Lucy Barré
Author: L.Barré, I.Ogunleti, J.Martinez

Title: Analysis of proliferation of genetically modified spotted fever group (sfg) Rickettsia species in mammalian cells

Affiliation: Department of Pathobiological Sciences, School of Veterinary Medicine,
Louisiana State University, Baton Rouge, LA (Barré, Martinez)

McNeese State University, Lake Charles, LA (Ogunleti)

Abstract: Rickettsiosis (Spotted Fever Group) is spread by ticks to humans and animals. Patients can suffer skin lesions, fever, and malaise. Severe cases lead to vascular necrosis, systems failure and death. Rickettsia are the etiologic agents: a group of obligate

Poster ID: 247

Poster Code:MB22PHD

Presenter Name:Rita Aoun

Author: A. Musso, Z. Ogunmola, C. Takawira, and M. Lopez

Title: Horseshoe Effects on In vivo Equine Gait Kinetics During the Walk.

Affiliation: Department of Veterinary Clinical Sciences, School of Veterinary Medicine, Louisiana State University, 70803, Baton Rouge, LA, United States of America

Abstract: Rationale: Horseshoes for protection or therapy alter loading among hoof regions. There is limited data about shoe configuration effects on gait kinetics. Hypotheses tested here were: 1) kinetic forces and impulses (IMP) are greatest with heelbar (HB), then eggbar (EB), openheel (OH) shoes, or when unshod (US), and lowest with wooden clogs (WC); and 2) Resultant ground reaction force (GRF) vectors have the longest cranial

Poster ID: 249
Poster Code:CR1CR
Presenter Name:William Holl
Author: W. Holl, F. Del Piero

Title: Systemic Amyloidosis Causing Spontaneous Hepatic Rupture in a Domestic Short Haired Cat

Affiliation: Department of Pathobiological Sciences and Louisiana Animal Disease Diagnostic Laboratory

Abstract: Background: Systemic amyloidosis is the deposition of amyloid in multiple organs. Amyloid is the collective term for misfolded proteins which are biologically inept, unable to be processed, and accumulate extracellularly. Their classification depends on their original identity such as light chain (AL) amyloid from abnormal plasma cells or serum amyloid A (AA) from chronic inflammation. The severity depends on the volume of amyloid deposited which is more profound in systemic versions with the predominant amyloid produced being AA in domestic animals. Although not a comprehensive list, other feline associated conditions include hereditary AA amyloidosis in Abyssinian cats and pancreatic islet amyloidosis.

Case: A 6-year-old, female spayed, domestic short-haired cat was found dead and submitted for necropsy. On gross examination, there was generalized icterus and were multiple tan, red, and purple, irregular, soft nodules along the gingiva of the premolars and molars. The abdominal cavity was filled with blood, and the liver was severely enlarged, predominantly tan with an enhanced reticular pattern, and friable with multifocal to coalescing capsular hemorrhages. Histopathologic examination of the gingival nodules revealed severe plasmacytic and proliferative gingivitis, and the liver revealed abundant amyloid deposition with severe neutrophilic cholangiohepatitis. There was mild to severe amyloid in multiple organs with the most deposited in the thyroid glands separating the parenchymal cells and structures. The amyloid was variably congophilic depending on the organ affected.

Summary: This is a case of feline chronic gingivostomatitis leading to multiorgan amyloid deposition causing organ structure weakening and spontaneous hepatic rupture, hypovolemic shock, and death.

Poster ID: 250

Poster Code:CR2CR

Presenter Name:Mary Ella Robison

Author:

Poster ID: 251

Poster Code:MB24VST

Presenter Name:Christina Ulsh

Author: C. Ulsh, D. Badamo, T. Rodríguez, J. Tuminello, G. Doucet, K. Webb, N. Wenzlow

Title: Widening the Veterinary Forensics Arsenal: Gunshot Wounds in Canine Integument

Affiliation: Department of Pathobiological Sciences, School of Veterinary Medicine,
Louisiana State University, Louisiana Animal Disease Diagnostic Laboratory

Abstract: Rationale: Characteristics of canine gunshot wounds (GSWs) and correlated distance estimates are missing from medical literature. Veterinary pathologists must extrapolate what is known about human GSWs to guide their findings, which has implications in court decisions in cases of animal abuse. This study aimed to provide insight on GSWs to canine integument for clinical and diagnostic veterinarians.

Methods: Categorical data on canine GSWs to integument was collected for different distances. A 12gauge shty. (a)3.40 Td [(g)-5 (a)10.s3.8 (n)8.-3.6 (n)4. (n)8.3e ste m no3 (a)2 (erv)4iciiseer t

Poster ID: 252
Poster Code:CR3CR
Presenter Name:Luis Tondo
Author: L. Tondo, N. Wenzlow

Title: Asphyxiation due to smoke inhalation in a dog case report.

