



الجمعية الطبية البيطرية السعودية
Saudi Veterinary Medical Society



KFU

جامعة الملك فيصل
KING FAISAL UNIVERSITY
جامعة ووطن.. نماء.. واستدامة..



المؤتمر الدولي للطب البيطري

International Conference on Veterinary Medicine

«آفاق الطب البيطري في المملكة العربية السعودية»
التحديات والفرص



شركة ماس للخدمات البيطرية

الراعي الماسي



وزارة البيئة والمياه والزراعة
Ministry of Environment Water & Agriculture



المراعي
Almarai

الشركاء الاستراتيجيين



King Faisal University

The First International Saudi Veterinary Medical Society Conference:
Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)

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CONFERENCE PROGRAM برنامج المؤتمر

1ST DAY

TUESDAY, 11TH October 2022

Time	Event
08:00 – 09:00 AM	Registration (Great Ballroom) (التسجيل (بقاعة الاحتفالات الكبرى)
09:00 – 09:25	President of WVA Dr. Rafael Laguens "Reflexions on one health" محاضرة رئيس الجمعية البيطرية العالمية د. رافائيل لاجونس "اثار الصحة الواحدة"
09:25 – 09:50	An overview of Camel Surgery Dr. T.K. Gahlot Professor and Head of the Department of Veterinary Surgery and Radiology MJF College of Veterinary and Animal Sciences, India Editor-in-chief of the Journal of Camel Practice and Research نظرة عامة عن جراحات الإبل أ.د. تارون كومار غالوت أستاذ ورئيس قسم الجراحة البيطرية والأشعة، كلية MJF للعلوم البيطرية والحيوانية رئيس تحرير مجلة بحوث وممارسات الإبل - الهند
09:50 – 11:30	Opening Ceremony and accompanying exhibition الافتتاح الرسمي للمؤتمر والمعرض المصاحب
11:30 – 11:50	A vision for the development of veterinary education (at the theater of the Deanship of Student Affairs) Prof. Maha Abdo Al-Ashmawy Dean of the Faculty of Veterinary Medicine, Mansoura University, Egypt رؤية لتطوير التعليم البيطري (بمسرح عمادة شؤون الطلاب) أ.د. مها عبده العشموي عميد كلية الطب البيطري بجامعة المنصورة – جمهورية مصر العربية
11:50 – 12:30	Coffee break and Zuhr Prayer استراحة وصلاة الظهر
12:30 – 01:00 PM	Food Safety – An issue of public health concern Dr. Adel Abdelkhalik Dean of Veterinary School, Badr University (BU), Egypt صحة الغذاء: قضية هم الصحة العامة أ.د. عادل عبد الخالق أحمد عميد كلية الطب البيطري – جامعة بدر - جمهورية مصر العربية
01:00 – 01:30	Laboratory Animals Care & Use in Biomedical Research Dr. Abdullah Asieri Deputy Executive Director of the Research Center, King Faisal Specialist Hospital رعاية واستخدام حيوانات التجارب في الأبحاث د. عبدالله عسيري نائب المدير التنفيذي لمركز الأبحاث، مستشفى الملك فيصل التخصصي
01:30 – 03:30	Exhibition visit and lunch break زيارة للمعرض واستراحة الغذاء

Scientific Sessions الجلسات العلمية			
Time	HALL 1	HALL 2	HALL 3
	Chair: Dr. Abdulrahman Al-Haider Co-Chair: Dr. Mohamed Ali Moderator: Dr. Mohamed Al-Rasheed	Chair: Prof. Dr. Mohamed Youssef Co-Chair: Dr. Zuhair El-Mulla Moderator: Prof. Dr. Maged Al-Ashker	Chair: Dr. Abdullah Al- Mubarak Co-Chair: Dr. Sabry Al-khodary Moderator: Dr. Abdulrahman Seory
03:30 – 03:45 PM	Effect of mixed doses of zinc oxide nanoparticles and zinc oxide on clinical, biochemical, trace elements profile, fecal zinc and digestibility changes in rams. Mohamed Ghanem, Yassein Abdelraof, Heba S. Abdelgayed, Gehan Elmgahzi and Fatma E. Saba.	Response Of Broiler Chickens To The Dietary Fortification Of Bile Acid Ahmed Hussien, Elshaimaa Ismael, Basma M. Bawish, Shaimaa Kamel, Essam Yousef Ismail, Ehab K. El Bendari, Khaled Nasr El-din Fahmy	The outcomes of a century of "Camel Research" Mahmoud Kandeel
03:45 – 04:00	Evaluation of mercury residues in sheep raised in Riyadh and Al-Ahsa districts of Saudi Arabia Yehia A. Ali, Khaled M. Ashry, Saad S. Al-Shokair	Some Neoplastic Cases in Pets; Histopathological and Immuno-histochemical Studies Abdelmoneim A. Ali, Nahla AG. Ahmed Refat, Mohamed M.M. Metwally, Naif AL-Gabri and Mohammed S. Sobh	How to Keep the Academic Performance During the Pandemic Mohamed A. A. MAHDY
04:00 – 04:15	Effect of coated sodium butyrate (CM3000®) as feed additive on zootechnical performance, immune status and necrotic enteritis disease severity after experimental infection of broiler chickens M. A. Tony and M. M. Hamoud	Diagnosis and Treatment of Esophageal Obstruction in Camels (Camelus dromedarius) with Special Reference to the Effect of Trace Element Deficiency on Its Occurrence Madeh Sadan, El-Sayed EL-Shafaey, Sabry EL-Khodery, Saleh Almatroodi, Fahd Alsobayil	21st Century Next Generation Animal Disease Surveillance: Phylodynamic Models Untangle The Evolutionary History Of Foot And Mouth Disease Serotype O In The Middle East Mohammad A. Alkhamis and Abdulaziz M Alateeqi
04:15 – 04:30	Assessment of some pathogenic food born bacteria in chicken meals served in an university hostel using pcr and vitek2 techniques. Abo baker Edris, Islam Sabek, Islam M. Osman, Amira. K. Abd-Alla	Modulatory Effects Of Dietary Alicin On Blood Profile, Immunity, Antioxidant Status, Productive And Reproductive Performances Of Crossbred Sheep Mustafa Shukry & Doaa H. Assar	The Use Of Selective Feed Additives To Improve Performance, Intestinal Microbiota, And Meat Quality In Broilers Under Chronic Heat Stress Sherief M. Abdel-Raheem, S. I. Al-Sultan, SH. M.S. Abd-Allah, A. M. Edris
04:30 – 04:45	Antioxidants Roles Of Some Plants Extracts In Cadmium-Induced Testicular Injuries Saad S.Al-Shokair, Yehia A.Hussein , Magdy M.Youssef ,	Metabolic profile in Ossimi ewes during transition period Hussein Awad Hussein, Amani Omar, Mohamed Hassan Karram	Imaging of The Dromedary Camel Tarsus Usama Hagag and Ayman El Nahas
04:45 – 05:00	Seroprevalence of brucellosis among farm animals in Menoufia province during 2019-2021. Akram Ahmed Salama, Mohamed Gaffar, Mohamed Nayel, Ahmed Elsfy, Ahmed Zaghawa, Waleed Saad	Use endoscopy in the diagnosis of respiratory disorders in One Humped Camel (Camelus Dromedaries) T. Shawaf	B-mode and color Doppler ultrasonography of normal external jugular vein in donkeys (Equus asinus) Hussein Awad Hussein & Ahmed Ibrahim