Affiliation: Department of Pathobiological Sciences, School of Veterinary Medicine, Louisiana State University, and 2Louisiana Animal Diagnostic Disease Laboratory (LADDL), Baton Rouge, LA, USA.

Abstract: Background: Forensic veterinary pathology is a discipline that examines data and physical evidence to assist criminal investigations in a context of animal cruelty, where it helps to confirm or exclude foul play that might have caused the demise of an animal.

Case description: A 7-year-old male dog was submitted for a forensic necropsy as a part of an arson investigation. The animal was found deceased and partially wrapped and restrained around the snout and abdomen with a large piece of fabric. The request was to determine if the animal was deceased before, or died as a result of the fire. At necropsy, 70% of the body surface was covered in soot with singed fur. The fabric is partially coagulated, forming charred, hard, plastic-like plaques melted to the fur. The oral and tracheal mucosa are moderately backend and covered with soot. On histology, a moderate amount of soot was adhered to the epidermis and fur, with subjacent areas of coagulative necrosis. Soot was also adhered to lining epithelial cells of the tracheal mucosa, pulmonary bronchi, and bronchioles.

Conclusion: The presence of soot within the lower respiratory tract confirms that the animal was alive during the fire and died therefore of asphyxiation from the smoke/CO inhalation. The fabric appears to have partially restrained the animal, although did not necessarily prevent the animal from moving and possibly escaping. The manner of death is undetermined, however, a nonaccidental killing (homicide equivalent) cannot be ruled out completely.

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Poster ID: 254

Poster Code:MB26VST

Presenter Name:Nicole Akers

Author:

Poster ID: 255

Poster Code:CR4CR

Presenter Name:Matías Dorsch

Author: M. Dorsch, W. Holl, B. de Cecco, C.E. Walsh, M. Mitchell, C. Menk, E. Sasaki

Title: Klebsiella pneumoniae infection in raccoons: report of three cases

Affiliation: Department of Pathobiological Sciences and Louisiana Animal Disease Diagnostic Laboratory

Abstract: Background: Klebsiella pneumoniae is a Gram-negative bacterium and a commensal of the intestinal tract of animals, including humans. This bacterium is typically associated with opportunistic infections of the reproductive, respiratory, and urinary tracts, and may lead to fatal septicemia.

Case description: Three 6-7-month-old raccoons (Procyon lotor) were (s)-8.3 (th)JTJ 0 Tc7.(p)6.8.3 (th)(th)

Poster ID: 256

Poster Code:MB27VST

Presenter Name:Maryella Cohn

Author: M Cohn, L Russell, H Rhim, K Boykin, M Mitchell

Title: Determining the Pharmacokinetic Properties of Two Different Doses of Hydromorphone in Barred Owls (*Strix varia*)

Affiliation: Wildlife Hospital of Louisiana at LSU School of Veterinary Medicine

Abstract: Injured avian wildlife are routinely presented to veterinarians with traumatic injuries, and success with these cases often requires the incorporation of analgesics as a component of the treatment plan. Unfortunately, there is a dearth of evidence-based analgesic protocols in avian medicine, and, to date, those that are published suggest species respond differently to these drugs. The barred owl (*Strix varia*) is the most common species of raptor presented to the Wildlife Hospital of Louisiana, and there are no published pharmacokinetic studies for this species. The purpose of this study was to determine the pharmacokinetic properties (harmonic means, times to maximum concentration, and elimination half-lives) for single intramuscular doses of 0.5 mg/kg and 1.0 mg/kg hydromorphone in 12 adult barred owls. We hypothesized that both would provide appropriate concentrations for 12 hours and that there would be significant differences in the pharmacokinetic properties between the doses. Each owl recruited for the study was >500g and found to be healthy on examination. Owls were randomly assigned to Group 1 (0.5mg/kg) or Group 2 (1.0mg/kg) using a random number generator (random.org), and baseline bloodwork was collected before hydromorphone was injected intramuscularly into the left pectoral muscle. After the injection, subsequent blood samples were collected 5 minutes, 30 minutes, 1.5 hours, 3 hours, 6 hours, 9 hours, and 12 hours later. Plasma samples are being processed using liquid chromatography-mass spectrometry. The evidence gained by this research will provide us the opportunity to better manage these animals while in our care.

Poster ID: 257

Poster Code:FP0FP

Presenter Name:Paula Reis Ribeiro

Author: P.R. Ribeiro^{1,2}, W. Dittmar¹, C.J. Thieulent¹, C.D. Gamage¹, S.P. Pavarini², U.B.R. Balasuriya¹, M. Carossino¹

Title: Characterization and Transcriptional Landscape of Feline Leukemia Virus (FeLV) induced Thymic Lymphoma in Cats

Affiliation: 1 Department of Pathobiological Sciences & Louisiana Animal Disease Diagnostic Laboratory, Louisiana State University.

2 Setor de Patologia Veterinária, Universidade Federal do Rio Grande do Sul.

Abstract: Rationale: Feline leukemia virus (FeLV) is a gammaretrovirus that infects cats and leads to neoplasia, such as thymic lymphoma. Thus, we characterized thymic lymphomas in FeLV-infected cats and evaluated their transcriptional landscape.

Methods: Six FeLV-infected cats with thymic lymphoma and submitted for necropsy were selected. Formalin-fixed paraffin-embedded tissues were characterized by histopathology, anti-FeLV p27,-CD3,-CD20 immunohistochemistry (IHC) and *en*-specific in situ hybridization (RNAscope?). Viral loads were determined using RT-PCR targeting the long terminal repeat. Bulk RNA sequencing from neoplastic and *ne*neoplastic thymus was performed.

Results: Thymic lymphomas were categorized as *cells*, and intense viral antigen immunolabeling and viral RNA signal were detected in neoplastic cells by IHC and RNAscope?, respectively. Mean tumoral viral loads were 1.45×10^{11} copies/g ($\pm 7.77 \times 10^{10}$). In other tissues, viral RNA was detected in multiple cell types, including hematopoietic and immune cells, various epithelial cells and cardiomyocytes. A total of 536 differentially expressed genes (DEGs; 289 downregulated and 247 upregulated) were identified in thymic lymphomas of FeLV-infected cats compared to normal, *age*matched thymuses from uninfected cats. The downregulated DEGs were involved in biological processes associated with cell differentiation and regulation of apoptotic processes, while upregulated DEGs were involved in the cell cycle.

Conclusions: Thymic lymphomas induced by FeLV are typically *T*-cell in origin, and neoplastic cells are characterized by high viral loads. Interestingly, FeLV tropism is widespread, encompassing a wide variety of cell types beyond immune and hematopoietic

cells. The transcriptional landscape and specific role of dysregulated biological processes are still under investigation.

Poster ID: 259

Poster Code:MB29PHD

Presenter Name:Wellesley Dittmar

Author: W. Dittmar, N. Gaudreault, U.B.R. Balasuriya, J.A. Richt, C.J. Thieulent, M. Carossino

Title: Development of a deer-adapted SARS-CoV-2 cDNA clone to evaluate spike variants arising in North American deer

Affiliation: Department of Pathobiological Sciences, School of Veterinary Medicine, Louisiana State University, Baton Rouge, LA, USA

Abstract:

Rationale: White-tailed deer (WTD) can be naturally infected with SARS-CoV-2 and subsequently transmit the virus to in-contact naïve WTD. This has raised concerns of potential spillback into humans, which has been reported in Ontario, Canada. The role of WTD-specific mutations in viral kinetics, replication dynamics, pathogenicity, and transmissibility between animal species as well as at the human-animal interface is currently unknown. We hypothesize that WTD-derived SARS-CoV-2 variants contain deer-specific mutations in the spike glycoprotein, increasing viral fitness and facilitating transmission both in WTD and wild peridomestic rodents that could serve as bridging hosts.

Methods: Recombinant spike variants based on WTD-derived SARS-CoV-2 strains will be generated. Two separate reverse genetic systems are being tested to generate recombinant spike variants, namely the Circularized Polymerase Extension Reaction (CPER) system and the In-Vitro Ligation (IVL) system.

Results: For CPER, the SARS-CoV-2 USAWA1/2020 genome was amplified in 10 overlapping fragments and annealed with a linker containing a human cytomegalovirus

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Poster ID: 261

Poster Code:MB31HOR

Presenter Name:Yi Kwan Lee

Author:

Conclusions and clinical importance: This study demonstrates the efficacy of autologous oral FMT capsules in accelerating the recovery of gut microbiome after metronidazole

Poster ID: 262

Poster Code:MB32MS

Presenter Name:Christella Nelson

Author: C. Nelson, E. Ruiz, F. Musarrat, Md I Hossain, H. Mohan, K. Kousoulas

Title: Kinase Inhibitors as a Potential Antiviral Drug against HSV infection

Affiliation: Department of Pathobiological Sciences and Division of Biotechnology and Molecular Medicine, School of Veterinary Medicine, LSU, Baton Rouge, LA