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CONFERENCE PROGRAM

2nd DAY

WEDNESDAY, 12TH October 2022

Time	Event
08:00–08:30 AM	<p>Workshop entitled "Towards the Establishment of the Veterinary Medical Specialties Authority"</p> <p>Dr. Faisal Almathen (Director of Cmel Research center, KFU)</p> <p>Dr. Basel Al-Hilali (Ministry of Environment, Water and Agriculture)</p> <p>Dr. Walid Aljarbou (Veterinarian, PhD, President of SVMS-Riyadh Branch)</p> <p>ورشة عمل بعنوان "نحو إنشاء هيئة التخصصات الطبية البيطرية"</p> <p>د. فيصل المذن (مدير مركز أبحاث الابل-جامعة الملك فيصل)</p> <p>د/باسل الهلالي (وزارة البيئة والمياه والزراعة)</p> <p>د. وليد الجريوع (طبيب بيطري- رئيس فرع الجمعية بالرياض)</p>
08:30 – 09:00	<p>VETERINARY EDUCATION</p> <p>Dr. Mohamed Ali Alhosani</p> <p>WOAH Sub-Regional Representation in Abu Dhabi, UAE</p> <p>التعليم البيطري</p> <p>د/محمد علي الحوسني</p> <p>ممثل المكتب شبة الإقليمي للمنظمة العالمية للصحة الحيوانية- ابوظبي- الامارات العربية المتحدة</p>
09:00 – 09:25	<p>FMD NEW CHALLENGES</p> <p>Dr. Rodolfo César Bellinzoni DVM – PhD</p> <p>Director of Industrial Operations and Innovation, Biogenesis Bago</p> <p>"تحديات الحي القلاعية"</p> <p>د. رودلفو سيزار بيلنزوني</p> <p>مدير العمليات الصناعية والابتكار - شركة بايوجينيسيس باجو</p>
09:25 – 09:50	<p>Signing a cooperation agreement:</p> <p>Signing a cooperation agreement between the College of Veterinary Medicine and Al-Qannas for purebred Arabian horses.</p> <p>توقيع اتفاقيات تعاون:</p> <p>توقيع اتفاقية تعاون بين كلية الطب البيطري والقنص للخيل العربية الاصيلة</p>
09:50 – 10:20	<p>The theranostic applications of exosomes in veterinary medicine</p> <p>Dr. Islam M. Saadeldin, DVM, MVS, Ph.D.</p> <p>Research Professor of Theriogenology, College of Veterinary Medicine, Chungnam National University, South Korea</p> <p>التطبيقات العلاجية والتشخيصية للاكسوزومات في الطب البيطري</p> <p>د. اسلام محمد سعد الدين</p> <p>أستاذ أبحاث بجامعة شينجوانم- كوريا الجنوبية</p>
10:20 – 10:50	<p>The role of veterinarian in food safety and security</p> <p>Dr. Walid Aljarbou</p> <p>Veterinarian, PhD (Food Sciences)</p> <p>President of SVMS- Riyadh Branch</p> <p>دور الطبيب البيطري في سلامة الأغذية والامن الغذائي</p> <p>د. وليد الجريوع</p> <p>طبيب بيطري، وحاصل على الدكتوراة في علوم الأغذية، رئيس فرع الجمعية في الرياض</p>
10:50 – 11:20	<p>Developing livestock and protecting them from diseases and pollution and protecting the environment</p> <p>Dr. Salem Alhajri</p> <p>Director of laboratories and research administration-Royal court affairs, Oman</p> <p>تنمية الثروة الحيوانية وحمايتها من الامراض والتلوث وحماية البيئة</p> <p>د/سالم الحجري</p> <p>مدير إدارة المختبرات والبحوث – شؤون البلاط السلطاني-سلطنة عمان</p>
11:20 – 12:00	<p>Break</p> <p>استراحة</p>

Scientific Sessions الجلسات العلمية			
Time	HALL 1	HALL 2	HALL 3
	<p>Chair: Dr. Nasser A. Al-Hamam</p> <p>Co-Chair: Dr. Mohamed Al-Hammadi</p> <p>Moderator: Dr. Isam Al-Jalli</p>	<p>Chair: Dr. Thonian Ali Thonian</p> <p>Co-Chair: Dr. Abdullah Al-Tahir</p> <p>Moderator: Dr. Mohamed Sabry</p>	<p>Chair: Dr. Adel Al-Mubarak</p> <p>Co-Chair: Dr. Mohamed Marzouk</p> <p>Moderator: Dr. Abdulazim Munir</p>
12:00–12:15 PM	<p>Microfluidic encapsulation of potent anthelmintic essential oil components for post-ruminal delivery to combat gastrointestinal nematodes</p> <p>Mohamed A. Helal, Ahmed M. Abdel-Gawad, Omnia M. Kandil, Marwa M. Khalifa, Gareth Cave, Hany M. Elsheikha</p>	<p>The influence of the corpus luteum location on hormonal composition of follicular fluid in dromedary camels (Camelus dromedarius)</p> <p>M.M. Waheed, I.M. Ghoneim, S.M. El-Bahr, A.M.A. Meligy, I.F. Albokhadaim, M.G. El-Sebae</p>	<p>Climate Change a risk factor has Potential Influence on Vector-Borne and Zoonotic Diseases in Egypt: A Review</p> <p>Ali Elshafey Mohamed, A.; Zeidan, S. Mohamed Nayel, Akram Salama, Walid Mousa, Ahmed Elsisfy and A. Zaghawa</p>
12:15 – 12:30	<p>ZODIAC an opportunity to Gulf Cooperation Council because the earlier, the better</p> <p>Abdulaziz M Alateeqi</p>	<p>Anesthesia in Monkeys (Chlorocebus sabaeus)</p> <p>Mohamed G.A., Mohamed Ali Saad and Almubarak A.A.3</p>	<p>Antimicrobial resistance genes of Campylobacter jejuni in broiler</p> <p>Mona, M.Sobhy and Khadijah A. Y. Altammar and Nazeek AlGalla</p>
12:30 – 12:45	<p>Prevalence of Trypanosomiasis in Arabian camels (Camelus dromedaries) in Eastern region, Saudi Arabia with special concern to treatment</p> <p>Ahmed Abdel-Rady, Ibrahim Abd El-Rahim, Walaa Mostafa, Mahmoud M Elhaig</p>	<p>Enhancing growth and non-specific immunity of juvenile striped catfish by incorporating Astragalus membranaceus extract in feed</p> <p>Mohamed A. Khallaf, MdReazChaklader, Hany M.R. Abdel-Latif</p>	<p>Mycological Investigation and Determination of Aflatoxin and Ochrotoxin A Contaminants in Commercial Poultry Feed</p> <p>Usama H. Abo-Shama</p>
12:45 – 01:00	<p>Heat stress impacts on Friesian dairy cattle in some areas in Middle Egypt</p> <p>Hanan K. Elsayed; Ali El-Sebaie Hussein and Ahmed Helmy Omran</p>	<p>How to Approach Practical Disciplines Virtually</p> <p>Mohamed A. A. Mahdy</p>	<p>The Potential Use Of Autofluorescence In Identifying Eggs Of 3 Trichostrongyles Common To Infect Small Ruminants</p> <p>Ibrahim Abbas and Michael Hildreth</p>

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Follow the scientific session of the conference program

2nd DAY

WEDNESDAY, 12TH October 2022

Time	HALL 1	HALL 2	HALL 3
01:00 – 01:15	Molecular and antibiogram studies of <i>riemerella</i> anatispestifer isolates in ducklings <i>Mohamed S. Ahmed, Amal A. Batahi, I. A. Ibrahim, Nabila Osman.</i>	Ruminal pH in different locations for cows consuming energy dense or forage-based diets. <i>E. Mickdam E. Castillo-Lopez and Q. Zebeli</i>	Impact of NLRP3 inflammasome on the mitochondrial architecture in mice skeletal muscle <i>Ramy K. A. Sayed, Marisol Fernández-Ortiz, Darío Acuña-Castroviejo</i>
01:15 – 01:30	Molecular identification and phylogenetic analysis of crustacean parasites causing high mortalities in farmed mullet and Nile tilapia species in Egypt <i>Nevien Abdelkhalek, and Mohamed El-Adl</i>	Bacteriological and molecular identification of mycotic causes of bovine mastitis in Menoufia Governorate, Egypt <i>Ahmed Zaghawa, Akram Salama, Ahmed Elsify, Mohamed Nayel, Kariem El-Hossary, Ramadan Tag-Eldin, Reda Trabeas and Walid Mousa.</i>	Comparative morphology and hormones of the dromedary camel testes during rutting and non-rutting seasons, with special reference to immunohistochemistry of cell adhesion molecules (Nectin 2). <i>Mohamed Kassab, Shaymaa Rezk, Mahmoud S. Gewaily, Samah Elsayed Lashen, Mustafa Shukry, and Farrag, F. A</i>
01:30 – 01:45	Trypanocidal effect of <i>Erythrina abyssinica</i>'s extracts on <i>T. evansi</i> infected Albino rats <i>F. M. Youssif, O. S. A. Mohammed and E. B. Mohamed</i>	Trypanocidal activity of different extracts from <i>Polygala eriopetra</i>'s in infected Albino rats <i>F. M. Youssif, E. B. Mohamed, O. S. A. Mohamed, A. A. Jameel4, and T. Hassan</i>	Evaluating the Effect of Applying Nano- and Micro Forms of MgO Powder on Accelerating Injured Sciatic Nerve in Rat Model using in vitro Conductive Velocity Parameter of Treated transected sciatic nerve in rat model <i>Aseel K. Hussein and Montaser M. Helal</i>
01:45 – 02:00	Cysticidal effect of <i>Balanites aegyptiaca</i> and <i>Moringa oleifera</i> on bovine cysticercosis with monitoring to dynamics of serum tumor necrosis factor α (TNF-α) <i>Omnia M.Kandil, Noha M. F. Hassan, Doaa Sedky,Hatem A. Shalaby, Heba M.Ashry, Nadia M.T. Abu El Ezz, Sahar M. Kandeel, Mohamed S. Abdelfattah</i>	Effect of Heparin and Calcium Ionophore A23187 on Dromedary Camel Epididymal Sperm Functions and In -Vitro Fertilization <i>Kandil, O. M., Elsharnoby, H. A., Sahar M.K.4, Abu-Elnaga,N.A.</i>	Comparison of two superovulation protocols on ovarian response and number of embryos recovered in dromedary camel <i>Hani A Ba-Awadh, Isiaka O Olarinre, Islam M Saadeldin, Abdullah N Alowaimier, Ayman A Swelum</i>
02:00 – 02:15	Study of antimicrobial activity of camel Kefir <i>Samira Arroum, Amel Sboui,Imen Fguiri, Naziha Ayeb, Mohamed Dbara, Mohammed Hammadi, Touhami Khorchani</i>	The Collaborating Reference Center for Camel Diseases and its Role in Enhancing regional Biosecurity <i>Asma Abdi Mohammed</i>	
02:15 – 03:30	Break		استراحة