Abstract: Herpes simplex virus type 1 (HSV-1) is a common pathogen that causes many diseases in humans, from minor mucocutaneous lesions to life-threatening encephalitis. However, our knowledge of the molecular mechanism and the interaction between HSV-1 and human host factors is limited. Therapeutic drugs in the market are nucleoside analogs that can lead to drug resistance. Recently, protein kinases have been used as potential antiviral candidates. Protein kinases are responsible for cellular transduction signals and can be an important therapeutic target for disease intervention. We showed that Akt phosphorylation takes place during virus entry (Musarrat et al 2021). The present study hypothesizes that viral and cellular kinases are involved in the regulation of viral infection. We utilized a high-throughput kinase inhibitor library to identify cellular kinases that control virus cell cycle. We screened 796 kinase inhibitor drugs in cell culture. African Green Monkey Vero cells were infected with HSV-1 (McKrae), constitutively expressing GFP and then treated with compound for 15 hours postinfection (hpi) and viral cycle was visualized by monitoring the intensity of GFP expression. We identified 133 drugs that blocked virus cycle. These results are on the process to be confirmed in a classic drug assay to estimate the IC₅₀ (Inhibitory concentration at 50%) at different time intervals. Furthermore, in silico, in vitro and in vivo analyses will be performed that will lead to a better understanding of the molecular and cell signaling mechanisms involved in HSV-1 infection and as well as to identify new targets for antiviral therapy.

Poster ID: 263

Poster Code:MB33PHD

Presenter Name:John Le

Author: S. Paudel, T. Rangasamy, K. Hoang, A. Brown, S. Jeyaseelan

Title: The NLRP10 Inflammasome Modulates Host Defense During Gram-positive Bacteria Induced Pneumonia

Affiliation: Department of Pathobiological Sciences and Center for Lung Biology and Disease, Louisiana State University School of Veterinary Medicine, Baton Rouge, LA, United States

Abstract: Rationale: Pneumonia is one of the most common respiratory diseases and can be life-threatening. The role of the recently identified NLRP10 (NACHT, leucine rich repeat [LRR], and PYD-containing protein 10) inflammasome in Gram-positive bacteria-induced pneumonia remains elusive.

Methods: Female C57BL/6 wildtype (WT) and N (ld(.6 (0)r)12.8 tc Tw 7.076v1i.4 (e 8.7 (G)7.w 7.076v1i.4 (e

Poster ID: 264
Poster Code:MB34MS
Presenter Name:Victor Medina
Author: V.Medina, S. Cousseau, C. Pinto

Title:

Effect of Prematuration Treatment on Nuclear Maturation of Domestic Cat Oocytes

Affiliation: Veterinary Clinical Sciences, School of Veterinary Medicine, Louisiana State University

Abstract:

from wild felids on the field is needed.

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Significance: Animal transportation is an important route of disease spread, particularly in the pet trade. However, there are few governmental restrictions for aquatic invertebrate importation. Increased awareness of imported infectious diseases could inform future governmental regulations.

Poster ID: 269

Poster Code:MB38PHD

Presenter Name:Yathushigan Kulatheepan

Author: B.Dhakal, J.T. Le, K.Hoang, S.Jeyaseelan

Title: Role of AIM2 Inflammasome in Pulmonary Host Defense Against Methicillin Resistant Staphylococcus aureus induced Pneumonia

Affiliation: Department of Pathobiological Sciences, Centre of Lung Biology and Diseases, School of Veterinary Medicine, Louisiana State University, Baton Rouge, LA, USA.

Abstract: Background: Bacterial pneumonia represents the preeminent etiological factor for mortality in both children and the elderly. The rise of antibiotic resistant and hypervirulent strains heightens therapeutic challenges. Therefore, new therapeutic options are warranted. Absent in melanoma 2 (AIM2) is an inflammasome located in the cytosol which

Poster ID: 270

Poster Code:MB39MS

Presenter Name:Saige Annison

Author: R.R. Faleiros, S. Mordoh, B.S. Leise

Title: Effects of Bacterial Products, Inflammatory Mediators, and Insulin on the Phosphorylation of RPS6 and STAT3 in Equine Epidermal Cells

Affiliation: Department of Veterinary Clinical Sciences & LSU EHSP Program, LSU School of Veterinary Medicine

Equinova Research Group Universidade Federal de Minas Gerais, Belo Horizonte, Brazil

Abstract: Rationale: Equine laminitis, a debilitating hoof condition, involves dysadhesion and separation between the epidermal and dermal lamellae, compromising structural integrity. This study examines activation of mTOR and STAT3 signaling pathways during sepsis-related and insulin-

and STAT3 pathway activation in equine laminitis. Further investigation into signaling pathways could provide in vitro evidence for potential therapies or treatments to combat equine laminitis.