King Faisal University

The First International Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)

CONFERENCE PROGRAM 3rd DAY THURSDAY, 13TH October 2022

Time	Event
08:00 – 09:00 AM	<p>Workshop: Women's Empowerment in Gulf Area: Looking forward to a better future Prof. Dr. Salah Al-Shami <i>President of SVMS</i> Prof. Dr. Wael El-Deeb <i>Professor of Internal Medicine, College of Veterinary Medicine, The Scientific consultant of SVMS</i> Dr. Shereen Al-Kazaz <i>Veterinary laboratory specialist, Ministry of Municipal Affairs and Agriculture, Animal Wealth Agency, Kingdom of Bahrain</i></p> <p>ورشة عمل بعنوان: تمكين المرأة في منطقة الخليج العربي: تطلع نحو مستقبل أفضل أ.د. صلاح الشامي رئيس الجمعية الطبية البيطرية السعودية أ.د. وائل محمد ابوالمكارم الديب أستاذ الأمراض الباطنة بكلية الطب البيطري والمستشار العلمي للجمعية الطبية البيطرية السعودية د. شيرين عادل القزاز أخصائية مختبرات بيطرية وزارة شؤون البلديات والزراعة وكالة الثروة الحيوانية بمملكة البحرين</p>
09:00 – 10:00	<p>"Workshop entitled " New Technology vaccines and vaccination" Dr. Bertrand Le Talec Dr. William Boyer</p> <p>ورشة عمل بعنوان "تكنولوجيا اللقاحات الحديثة والتحصين" د. بيرتراند تاليك د. وليام بوير</p>
10:00 – 11:00	<p>The role of the private sector in developing the veterinary profession in the Kingdom of Saudi Arabia Dr. Mohamed Hussein (CEO of Alefa Trading Company) Dr. Basel Al-Hilali (Ministry of Environment, Water and Agriculture)</p> <p>دور القطاع الخاص في تطوير مهنة الطب البيطري في المملكة العربية السعودية د. محمد أحمد حسين الرئيس التنفيذي لشركة اليفه للتجارة د. باسل محمد الهلالي (وزارة البيئة والمياه والزراعة)</p>
11:00 – 11:25	<p>21st Century Next Generation Animal Disease Surveillance Phylodynamic Models Untangle the Evolutionary History of Foot and Mouth Disease Serotype O in the Middle East Dr. Mohamed Al-khamis <i>Assistant professor of Epidemiology Kuwait</i></p> <p>الجيل الجديد من أنظمة التتبع الوبائي للأمراض المعدية الحيوانية في القرن 21: تحليل تطور وانتشار الحمى القلاعية سلاسة O في الشرق الأوسط باستخدام نماذج الخوارزميات البيولوجية د. محمد الخميس أستاذ مساعد الوبائيات الكويت دولة</p>
11:25 – 11:55	<p>Challenges Facing the Cattle Industry Prof. Dr. Wael El-Deeb <i>Professor of Internal Medicine, College of Veterinary Medicine, King Faisal University, The Scientific Consultant of Saudi Veterinary Medical Society</i></p> <p>التحديات التي تواجه صناعة الأبقار أ.د. وائل محمد ابوالمكارم الديب أستاذ الأمراض الباطنة - كلية الطب البيطري - جامعة الملك فيصل المستشار العلمي للجمعية الطبية البيطرية السعودية</p>
11:55 – 01:00	<p>Break</p> <p>استراحة</p>

Scientific Sessions			
الجلسات العلمية			
Time	HALL 1	HALL 2	HALL 3
	<p>Chair: Dr. Abdulmohsen Al-naiem Co-Chair: Dr. Magdi M. Waheed Moderator: Dr. Ahmed Meligy</p>	<p>Chair: Ibrahim Ghoneim Co-Chair: Said Al-ramadan Moderator: Ibrahim Al-sabbagh.</p>	<p>Chair: Fahd Al-Hizab Co-Chair: Seif Aldawalah Barakat Moderator: Dr. Ibrahim Bokhdeim</p>
01:00 – 01:15	<p>Blood Serum Concentration Of Selenium And Some Antioxidant Enzymes Of Sheep Treated With Selenium Nano-Particles <i>Abdel-Hasseb Abdel-Azeem Fayed</i></p>	<p>Pharmacoclinical, toxicity Study in Natural infected Cattle with Theileria annulata and Treated with Buparvaquone and Oxytetracycline and their combination <i>F.M., Youssif, O.S.A., Mohammed and T., Hassan</i></p>	<p>EFFECT OF MELATONIN TREATMENT ON SOME OXIDATIVE STRESS PARAMETERS IN SERUM OF AGED FEMALE RATS <i>Abdel-Hasseb Abdel-Azeem Fayed, Shereen Basunej Gad, Abdel-Dayme Zakaria, Mona Hafez Morsi, and Kariman Esmail</i></p>
01:15 – 01:30	<p>Polycyclic aromatic hydrocarbons (PAHs) occurrence in select commercially processed meat <i>Edris A. M. and Ehab Hussein</i></p>	<p>Non-Surgical Artificial Insemination In Sudanese Breed Of Ewe As A Circumventing Procedure In Infertility Due To Incomplete Copulation <i>Adamu Umaru and Aliyu Jibril</i></p>	<p>Gastrointestinal Stasis in Rabbit-Case Report <i>Aseel K. Hussein</i></p>
01:30 – 01:45	<p>Gross anatomy and histological study of prenatal development of the heart in dromedary camel <i>Marwa, Babiker, A. M. and Ismail, H.I.</i></p>	<p>AN APPROACH TO DIAGNOSIS AND TREATMENT OF DIVERSE OPHTHALMIC AFFECTIONS IN CAMEL <i>Suresh Kumar Jhirwal and T.K.Gahlot</i></p>	<p>Opportunities and challenges facing Veterinary practices in Saudi Arabia <i>Mohammad Nafi Solaiman Al-Sabi</i></p>
02:00 – 03:00	<p>Break</p>		<p>استراحة</p>
03:00 – 03:30	<p>Recommendation + Closing Ceremony</p>		<p>التوصيات وحفل الختام</p>

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المتحدثون الرئيسيون Keynote Speakers



أ.د. تارون كومار غالوت
أستاذًا ورئيس قسم الجراحة الباطنية والأشعة،
للمعلوم البيطرية والحيوانية MUI كلية
رئيس تحرير مجلة ممارسة الجمل والبحوث

Prof. Dr. Tarun Kumar Gahlot
Professor and Head of the Department
of Veterinary Surgery and Radiology
MUI College of Veterinary and Animal Sciences
Editor-in-Chief of the Journal of Camel Practice and Research



أ.د. وائل محمد الديب
أستاذ الأمراض الباطنية والتشخيص المختبري والعمل
كلية الطب البيطري - جامعة الملك فيصل

Prof. Dr. Wael M. El-Deeb
Professor of Veterinary Medicine,
Clinical and Laboratory
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د. رافائيل لاجوينز غارسيا
رئيس الجمعية البيطرية العالمية

Rafael Laguens
PRESIDENT of the World Veterinary
(Association) (WVA)



أ.د. صلاح بن عبدالعزيز الشامي
الرئيس التنفيذي للجمعية
رئيس الجمعية الطبية البيطرية السعودية
استشار الجمعية البيطرية العالمية من المملكة والشرق الأوسط وشمال أفريقيا

Prof. Salah bin Abdulaziz Al-Shami
CEO of the Conference
President of the Saudi Veterinary Medical Association
WVA Councilor for Saudi Arabia
and the Middle East and North Africa



د. عبدالله بن محمد عسيري
نائب المدير التنفيذي لمركز الأبحاث
مستشفى الملك فيصل التخصصي

DR. Abdullah M. Assiri, DVM, PhD
Deputy Executive Director, Research
Centre, King Faisal Specialist Hospital
and Research Centre



د. فيصل بن صالح المذن
أستاذ الوراثة وتربية الحيوان المساعد
مدير مركز أبحاث الإبل بجامعة الملك فيصل

DR. Faisal Saleh Almathen
Assistant Professor of Animal Genetics and Breeding
Director of the Camel Research
Center at King Faisal University



أ.د. عادل عبد الخالق أحمد
عميد كلية الطب البيطري
جامعة بدر بالقاهرة

Prof. Dr. Adel Abdel Khaleq Ahmed
Dean of the College of Veterinary Medicine
Badr University in Cairo



أ.د. مها عبده العشماوي
عميد كلية الطب البيطري بجامعة المنصورة
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Prof. Maha Abdo Al-Ashmawy
Dean of the Faculty of Veterinary
Medicine at Mansoura University T
Egyptian Arabic Republic



د. ياسل محمد الهاللي
طبيب بيطري - وزارة البيئة والمياه والزراعة

Dr. Basil Mohammed Alhilali
Veterinarian
, Ministry of environment
water and agriculture



د. محمد بن أحمد حسين
الرئيس التنفيذي لشركة البسة للتجارة
ومدير عام شركة عادات الحيوانات الأليفة المتقدمة

Dr. Mohammed bin Ahmed Hussein
CEO of Alefa Trading Company
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Dr. Walid Ali Aljarbou
Veterinarian and holding PhD in food
science, the president of SMVS's
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في كلية الصحة العامة في جامعة الكويت

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King Faisal University

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EFFECT OF MIXED DOSED OF ZINC OXIDE NANOPARTICLES AND ZINC OXIDE ON CLINICAL, BIOCHEMICAL, TRACE ELEMENTS PROFILE, FECAL ZINC AND DIGESTIBILITY CHANGES IN RAMS

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ABSTRACT

This study aimed to investigate to compare the effect of mixed different doses of ZnO and ZnO nanoparticles on the clinicobiochemical and digestibility changes in rams. For this purpose, nine dewormed and de-ticked Rahmani Rams weighing 60 kg at Animal Production Research Institute (APRI), Agricultural Research Center (ARC) in Serwe station, Domietta were used for two-week experiment. The rams were randomized into three groups (each of three). Group A received no treatment and kept as control. Group B (mixed small dose) received 15 ppm zinc oxide nanoparticle (ZNO NPs) and 15 ppm zinc oxide (ZNO). Group C (mixed large dose) received 30 ppm ZNO NPs and 30 ppm ZNO. Rams received ZNO NPs (ZNO) carried by corn starch and given daily per os for two weeks. Rams were allowed to feed on basal ration according to the NRC, (1985) requirement for sheep. There was significant decrease ($p < 0.05$) in heart rate in other groups compared to control. The Hb, RBCs, PLTs, WBCs and neutrophils showed no significant changes in rams received small (30) or large (60) mixed doses of ZnO and ZnO NPs compared to the control. The fiber % in the rams received mixed small dose showed significant increase ($p < 0.05$). The ash % in the rams received mixed large dose showed a significant increase ($p < 0.05$). The serum urea level of the rams of the control group showed a significant decrease ($P < 0.05$) in the 2nd week. The serum urea level of the rams of received (mixed small dose) and (mixed large dose) showed a significant increase in the 2nd week. The serum creatinine level in the rams received (mixed small dose) and (mixed large dose) showed a significant increase ($p < 0.05$) on 2nd week. The serum AST level in the rams in the control group and rams received (mixed large dose) showed a significant increase ($p < 0.05$) on 2nd week. We conclude that mixed doses of ZnO and ZnO NPs improve the digestibility in rams with little adverse effect on the hepatic and kidney function especially with large doses.

KEYWORDS

Zinc oxide nanoparticles, biochemical parameters, trace elements, digestibility

CITATION

Ghanem, M., Abdelraof, Y., Abdelgayed, H.S., Elmoghazi, G. and Saba, F.E. (2022). E Effect of mixed dosed of zinc oxide nanoparticles and zinc oxide on clinical, biochemical, trace elements profile, fecal zinc and digestibility changes in rams. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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EVALUATION OF MERCURY RESIDUES IN SHEEP RAISED IN RIYADH AND AL-AHSA DISTRICTS OF SAUDI ARABIA

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ABSTRACT

The concentration of total Mercury (Hg) in kidneys, liver and meat of sheep collected from industrial and urban districts (Riyadh and Al-Hasa) in Kingdom of Saudi Arabia were assessed. Samples were collected from a 150 sheep (18–24 Months old) slaughtered in the abattoir of both districts. Hg was estimated using direct mercury analyzer (DMA-80, Italy). The obtained results declared that Hg was detected in all samples ranged from 2.44 ± 0.26 to 60.86 ± 3.91 $\mu\text{g/kg}$. Kidney samples showed the highest concentrations followed by liver and then muscles. Although the detected Hg levels in all samples below the acceptable levels proposed by FAO/WHO and GSO committees, Hg levels in samples taken from Riyadh is 4-5 times higher than that of Al-Hasa indicating more pollution rate in Riyadh than Al-Hasa. The Study concluded that meat, livers and kidneys of these sheep in both studied districts carry no harm to the consumers regarding the toxic effects of mercury and feeds should regularly screened to ensure that concentrations of this toxic metal that possibly exist are below the maximum allowed level listed by governmental authorities.

KEYWORDS

Mercury, residues, pollution, mercury analyzer, sheep meat, disposition

CITATION

Ali, Y.A., Khaled M. Ashry, K.M. and Al-Shokair, S.S. (2022). Evaluation of mercury residues in sheep raised in riyyadh and al-ahsa districts of saudi arabia. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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ANTIOXIDANTS ROLES OF SOME PLANTS EXTRACTS IN CADMIUM-INDUCED TESTICULAR INJURIES

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ABSTRACT

The effects of cadmium upon the testes were investigated in rats injected subcutaneously with cadmium chloride (7 mg/kg.bwt. S/C). Seventy healthy male albino rats weighing 150–175 g were kept in fibreglass cages and were given clean food and water ad libitum. They were acclimatised for two weeks. The rats were randomly divided into seven groups of ten animals each. Twenty-four hours after experimentation, the rats of all the groups were intraperitoneally (I/P) injected with phenobarbital sodium (50 mg/kg). The rats were then euthanized, and the testes were removed. Twenty-four hours post-injection of CdCl₂, the animals were euthanized and the testes were removed. The extent of haemorrhage was estimated by determining the absorbance of haemoglobin at 414 nm in the soluble fraction of organ homogeneity. Exposure to cadmium increased the haemoglobin absorbance of the testes from 0.533 ± 0.015 to 1.51 ± 0.24 . Oral pre-treatment with several extracts of antioxidant plants given in seven successive doses for seven days significantly reduced the cadmium-induced testicular haemorrhage. It is concluded that the extracts from these plants can prevent the damage to rat testes caused by cadmium.

KEYWORDS

Plants extracts, cadmium, testicular injuries, rat

CITATION

Al-Shokair, S.S., A.Hussein, Y. and Youssef, M.M. (2022). Antioxidants roles of some plants extracts in cadmium-induced testicular injuries. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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ASSESSMENT OF SOME PATHOGENIC FOOD BORN BACTERIA IN CHICKEN MEALS SERVED IN AN UNIVERSITY HOSTLE USING PCR AND VITEK2 TECHNIQUES

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ABSTRACT

A total 75 random chicken thigh meal samples were collected from the restaurant in an university hostel represented by fresh chicken thigh, recently cooked chicken thigh (after 1 hours), late cooked chicken thigh (after 4 hours) (25 of each). The weight of each sample was approximately 100g. 30 swabs were taken from cutting boards, knives and food handlers of chicken meals from the same hostel (10 for each) were collected to investigate their bacteriological quality. The collected samples were bacteriologically examined for determination of aerobic plate count (APC), Enterobacteriaceae and Coliform count and also were examined for detection of some food poisoning bacteria (Enteropathogenic E coli, Salmonella, S.aureus) contaminating such meals and identified by traditionally and then confirmed by modern techniques as VITEK2 compact system and multiplex polymerase chain reaction. The obtained results revealed that the improper cooking and storage measures appeared to be significantly affect the bacterial count of the cooked meat meals and their quality also; surrounding closely contact food surfaces like cutting boards and food handlers. So, application of strict hygienic measures during receiving, cooking, storage and handling of each item is significant for chicken meals quality and consumer's health. VITEK2 system is an easy to use system that provides a rapid and accurate method for identification of most bacterial isolates with accuracy reached to 100% compared to conventional and mPCR methods. mPCR is a valuable tool for detection of virulent genes of several pathogen such as invA, stx1, stx2, seb, sec, sed, see.

KEYWORDS

Chicken thigh, recently cooked, late served, contact surfaces, Bacteriological examination, mPCR, VITEK2

CITATION

Edris, A., Sabek, I., Osman, I.M. and Abd-Alla, A.K. (2022). Assessment of some pathogenic food born bacteria in chicken meals served in an university hostel using pcr and vitek2 techniques. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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RESPONSE OF BROILER CHICKENS TO THE DIETARY FORTIFICATION OF BILE ACID

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ABSTRACT

The feeding trial was conducted for 31 days to investigate whether dietary energy modifications using bile acid feed additive (Runeon®) affected broiler performance, carcass characteristics, blood indices, intestinal lipase activity, and broiler's meat quality. A total of 1200 one-day-old Ross-308 broiler chicks (as hatch) were randomly distributed into three groups, each with five replicates (80 chicks/replicate). The first group was a control (T1) which fed a basal diet only. In the second group (T2), birds were fed the basal diet supplemented with bile acid (Runeon®) (on top application) at the rate of 200g/ton. In the third group (T3), birds were fed a basal diet reduced in energy requirements by 30kcal/kg and reformulated with 200g/ton of bile acid (Runeon®). Birds' diets fortified with bile acid in (T2) or (T3) significantly ($P \leq 0.05$) improved body weight, body weight gain, feed conversion ratio (FCR), and European Production Efficiency Factor (EPEF) as compared to the control. The dressing %, breast, thigh, and drumstick yields were improved in T2 and T3 than in control. Supplementation of bile acid significantly ($P \leq 0.05$) reduced abdominal fat%, as well, blood cholesterol, triacylglycerol, HDL, and LDL concentrations, but increased total protein concentration ($P \leq 0.05$). Additionally, intestinal lipase levels significantly ($P \leq 0.05$) increased in groups fortified with bile acid (T2 and T3). Besides, chicken meat moisture% and fat% were significantly ($P \leq 0.05$) decreased in T3 compared to T1 and T2. Conclusively, dietary fortification of bile acid could improve growth performance, profitability, carcass traits, serum lipids profile, intestinal lipase secretion, and chicken meat quality in broiler chickens.