Poster ID: 271
Poster Code:MB40PHD
Presenter Name:Sydney Mordoh
Author: S. Annison, LA. Fugler, BL. Leise

Title: Effects of reIL-8 on Ex vivo Neutrophil Extracellular Traps (NETs) Formation in Healthy Horses

Affiliation: Louisiana State University School of Veterinary Medicine

Department of Veterinary Clinical Sciences

Abstract: Rationale: Uncontrolled formation of NETs can be detrimental in cases of sepsis. The chemokine IL-8 has been reported to induce NET formation in people, and its inhibition via CXCR1/2 blockade ameliorated this response. The objective of this study was to determine if recombinant equine IL-8 will induce NET formation ex vivo in neutrophils isolated from healthy horses.

Methods: Fibronectin coated the 96well plate at different concentrations, and neutrophils were isolated from healthy horses. The following treatments were applied in triplicate at various concentrations: Phorbol 12Myristate 13-Acetate (PMA; positive control), reIL8, media only (negative control) and media with DMSO (PMA negative control). NET formation per well was quantified.

Results: NETosis was induced when neutrophils were stimulated with PMA. There was a significant increase in the number of NETs formed starting at 4 hours ($p < 0.05$) until the end of the experiment when compared to reIL8 and media negative control groups. There was no difference in the number of NETs that formed between the varying concentrations of PMA. reIL-8 did not induce NET formation, as no differences between reIL8 and media controls were seen from either horse.

Conclusions: PMA induced NETosis in healthy equine neutrophils. Coating the plate with fibronectin did not improve the formation of NETs. Unlike people, IL8 does not appear to induce NET formation in neutrophils isolated from healthy horses. Further studies are needed to determine if other inflammatory mediators present in the blood of horses with sepsis or systemic inflammatory response syndrome would affect NET formation ex vivo.

Poster ID: 272

Poster Code:MB41MS

Presenter Name:Kaitlyn Ieradi

Author: K. Ieradi, J. Cruz Sanabria, M. Mirza, L. Riggs, ML. Trenta, C. Liu, B. Leise

Title: Assessment of potential risk factors associated with postoperative incisional infections in horses undergoing emergency celiotomy in Louisiana

Affiliation: Department of Veterinary Clinical Sciences, Louisiana State University, School

Poster ID: 273

Poster Code:MB42VST

Presenter Name:Emma Christopher

Author: Emma Christopher, Cambri Moeller, Lauren Guarneri, Emi Sasaki, Sita Withers

Title: Expression of Adhesion Proteins in LowGrade and HighGrade Canine Soft Tissue Sarcomas

Uiao2pcotcte..1 (p) S.9 (enT8.6 9anS6.(n) w.6 3e)o S HJT6 3ptaproooet-4 (o)-5-3.6 (c)r1.2 8tciTS

Affiliation: Department of Veterinary Clinical Sciences, School of Veterinary Medicine, Louisiana StateUniversity, Baton Rouge, LA

Abstract: Soft tissue sarcomas (STS) are canine (C) and feline (F) tumors. The purpose of this study was to determine the expression of adhesion proteins in low grade and high grade canine soft tissue sarcomas. The study included 10 low grade and 10 high grade canine soft tissue sarcomas. The expression of adhesion proteins was determined by immunohistochemistry. The results showed that the expression of adhesion proteins was significantly higher in high grade compared to low grade canine soft tissue sarcomas.

Poster ID: 276

Poster Code:MB44UGST

Presenter Name:Kennedy Trahan

Author: K.Trahan, T.Rangasamy, D.Jeansonne, A.Mohana, J.Le, A.Sharma,
B.Abuaita, and S.Jeyaseelan

Title: Development of Small Molecule based Intervention to Combat the Infection Caused by the Superbug Carbapenem resistant *Klebsiella pneumoniae*

Affiliation: Department of Pathobiological Sciences, School of Veterinary Medicine, Louisiana State University, Baton Rouge, LA 70803.

Undergraduate Research, LSU College of Science, Biological Sciences Dept.

Abstract: Rationale: The rise of antibiotic resistant bacteria is a growing concern worldwide, with an estimated 4.95 million deaths in 2019. Bacteria that are resistant to

Poster ID: PP

Poster ID: 279

Poster Code:MB47PDR

Presenter Name:

Poster ID: 280
Poster Code:MB48PHD
Presenter Name:Kiran Fida
Author: K. Fida, T. Taguchi, R. Aoun, M. J. Lopez

Title: Meta-analysis of the Effects of Adult Tissue-Derived Stem Cell Therapy on Equine Tendinopathy and Ligamentopathy

Affiliation: Department of VCS, School of Veterinary Medicine, LSU.

Abstract: Rationale: Tendon and ligament injuries cause functional impairment in horses. A disorganized fiber pattern contributes to a 67% reinjury rate within 2 years. Stem cell treatments have gained attention as a potential solution. This systematic meta-analysis was designed to compare studies in the scientific literature to evaluate their efficacy.