KEYWORDS

Bile acids, performance, carcass traits, meat quality, broilers

CITATION

Hussien, A., Ismael, E., Bawish, B.M., Kamel, S., Ismail, E.Y., El Bendari, E.K. and Fahmy, K.N.E. (2022). Response of broiler chickens to the dietary fortification of bile acid. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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SOME NEOPLASTIC CASES IN PETS; HISTOPATHOLOGICAL AND IMMUNE HISTOCHEMICAL STUDIES

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ABSTRACT

Cancerous tumors are one of the main problems that cause of deaths in pet animals. The objective of this paper is to describe histopathological features of some neoplastic masses with confirmation using immunohistochemistry in pet animals. Our study was done from May 2020 to October 2021 in Sharkia governorate, Egypt to correctly recognize 7 cases of pet animal neoplasms "5 cases of dogs and 2 queen case" based on histopathological and immunohistochemical findings. The results revealed 2 cases of TVT in Penis with positive expressions for Iba2 and vimentin, 1 Case of Sebaceous adenoma in Hock joint of male dog skin, 1 case of hepatoid carcinoma in perianal glands of male dog with positive immunolabelling for CK7 , 1 case of chondroblastic osteosarcoma in A 4-year old, male, Great Dane dog and 2 cases of queen with mammary gland adenocarcinoma with positive immunoreactivity for HER-2 and other mixed mammary neoplasm accompanied with sarcoma has positive staining for vimentin. Finally, we concluded that the histopathological evaluations by H&E stain is the backbone method for neoplasms diagnosis and using some biomarkers added a confirmatory tools for these diagnosis.

KEYWORDS

Egypt, Neoplasms, pets, Histopathology, Immunohistochemistry

CITATION

Ali, A.A., Refat, N.A.A., Metwally, M.M.M., AL-Gabri, N. and Sobh, M.S. (2022). Some neoplastic cases in pets; histopathological and immune histochemical studies. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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METABOLIC PROFILE IN OSSIMI EWES DURING TRANSITION PERIOD

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ABSTRACT

The present study aimed to evaluate the variation in metabolic profile indices in Ossimi ewes around lambing, as well as monitoring the risks of disease health problems and their interrelationship with the various measured metabolites. The study included 36 ewes. The trial lasted for the period between about three weeks of pre-partum and one weeks of post-partum. Blood and fecal samples were collected from each ewe. The studied ewes showed good body condition, good appetite, rosy red mucus membrane, normal respiratory and pulse rates and their lambs also of good condition, some ewes exhibit fatigue after lambing but not diseased. The fecal analysis of these ewes revealed absence of parasitic infection. Increased level of non-esterified fatty acids (NEFA) and beta hydroxyl butyrate (BHBA) with decreased concentrations of blood glucose, total proteins and albumin in ewes 3 weeks before lambing were noticed. Moreover, increased activities of AST and GGT at first week post-lambing were observed. Twins and triples pregnant ewes showed marked variation in metabolic profile than single pregnant ones. In conclusion, regular metabolic profiling at transition period could be used as a tool for monitoring the health of pregnant Ossimi ewes.

KEYWORDS

Ewes, health, lambing, metabolites, Ossimi

CITATION

Hussein, H.A., Omar, A. and Karram, M.H. (2022). Metabolic profile in ossimi ewes during transition period. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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B-MODE AND COLOR DOPPLER ULTRASONOGRAPHY OF NORMAL EXTERNAL JUGULAR VEIN IN DONKEYS (EQUUS ASINUS)

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ABSTRACT

Although the jugular vein is a major important blood vessel in equine, the literature lacks this vessel's normal B-mode and Doppler ultrasonographic examinations in donkeys. Therefore, this study aimed to determine the reference ranges of B-mode and Doppler ultrasonographic indices of jugular veins in healthy adult donkeys (*Equus asinus*) and the possible effect of examination side (left and right), gender, and body condition on the ultrasonographic measurements of this vessel. B-mode and Doppler ultrasound imaging of the external jugular vein was conducted on 20 adult healthy donkeys of both sexes. In all donkeys, the jugular vein was 4.01 to 8.1 mm from the body surface. The longitudinal and transverse venous diameters ranged from 3.94 to 10.5 mm and from 0.88 to 1.9 cm, respectively. Moreover, the vein areas varied from 0.61 to 2.83 cm². The reference values of superficial and deep wall thickness (SWT and DWT) were 0.56±0.2 and 0.6±0.13 mm, respectively. The blood velocity, blood flow rate, and congestion index of the external jugular vein can be expected in adult healthy donkeys as a range value from 8.4 to 13.5 cm/sec, from 0.33 to 1.78 ml/min, and from 0.06 to 0.27 cm/sec, respectively. Generally, the vein showed laminar monophasic waveforms. The examination side and gender have no significant effect on the ultrasound measurements of the vein ($P > 0.05$). Donkeys with a body condition score (BCS) ≥ 3 revealed increases in the depth of the vein ($P < 0.05$). In conclusion, the results of this study can be used as reference values and provide a basis for comparison when evaluating donkeys with diseases that affect blood flow in the external jugular vein.

KEYWORDS

Doppler ultrasonography, jugular vein, donkeys

citation

Hussein, H.A. and Ibrahim, A. (2022). B-mode and color doppler ultrasonography of normal external jugular vein in donkeys (*Equus asinus*). In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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THE OUTCOMES OF A CENTURY OF "CAMEL RESEARCH"

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ABSTRACT

In this post, I will discuss the trends of camel research and identify the leading publishers, funding agents, authors, academic institutions, scientific disciplines and countries that have made the most significant contributions to the topic. Camel research was found in web of science to have 7593 articles (as of August 1st 2022). In 1877, the first article ever found in the database, was a study of the unusual structure of camel liver was. There were three phases to publishing a study on camels. Firstly, from 1877 to 1965, there were fewer than ten publications per year. Secondly, a steady rise to 100 publications each year; (1968-2005) More than a 200 annual articles starting in 2010. The King Saud and King Faisal Universities contributed the most publications, each accounting for >4.2% of the total numbers. Saudi Arabia contributed the most (14.7% of articles). Three journals (journal of camel practice and research, Indian journal of animal sciences and tropical animal health and production) contained 18.9% of camel papers. While more than 1000 funding agents were retrieved, the Natural Science Foundation of China (Nsfc) showed the greatest rate of funded projects (1.7%). Funding from the European Union and Al-Ain University resulted in the most productive initiatives (17 papers/project). Elsevier and Camel publishing house, two of more than 800 publishers, published Thirty percent of papers. Camel research was included in 238 scientific disciplines. The top disciplines were Veterinary Sciences (39%), Agriculture Dairy Animal Science (14.4%) and Food Science Technology (8.7%). Overall, there has been an increase in interest in camels in recent years, but the research trends in camel health and production need greater support.

KEYWORDS

Camel research, research trends, publications, camel health and production

CITATION

Kandeel, M. (2022). The outcomes of a century of "camel research". In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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HOW TO KEEP THE ACADEMIC PERFORMANCE DURING THE PANDEMIC

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ABSTRACT

Many universities and colleges' worldwide suspended classroom teaching due to the novel coronavirus pandemic and switched to online teaching mode. This form of learning provides an alternative way to minimize the contact either between students themselves or between the students and lecturers. Online teaching involves two methods; synchronous teaching where live teaching at specific time using virtual classroom, and asynchronous teaching using recorded lecturers. Although online learning appeared to be an acceptable alternative during the pandemic crisis, several aspects were considered non-functional at the beginning of the crisis, such as platforms, connectivity, cost and speed of internet, unavailability of digital devices to access the online materials, and interaction between students and professors, which negatively reflected on students' academic performance. Additionally, relocation of students at their home environment and spending several hours to study online had negatively affected the students psychologically and hence lowered their academic performance. To improve the students' academic performance during the online education it is recommended to provide platforms for online learning, provide students with electronic devices to access the internet, improve the internet speed, provide cheaper or even free internet package during the pandemic, provide professional training for lecturers, and enhance the interaction between students and teachers. Additionally, it is recommended to provide online quizzes and assignments after every lesson to measure the degree of students' understanding and increase the available time to solve the online tests.