Methods: A comprehensive literature review of PubMed, Web of Science, and Google Scholar databases was performed. Keywords "equine", "horse", "tendon", "stem", "cells" were used. Randomized controlled trials, prospective studies, and retrospective studies on bone marrow and adiposederived stem cells were included. Whereas, secondary analyses, review papers, non-English studies, and studies of pluripotent and embryonic stem cells were excluded. Data extracted for this study were: horses returning to soundness, ultrasound imaging, histological, and biochemical evaluation. Statistical analysis was performed using ReviewManager. Results were represented as odd ratios, and standard mean differences with 95% confidence intervals ($p < 0.05$).

Results: Twentyone studies were included. Significant benefits of stem cell resulted in enhanced return to performance (OR = 5.30, $p < 0.0001$), reduced echogenicity (SMD = -1.94, 95% CI [-2.89, -0.98], $p < 0.0001$), increased vascularity (SMD = 1.07, 95% CI [0.23, 1.92], $p = 0.01$), and improved fiber alignment (SMD = -0.31, 95% CI [-0.32, -0.30], $p = 0.01$) compared to control groups.

Conclusion: A positive impact of cellular therapies on tendon and ligament injuries based on an increased rate of return to performance and improved microstructure was observed compared to controls showing promise. Additionally, randomized controlled trials will increase scientific support of the treatment.

Poster ID: 281

Poster Code:MB49VST

Presenter Name:Christian Arias

Author: C. Arias, S. Mordoh, H. Banse, A. Chapman, M. Keowen, F. Garza, Jr., A. Ferdonnet, F. Andrews, M. Mitchell

Title: *Megasphaera elsdenii*: effect on blood/fecal pH and lactate in horses transitioned to high grain low fiber diet

Affiliation: Equine Health and Sports Performance, Veterinary Clinical Sciences, School of Veterinary Medicine, (Arias, Mordoh, Banse, Chapman, Keowen, Garza, Ferdonnet, Andrews), PBS (Mitchell)

Abstract: Current feeding practices in competition horses include increased amounts of grain and lower amounts of forage. This change in diet has been shown to shift the microbial community to lactic acid producing bacteria and can lead to colonic acidosis. Many probiotics fed to horses do not address lactic acidosis in the hindgut of horses on high grain diets. *Megasphaera elsdenii* (Mega e) is a lactate utilizer and native inhabitant of the equine gut (Biddle et al. 2013; Douthit et al. 2019). The purpose of this study is to measure fecal and blood pH, fecal and blood lactic acid, and evaluate the microbiome in horses

Poster ID: 282

Poster Code:MB50UGST

Presenter Name:Allyson Mohanty-Aldana

Author: Allyson Mohanty-Aldana, Tirumalai Rangasamy, Sagar Paudel, Kennedy Trahan, John Le, and Samithamby Jeyaseelan

Title: Investigating the Therapeutic Potential of Lung-Derived Mesenchymal Stem Cells in Pneumococcal pneumonia .pdf

Affiliation: Department of Pathobiological Sciences, School of Veterinary Medicine, Louisiana State University, Baton Rouge, LA 70803

Abstract: Rationale: Pneumococcal infection causes approximately 1.6 million deaths globally and costs hundreds of billions of dollars globally. *Streptococcus pneumoniae* (Pneumococcus) is the leading cause of a range of diseases, including community-acquired pneumonia. There is a need to identify novel therapies that can further improve the morbidity and mortality of patients suffering from Pneumococcal pneumonia.

Methods: We determined the extracellular matrix components of the lung and their role in the pathogenesis of pneumonia.

Poster ID: 284

Poster Code:MB52PHD

Presenter Name:Ignitius Lim

Author:

Poster ID:

Poster ID: 286

Poster Code:MB54PHD

Presenter Name:Biplov Sapkota

Author: N. Chintalaramulu¹, A. Pandit¹, S. Thota¹, R. Begum¹, A. Mansouri², J. Adamec², J. Francis¹

Title: Establishing CAF-like and TAM-like transformation induced by TNBC culture supernatant in 3D in-vitro culture as a model for targeted drug testing

Affiliation: ¹Department of Comparative Biomedical Sciences, School of Veterinary Medicine, LSU, Baton Rouge, LA 70820

²Department of Interdisciplinary Oncology, LSUHSC, New Orleans, LA, 70112

Abstract: Several previous studies have highlighted the significance of cell-cell communication, or crosstalk, between tumor cells and non-tumorigenic cells in the context of cancer progression and metastasis. Within the tumor microenvironment (TME), these interactions have the potential to alter the phenotypes and behaviors of normal cells. The use of 2D in vitro cultures has been limited due to their inability to accurately replicate the intricate in-vivo TME. Conditioned Medium (CM) derived from cultured cancer cells contains secreted factors that may influence the phenotype and functionality of normal cells. In our investigation, the exposure of normal murine fibroblast NIH3T3 and macrophage RAW 264.7 cells to conditioned medium (CM) obtained from malignant mammary epithelial 4T1 cells (4T1CM) resulted in a modified phenotype with enhanced cell viability. Treatment with 4T1CM led to the upregulation of genes, including α -smooth muscle actin (α SMA), IL10, CD206, and vascular endothelial growth factor (VEGF) in NIH3T3 and RAW 264.7 cells compared to their respective control cells. Additionally, NIH3T3 cells treated with 4T1CM exhibited an epithelial-mesenchymal transition (EMT) phenotype, as indicated by the regulation of EMT markers such as E-cadherin, β -catenin, N-cadherin, and Vimentin. Notably, RAW 264.7 cells treated with 4T1CM showed an upregulation of cyclooxygenase 2 (COX2) and programmed death ligand 1 (PDL-1), suggesting a propensity for an inhibitory immune response. Moreover, NIH3T3 cells conditioned with 4T1CM demonstrated an upregulation of stemness markers, including sex determining region Y-box 2, and Aldehyde dehydrogenase. In summary, our study highlights the potential role of 4T1CM in transforming normal NIH3T3 and RAW 264.7 cells into cancer-associated

Poster ID: 288
Poster Code:MB56VST
Presenter Name:Jordan Vivien
Author: J. Vivien, E. Turner, S. Clark, R. Christofferson

Title: Assessing the Phenotype of Orthobunyaviruses in Louisiana Mosquitos

Affiliation: Department of Pathobiological Sciences

School of Veterinary Medicine, Louisiana State University, Baton Rouge, LA

Abstract: Climate change increases the threats that arboviruses pose. Rising climate temperatures accelerate many biological processes affecting arbovirus transmission. Geographic expansion of mosquito-borne diseases has also resulted from climate change, increasing the transmission of dengue, chikungunya, and Zika in temperate areas like Europe. Recent cases of malaria transmission in Texas and Florida have incited conversations of vector-borne disease threats in the Gulf South. *Aedes albopictus* and *Ae. aegypti* are two mosquito species of interest as they are known to transmit various viruses of concern and have become endemic to the Gulf Coast. While many areas in this region have robust mosquito control programs, interruptions occur during extreme weather events and with substandard housing lacking the infrastructure necessary to interrupt mosquito-human contact. There is no information regarding vector competence of Louisiana *Aedes* mosquitoes for Batai virus. BATV shares many transmission similarities with West Nile virus and can infect *Ae. albopictus*. The initial transmission period for WNV in LA is May/June when the average temperature is 26.6°C. This project tested the vector competence of *Ae. albopictus* to transmit BATV under conditions aligning with IPCC climate projections for 2030, an increase of 1.5°C. *Ae. albopictus* juveniles were collected from Baton Rouge, LA and reared to adults. Females were blood fed BATV and maintained at 28°C. Mosquitos were force salivated and tested for the presence of BATV in the saliva and midgut using qRT-PCR. Vector competence rates were calculated and the potential for *Ae. albopictus* in South LA to transmit this arbovirus discussed.

Poster ID: 289

Poster Code:MB57HOR

Presenter Name:Alaina Kuehr

Author: A. Kuehr, A. Muir, C. Liu, E. Benton, Levith, CM. Scully, J. Cremer

Title: Evaluation of the Sedative and Cardiopulmonary Effects of Zenalpa in Sheep and Goats

Affiliation: Department of Veterinary Clinical Sciences, Louisiana State University School of Veterinary Medicine

Abstract: Rationale: Medetomidine is a reliable sedative and α_2 -adrenergic receptor agonist whose peripheral α_2B receptor activation causes vasoconstriction and reflex bradycardia. Vatinoxan a peripheral α_2 receptor antagonist is proposed to prevent the above effects. Zenalpa (0.5 mg/ml medetomidine and 10mg/ml vatinoxan) is approved for intramuscular sedation in dogs. Our objective was to assess the sedation duration, quality, and cardiopulmonary effects of intramuscular Zenalpa in ten sheep and ten goats. We hypothesized that 0.06 ml/kg of Zenalpa: 1) produces deep sedation in healthy goats and sheep; and 2) cardiopulmonary variables will be better maintained in goats than in sheep.

Methods: For instrumentation animals were anesthetized with sevoflurane. Sedation score, heart rate, respiratory rate, temperature, mucus membrane color, capillary refill time, invasive systolic, diastolic, and mean arterial blood pressure were recorded at baseline before drug administration, and every 5 minutes following drug administration for the first 60 minutes and then every 15 minutes until the sedation score returned to baseline or up to 150 minutes.

Results: Total sedation time for sheep (102.80 ± 10.90 min) was significantly shorter than for goats (133.50 ± 32.63 min) with ($P = 0.012$). Three goats developed hypotension (MAP <60 mmHg) for greater than five minutes. Eight goats and two sheep developed an SPO₂ $<90\%$ or a PaO₂ <60 mmHg.