KEYWORDS

Academic performance, online learning, pandemic

CITATION

Mahdy, M.A.A. (2022). How to keep the academic performance during the pandemic. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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THE USE OF SELECTIVE FEED ADDITIVES TO IMPROVE PERFORMANCE, INTESTINAL MICROBIOTA, AND MEAT QUALITY IN BROILERS UNDER CHRONIC HEAT STRESS

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ABSTRACT

The aim of the study was to assess the ability of selective additive combinations to ameliorate the detrimental effect caused by chronic heat stress ($32 \pm 2^\circ\text{C}$ for 24 h per d) on performance, intestinal microbiota and meat quality of broiler chickens. A total of 420, 1-day old Cobb-500 broiler chicks were assigned into seven treatment groups (60 per each). The control group did not receive any dietary supplementation and heat stressed control (HSC). Other groups received basal diet supplemented with 1 % cumin and 1 % turmeric powders (T1); 1.5 g/kg potassium chloride and 2 g/kg sodium bicarbonate (T2); 1000 ppm propolis and 15000 IU vitamin A (T3); 1200 ppb chromium and 500 ppm vitamin C (T4); 1200 ppm betaine and 500 ppm vitamin E (T5). The results indicated that all dietary additive combinations improved the growth performance indices in comparison with HSC. In addition, the dietary supplementation of 1200 ppm betaine and 500 ppm vitamin E followed by 1200 ppb chromium and 500 ppm vitamin C increased ($P < 0.01$) Lactobacillus and Bifidobacterium and decreased ($P < 0.05$) Clostridium and Coliforms intestinal counts under heat stress conditions. The dietary additive combinations improve the color, odor, tenderness juiciness, palatability, texture and overall acceptability of thigh meat. From the results of this study, it could be concluded that dietary supplementation with the combinations of betaine and Vitamin E followed by chromium and vitamin C offers a good management practice for alleviating heat stress related depression in the performance, intestinal microbiota and meat quality of broiler chickens.

KEYWORDS

Feed additives, heat stress, intestinal microbiota, meat quality, broilers

CITATION

Abdel-Raheem, S.M., Al-Sultan, S.I., Abd-Allah, S.M.S and Edris, A.M. (2022). The use of selective feed additives to improve performance, intestinal microbiota, and meat quality in broilers under chronic heat stress. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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IMAGING OF THE DROMEDARY CAMEL TARSUS

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ABSTRACT

The dromedary camel tarsal joint is a complex high motion joint and is prone to injury. Lameness originating from the tarsus is a common cause of hind limb lameness. Diagnosis of lameness based on clinical examination followed by radiography and/or ultrasonography in order to identify the cause of lameness. In the absence of definite radiologic or ultrasonographic findings, computed tomography or magnetic resonance imaging, are required. Six cadaveric camel hind limbs were used in this study. Tarsi underwent scanning using radiography, ultrasonography, computed tomography (CT) and magnetic resonance imaging (MRI). The imaging features of the dromedary camel tarsus using different imaging modalities with reference to the technical specifications of each technique were described and their diagnostic value for the different dromedary tarsal pathologies were presented.

KEYWORDS

Camel, CT, MRI, ultrasonography, radiography

CITATION

Hagag, U. and El Nahas, A. (2022). Imaging of the dromedary camel tarsus. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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MODULATORY EFFECTS OF DIETARY ALLICIN ON BLOOD PROFILE, IMMUNITY, ANTIOXIDANT STATUS, PRODUCTIVE AND REPRODUCTIVE PERFORMANCES OF CROSSBRED SHEEP

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ABSTRACT

There has been little research into the effect of allicin supplementation on sheep's productive and reproductive performance. This study examined crossbred sheep's productivity and reproductive performance concerning oral dietary delivery of allicin. : Sixty crossbred ewes—half finish Landrace and half Ossimi—between the ages of 2-3 were randomly assigned to one of four groups (n=8 ewes/group), with Gr1 serving as the control group and receiving no treatment. Gr2, Gr3, and Gr4 received dietary supplements containing allicin at rates of 0.4, 0.8, and 1.2 gm/kg, respectively. The experimental period for ewes lasted for 150 days and consisted of 3 periods (late pregnancy 45 days), suckling for 60 days, while rest or flushing (45 days), and income ewes in mating season. In contrast, the rams were allocated into four groups (n=4 ram/group) for 60 days pre-insemination. The results showed significant improvement in ewes' final body weights, hematological parameters, elevated serum total proteins and globulins concentrations, SOD, GPx, and CAT enzyme activities, and GSH levels significantly reduced MDA, TC, and triglycerides levels of allicin supplemented ewes. In addition to improving the ewe's milk yield and composition besides enhancing their lambs' antioxidant status, immune response, and growth rate compared to the control group. Additionally, allicin-treated rams showed substantial improvements in serum testosterone levels, seminal volume, total sperm output, sperm concentration, and live sperm percentage compared to the control group, as well as a decrease in reaction time and aberrant sperm percentage. In conclusion, allicin administration enhanced endogenous antioxidant activities and immunological responses in the crossbred sheep, which increased the animals' productive and reproductive performance

KEYWORDS

Allicin, immunity, antioxidant status, reproductive performances, sheep

CITATION

Shukry, M. and Assar, D.H. (2022). Modulatory effects of dietary allicin on blood profile, immunity, antioxidant status, productive and reproductive performances of crossbred sheep. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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SEROPREVALENCE OF BRUCELLOSIS AMONG FARM ANIMALS IN MENOUFIA PROVINCE DURING 2019-2021

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ABSTRACT

Brucellosis is caused by facultative intracellular bacteria of the Genus *Brucella*, which are capable of survival and multiplication within phagocytes. The disease causes severe economic losses due to abortion, decrease of milk yield and infertility. The seroprevalence of brucellosis among cattle, buffalo, sheep and goat had been obtained from the directorate of Veterinary Medicine in Menoufia province for 2019- 2021. All collected serum samples had been screened with the Rose test and Rivanol test; positive serum samples had been subjected to complement fixation test (CFT) for confirmation. Statistically there are no significant difference between the prevalence of infection during the three years for all species at P value equal to 0.0711, DF equal 2 and F value equal to 4.241. During 2019 there are 64 seropositive buffaloes out of 6263, 120 cattle out of 11440 cattle, 60 sheep out of 1964 sheep and 23 goats out of 1019 goats. During 2020; there are 21 seropositive buffaloes out of 5054, 71 cattle out of 11970 cattle, 22 sheep out of 700 sheep and 9 goats out of 389 goats. During 2021; there are 18 seropositive buffaloes out of 5134, 69 cattle out of 13868 cattle, 29 sheep out of 962 sheep and 5 goats out of 339 goats. Statistically the species significantly affect the seroprevalence of brucellosis among farm animals in Menoufia province during 2019- 2021; as Chi2 were 64.25, 84.93 and 106.9 respectively with 3 Df and P value < 0.0001.

KEYWORDS

Brucellosis, seroprevalence, animals

CITATION

Salama, A.A., Gaffar, M., Nayel, M., Elsify, A., Zaghawa, A. and Saad, W. (2022). Seroprevalence of brucellosis among farm animals in menoufia province during 2019-2021. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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DIAGNOSIS AND TREATMENT OF ESOPHAGEAL OBSTRUCTION IN CAMELS (CAMELUS DROMEDARIUS) WITH SPECIAL REFERENCE TO THE EFFECT OF TRACE ELEMENT DEFICIENCY ON ITS OCCURRENCE

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ABSTRACT

Esophageal obstruction is a common occurrence and a serious condition in camels has several serious effects on animal health and the economy. This study evaluates the effects of mineral deficiency on the occurrence of esophageal obstruction in dromedary camels and describes its clinical presentation and treatment outcomes. Twenty-eight dromedary camels were randomly allocated into two groups. Group 1 (control) included 10 apparently healthy camels. Group 2 included 18 camels with esophageal obstruction. Ultrasonographic examination of the affected camels revealed hyperechoic obstruction of the esophageal lumen. Meanwhile, the hematological evaluation showed a significant ($p < 0.05$) increase in neutrophils, lymphocytes, and monocytes, with a significant decrease in the total white blood counts in camels with esophageal obstruction compared with the controls. In addition, biochemical tests showed a significant elevation in the concentrations of serum aspartate transaminase, alanine transaminase, Alkaline phosphatase, creatine phosphokinase, glucose, albumin, creatinine, and blood urea nitrogen with a significant decrease in gamma-glutamyl transferase, globulin, sodium, chloride, cobalt, iron, manganese, and selenium compared with control camels. All camels medicinally or surgically treated completely recovered, except for a camel that had an esophageal fistula. In conclusion, trace element deficiency might play an important role in the occurrence of esophageal obstruction in dromedary camels. In addition, clinical, ultrasonographic, and hematobiochemical examinations are essential tools for accurate diagnosis, prognosis, and treatment of esophageal obstruction in camels.

KEYWORDS

Esophageal obstruction, trace element, camel

CITATION

Sadan, M., EL-Shafaey, E., EL-Khodery, S., Almatroodi, S.A. and Alsobayil, F. (2022). Diagnosis and treatment of esophageal obstruction in camels (camelus dromedarius) with special reference to the effect of trace element deficiency on its occurrence. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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USE ENDOSCOPY IN THE DIAGNOSIS OF RESPIRATORY DISORDERS IN ONE HUMPED CAMEL (CAMELUS DROMEDARIES)

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ABSTRACT

During the past thirty years, dromedary camels are attracting more research reflecting a growing interest among research workers and governments in this species. There is no significant development in the use of diagnostic tools in camels, as is the case in other animal species such as horses and small animals. Camels are affected by many respiratory diseases, which need advanced diagnostic tools to reach an accurate diagnosis. There are many challenges that make the endoscopy procedure in the respiratory tract of camels more difficult than in other animals, including anatomical difficulties represented by the narrowing of the nasal passage, which requires an endoscope with a diameter of less than 6mm. There are also anatomical difficulties in the oral cavity and narrowing of the mouth from the back. The examination of fluid samples taken from the trachea (Transtracheal wash (TTW)) and alveoli (Bronchoalveolar lavage fluid (BALF)) for microbiological, cytological and chemical analysis, is currently one of the most important advanced diagnostic methods in the field of respiratory diseases. The endoscopic examination method is one of the most important and accurate procedures for obtaining TTW and BALF. This study was performed to assure the use of endoscopy as a diagnostic tool for respiratory tract disorders in dromedary camels. A flexible endoscope is a mainstay as it permits direct visual evaluation of airways and allows the assessment of many disorders. It was concluded that a flexible endoscopy was the best diagnostic tool for the upper and lower airway disorders in camels.

KEYWORDS

Endoscopy, diagnosis, respiratory disorders, camel

CITATION

Shawaf, T. (2022). Use endoscopy in the diagnosis of respiratory disorders in one humped camel (camelus dromedaries). In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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21st CENTURY NEXT GENERATION ANIMAL DISEASE SURVEILLANCE: PHYLODYNAMIC MODELS UNTANGLE THE EVOLUTIONARY HISTORY OF FOOT AND MOUTH DISEASE SEROTYPE O IN THE MIDDLE EAST

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ABSTRACT

Foot-and-mouth disease virus (FMDV) remains one of the most important notifiable livestock diseases worldwide and threatens food security within affected countries. Presently, FMDV maintains an endemic state in the Middle East (ME), with frequent outbreaks caused by emerging strains. Our study aims to show case the robustness of phylodynamic models in revealing the evolutionary history and geographical origins of the FMDV serotype O (FMDV-O) in and within the ME region using publicly available sequence data of the VP1 gene collected between 1969 and 2014. Our results indicate that following its introduction into the ME region, the formation of new FMDV lineages peaked and remained elevated until 2001, followed by a drastic decline in population size. Our phylogeographic analyses suggest that the FMDV-O entered the ME from Eastern Asia. Further, we identified a notable number of significant viral dispersal routes between ME countries. Finally, we revealed that bovines are the most probable host associated with the transmission and maintenance of the virus among different livestock species in the ME. We demonstrate the ability of phylodynamic models to inform the molecular surveillance and control of the FMDV-O virus in high-risk regions and guide preparedness in neighbouring FMDV-free countries or regions. Thus, with the availability of high-throughput sequencing and computational resources, integrating phylodynamic models into the current animal disease surveillance systems in the ME region has become critical for effective intervention efforts.

KEYWORDS

Phylodynamic models, molecular surveillance, FMD virus, serotype O

CITATION

Alkhamis, M.A and Alateeqi, A.M. (2022). 21st Century next generation animal disease surveillance: Phylodynamic models untangle the evolutionary history of foot and mouth disease serotype o in the middle east. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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MICROFLUIDIC ENCAPSULATION OF POTENT ANTHELMINTIC ESSENTIAL OIL COMPONENTS FOR POST-RUMINAL DELIVERY TO COMBAT GASTROINTESTINAL NEMATODES

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ABSTRACT

The anthelmintic effects of five pure essential oil constituents (geraniol, geranyl acetate, eugenol, methyl iso-eugenol, and linalool) were tested, using larval motility assay, on the third-stage larvae (L3s) of *Haemonchus contortus*. The geraniol, eugenol and linalool showed a strong inhibitory efficacy against larval motility of *H. contortus* comparable to positive control (20 mg/mL levamisole) within 24 hr ($p < 0.05$). The three oils also induced a considerable structural damage to L3s. Results of treatments were validated by quantitative fluorometric microplate-based assays using Sytox green, propidium iodide and C12-resazurin, which successfully discriminated live/dead larvae. The cytotoxicity of components on Madin–Darby Canine Kidney cells was evaluated using sulforhodamine-B (SRB) assay and no significant cytotoxic effect at concentrations $< 1\%$. The EOs were successfully encapsulated in the chitosan coated PLGA particles confirmed by FTIR, TGA and XRD results with encapsulation efficiencies of 95.14, 79.68 and 71.34% and loading capacities of 8.88, 8.38 and 5.65% in entrapped particles with eugenol, linalool and geraniol, respectively. Both uncoated and coated particles had a spherical uniform shape with a relatively smooth surface approximated sizes of 273–335 nm with narrow PDI (0.15–0.19). The chitosan coated particles were positively charged (24.7 ± 9.06) compared to the negative zeta potential of PLGA particles (-23.3 ± 5.01). The release profile of EOs from the particles showed an initial burst release phase followed by sustained release phase with significantly slower rates of release from coated particles than uncoated particles. The encapsulated oils in chitosan coated particles, up to concentrations of 5 $\mu\text{g/mL}$, is non cytotoxic and has no adverse effect cell growth, viability and cell membrane integrity compared to the free EOs and uncoated particles. Taken together, the results demonstrated that microfluidic encapsulation of potent anthelmintic EOs components in chitosan coated PLGA particles could be potential carrier for oral and post-ruminal delivery to combat the gastrointestinal nematodes.

KEYWORDS

Essential oils, encapsulation, anthelmintic

CITATION

Helal, M.A., Abdel-Gawad, A.M., Kandil, O.M., Khalifa, M.M., Cave, G. and Elsheikha, H.M. (2022). Microfluidic encapsulation of potent anthelmintic essential oil components for post-ruminal delivery to combat gastrointestinal nematodes. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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ZODIAC AN OPPORTUNITY TO GULF COOPERATION COUNCIL BECAUSE THE EARLIER, THE BETTER

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ABSTRACT

Zoonotic Disease Integrated Action Project (ZODIAC) is an International Atomic Energy Agency (IAEA) initiative to increase zoonotic disease detection, diagnosis, and monitoring capacities in the Member States using nuclear and nuclear-derived techniques. This international project consists of five pillars; Pillar 1 Strengthening Detection, Diagnostic and Monitoring Capabilities in the Member States, Pillar 2 Development of Novel Technologies for the Detection and Monitoring of Zoonotic Diseases, Pillar 3 Support to Decision-making through an IT Platform, Pillar 4 Access to Data on the Impact of Zoonotic Diseases on Human Health, Pillar 5 Access to an IAEA Coordinated Response. IAEA Technical Cooperation Programme will facilitate the technology transfer to identified laboratories. Large-scale Coordinated Research Projects will help advance our knowledge of Zoonosis and address critical research gaps. During Project implementation, the project aims to support sustainable socio-economic development in the Member States, Through Fellowship training, conferences, symposia & seminars, Training courses & workshops, Expert advice, Equipment & materials, and scientific Technical Cooperation Projects. Expected Outcome: Enhance technical and operational capabilities with a solid global network of national and sub-regional diagnostic laboratories with the capacity to conduct coordinated surveillance, monitoring, early detection, and diagnosis of emerging and re-emerging zoonotic diseases, developing innovative techniques for the surveillance and detection of zoonotic diseases, making real-time decision-making support tools available for timely interventions. Enhance cooperation and utilization of tools for disease surveillance, real-time information collection, reporting, and communication through a Geo-visualization decision-making support system. It finally aims to provide access to coordinated response in case of an outbreak through the ZODIAC preparedness and response team on zoonotic disease outbreaks and to implement a communication strategy for zoonotic diseases and related information sharing. ZODIAC is an opportunity to activate the idea of the Gulf Cooperation Council Center for Early Warning of Transboundary Animal Diseases.