Conclusion: Adverse effects limit the utility of Zenalpa in goats and provide predictable sedation in healthy sheep with clinically acceptable cardiopulmonary changes in the presence of oxygen supplementation.

Poster ID: 290

Poster Code:MB58VST

Presenter Name:Alanna Costas Oramas

Author: A. Costas, A. Pandit, B. Sapkota, H. Green, J. Francis

Title: Role of Entresto in DoxorubicinInduced Cardiotoxicity

Affiliation: Department of Comparative Biomedical Sciences, Department of Veterinary Clinical Sciences

School of Veterinary Medicine, Louisiana State University, Baton Rouge, LA

Abstract: Rationale: Doxorubicin (DOX) is a potent chemotherapeutic agent known for its high efficacy; however, dose-dependent cardiotoxicity undermines its effectiveness in cancer therapies. Entresto (sacubitril/valsartan), an angiotensin receptor neprilysin inhibitor, reduces cardiovascular events in heart failure patients with reduced ejection fraction. The objective was to assess the potential cardioprotective effects of Entresto on doxorubicin-induced cardiotoxicity (DIC) in a mouse model of breast cancer. We hypothesized that Entresto treatment will attenuate doxorubicin-induced cardiotoxicity.

Methods: We employed a syngeneic tumor model by injecting 4T1 wild type cells into the mammary fat pad of 10week-old female Balb/c mice via intraperitoneal injection.

Subsequently, after a week of tumor cell injection, groups were treated with DOX at 8 mg/kg body weight/week for 3 weeks. Following DOX treatment, control and tumor

animals were gavaged daily with saline (n = 5), while 3.6 (e(i)/t)2.1 (h)-1.3 (h46 (t)2.1 (o)-0.6 ()10.5 (g)-5 (r) Sa.7 (ec)-/3 (er)1V7 (ec)-.5 7 (e ()6 (f 1)11.0(c)-3.67(m)-4 (g)-5 8/kg1.2 ())2.1 (fo)-0.6 (r)2 (3)0.6 ()1.7 (w)

Poster ID: 291
Poster Code:MB59PHD
Presenter Name:Pius Babawale
Author: P. Babawale, A. Guerrero-Plata

Title: Molecular Analysis of Antiviral Responses induced by Respiratory Pneumoviruses on Primary Human Epithelial Cells

Affiliation: Department of Pathobiological Sciences, School of Veterinary Medicine, Louisiana State University.

Abstract: Background and Rationale: Human Metapneumovirus (HMPV) and Respiratory Syncytial Virus (RSV) are closely related members of the pneumoviridae family and are leading causes of acute respiratory infections (ARI) in infants, the elderly, and immunocompromised individuals. While these two viruses share similar clinical manifestations, the differential antiviral responses between these two viruses remain poorly understood. The objective of this study is to elucidate potential differences in interferon signaling by these two clinically significant viruses.

Approach: In this study, we employ Normal Human Bronchial Epithelial (NHBE) cells cultured in air-liquid interface (ALI) system, which closely mimics the physiological conditions of the human respiratory tract.

Result: Our data revealed differences in the interferon (IFN) responses by these viruses. RSV infection resulted in a robust upregulation of interferon production, as evidenced by elevated levels of IFN-stimulated genes (ISGs). In contrast, HMPV infection exhibited a comparatively modest induction of interferon signaling.

Conclusion/Significance: Our study reveals significant differences in the interferon response elicited by HMPV and RSV in a model closely related to human respiratory epithelium. Identifying differential expression patterns of IFN by HMPV and RSV may lead to the discovery of novel therapeutic targets for developing antiviral drugs, as targeting the interferon signaling pathway represents a promising approach for enhancing host immunity and limiting viral replication.

Poster ID: 293

Poster Code:MB61PHD

Presenter Name:Parisa Zeaiean Firouzabadi

Author: C. Takawira, R. Aoun, and M. Lopez

Title: Optimization of Equine Hoof Laminae Staining and Fixation for MicroComputed Tomography

Affiliation: Laboratory for Equine and Comparative Orthopedic Research, Veterinary Clinical Sciences Department, LSU

Abstract: Rationale: The intrinsic low contrast of soft tissues limits the use of microCT to capture high-resolution structural images. To overcome these constraints, specialized fixation and staining protocols are required. Methods for staining radiolucent tissues with phosphotungstic acid (PTA), iodine metal (I₂), and potassium iodide with iodine (I₂KI) are available, but equine hoof laminae tissue staining is not well described. The goal is to identify the best fixation and staining protocol for microCT imaging of normal and damaged laminae for morphological studies and to generate 3D models.