KEYWORDS

Zoonotic disease, ZODIAC, IAEA, transboundary, animal diseases

CITATION

Alateeqi, A.M. (2022). Zodiac an opportunity to gulf cooperation council because the earlier, the better. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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ANESTHESIA IN MONKEYS (CHLOROCEBUS SABAEUS)

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ABSTRACT

Green monkeys (*Chlorocebus sabaeus*) were anaesthetized using ketamine hydrochloride as a sole of general anesthetic agent; two selected ratios of ketamine hydrochloride were studied in xylazine- premedicated monkeys. Intramuscular anaesthetic doses of ketamine were used to anesthetize sixteen clinically sound green monkeys that previously were sedated by intramuscular injection of xylazine hydrochloride (Rompun) at a dose rate of 1mg kg⁻¹. The study was conducted in Kuku Zoo that belongs to Sudan University of Science and Technology, the experimental animals were divided into two equal groups (each animal acted as its own control), the first xylazine- sedated group was anesthetized using 2.5 mg kg⁻¹ body weight of ketamine while the other sedated monkeys received 5 mg kg⁻¹ body weight of ketamine. Some vital clinical parameters such as rectal temperature, heart and respiratory rates were recorded, anaesthesia phases (induction time, duration of anaesthesia and recovery from anaesthesia) were studied, while the quality of induction and recovery were observed in both groups and the advantages of effective muscle relaxation has been reported. The study was undertaken to see whether different doses of ketamine might better serve certain applications and to find the superior anesthetic doses.

KEYWORDS

Anaesthesia, ketamine hydrochloride, green monkeys

CITATION

Mohamed. G.A., Saad, M.A. and Almubarak. A.A. (2022). Anesthesia in monkeys (*chlorocebus sabaeus*). In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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ANTIMICROBIAL RESISTANCE GENES OF CAMPYLOBACTER JEJUNI IN BROILER

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ABSTRACT

Campylobacteriosis is one of the most common foodborne diseases in the world. Campylobacter jejuni is the major important zoonotic gastrointestinal diseases. The aim of this study to investigated virulence and antimicrobial resistance genes of C. jejuni in broiler chicken. A total of 250 samples from broiler faeces and cloacal swabs collected from different chicken farms in Egypt, examined by the conventional microbiological method. The isolates were tested for the presence of 5 virulence genes; flaA, virB11, cdtA, cdtB and cdtC studied by multiplex PCR. Also, the isolated strains tested for their susceptibility to ten antibiotics using a broth microdilution assay. The antimicrobial susceptibility of C. jejuni isolates was tested against antibiotics (chloramphenicol, erythromycin, ciprofloxacin, nalidixic acid, gentamicin, streptomycin, levofloxacin, ceftriaxone tetracycline and sulphamethoxazole). Extracted Campylobacter DNA from all samples and strains was used for molecular biological determination of selected antibiotic resistance determinants by PCR. C. jejuni isolates was resistance to Ciprofloxacin (gyrA gene) and Tetracycline Tet (O) gene. A total of 68 (27.2%) isolates of C. jejuni were isolated from broiler samples. Virulence genes were prevalent and ranged from 50 to 100%. A positive relationship was revealed flaA, virB11, cdtA, cdtB and cdtC genes in C. jejuni. Among 68 isolates, 59 strains (86.7%) were resistant to one or more antimicrobial agents. The highest percentage of antimicrobial resistance was found for Tetracycline (72.6%) and Ciprofloxacin (65.5%) respectively. Because of the role of broiler chicken in human campylobacteriosis infection, it will important to monitoring using of antibiotics in chicken farms and verify presence of campylobacteriosis infection. The antimicrobial-resistant strains can be easily transmitted to humans via the food chain. We need to applied antimicrobial-use policies in the food production chain.

KEYWORDS

Antimicrobial resistance, campylobacter, virulence genes

CITATION

Sobhy, M.M., Altammar, K.A.Y. and Al Galla, N. (2022). Antimicrobial resistance genes of campylobacter jejuni in broiler. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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THE INFLUENCE OF THE CORPUS LUTEUM LOCATION ON HORMONAL COMPOSITION OF FOLLICULAR FLUID IN DROMEDARY CAMELS (CAMELUS DROMEDARIUS)

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ABSTRACT

The aim of this study is to compare hormonal composition of the predominant antral follicle coexisting with or without a corpus luteum (CL) in dromedary camels. Forty-seven genitalia and blood samples were collected from clinically healthy adult (7–12 years of age) non-pregnant female camels (*Camelus dromedarius*) during the breeding season at a local abattoir. Follicles (0.7–1.8 cm in diameter) did not coexist with a CL were classified as follicles F1 and their blood serum labeled F1S (n=12), follicles coexist with CL on the same ovary were labeled F2 and their blood serum marked as F2S (n=9), and follicles with contralateral CL on the other ovary labeled F3 and their blood serum named F3S (n=11). Follicular fluid (FF) and sera were subjected to biochemical and hormonal analysis. Results revealed greater ($P<0.05$) concentrations of progesterone in the FF of F1 follicles and F1S serum than that found in F3 follicles and F3S serum. The concentrations of cortisone and T3 were higher ($P<0.05$) in FF of F1 and F3, and serum of F1S and F3S in comparison to FF of follicles type F2 and serum of F2S. The Thyroxine and Vitamin C concentrations in FF from F1 and F2 follicles, and serum of F1S and F2S were higher ($P<0.01$) in comparison with the FF from F3 and serum of F3S. The presence of CL might exert a local effect on hormonal composition of FF and could indirectly influence follicular development and oocyte quality. It is better to use oocytes originated from ovaries without a CL in in-vitro fertilization (IVF) in dromedary camels.

KEYWORDS

Corpus luteum, hormonal composition, follicular fluid, dromedary camels

CITATION

Waheed, M.M., Ghoneim, I.M., El-Bahr, S.M., Meligy, A.M.A., Albokhadaim, I.F. and El-Sebaei, M.G. (2022). The influence of the corpus luteum location on hormonal composition of follicular fluid in dromedary camels (*camelus dromedarius*). In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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CLIMATE CHANGE A RISK FACTOR HAS POTENTIAL INFLUENCE ON VECTOR-BORNE AND ZOONOTIC DISEASES IN EGYPT: A REVIEW

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ABSTRACT

Infectious diseases of cattle as, Bovine ephemeral fever and Lumpy Skin Disease (LSD) are important causes of substantial economic loss to affected regions. However, factors favoring their transmission under field conditions and farm-level impacts are poorly quantified. Rift Valley fever, West Nile fever and Q fever are zoonotic diseases affecting animals causing losses in animal production, beside the zoonotic importance of these diseases that affect public health. Data were collected from Master and PhD thesis, web, research papers, technical reports, and annual reports from ministry of agriculture, Egypt. Different statistical analytical methods were performed to show the effect of climate changes on the spread of different infectious diseases. In the last five years, the out breaks and occurrence of these diseases has new features of increasing virulence of the causative agent with more recorded rates of morbidity and mortality. Climate change is expanding the range of many infectious diseases. In particular, vector-borne diseases, such Bovine ephemeral fever and Lumpy Skin Disease (LSD), are advancing. Predictions of disease risk need to take into account both biological and abiotic factors. In the last five years climate changes has a great influence affecting the transmission, spread, morbidity and mortalities of vector-borne and zoonotic diseases. The climate changing, as the planet heats up, infectious diseases that were once confined to warmer latitudes are slowly expanding their range. In particular, zoonotic diseases – diseases that spread from nonhuman animals to humans – are taking advantage of the greater range made available by climate change. In this review, we discuss the situation of these diseases in Egypt in the last five years with the background of the climate change recorded in this time. It is concluded that further research are needed in this respect.

KEYWORDS

Climate change, a risk factor, vector-borne and zoonotic diseases, Nile fever, Q fever

CITATION

Mohamed, A.E., A., Zeidan, S., Nayel, M., Salama, A., Mousa, W., Elsify, A. and Zaghawa, A. (2022). Climate change a risk factor has potential influence on vector-borne and zoonotic diseases in Egypt: A review. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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PREVALENCE OF TRYPANOSOMIASIS IN ARABIAN CAMELS (CAMELUS DROMEDARIES) IN EASTERN REGION, SAUDI ARABIA WITH SPECIAL CONCERN TO TREATMENT

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ABSTRACT

The study was implemented to assess the prevalence and sensitivity of the diagnostic tests for *Trypanosoma evansi* (T. evansi) infection in camels in the Eastern region of Saudi Arabia and determining the efficacy of cymelarsan and aquin-1.5 in the treatment of the disease of a randomly selected 350 camels. The total prevalence was 6.9%, 7.7%, and 32.8% using blood smear (BS), RoTat1.2 PCR, and CATT/T. evansi, respectively. Although PCR detected T. evansi in more samples than BS, the agreement between them was very good ($K = 0.9$). Among the CATT/T. evansi results, PCR detected T. evansi in 12 and 15 camels tested CATT positive and negative, respectively, and the agreement was poor ($K = 0.1$). The use of cymelarsan and aquin-1.5 in treatment of naturally infected cases revealed that these drugs are very effective, as trypanosomes were not detected by PCR in all cymelarsan-treated camels (100%) and in 10 aquin-treated camels (83.3%). The findings showed high prevalence of T. evansi and can be applicable for the survey of T. evansi in different regions and different hosts for the adoption of disease prevention and control, and the use of cymelarsan and CATT are recommended for disease treatment and control.

KEYWORDS

Trypanosoma evansi, rotat 1.2VSG PCR, CATT/T. evansi, cymelarsan

CITATION

Abdel-Rady, A., Abd El-Rahim, I., Mostafa, W. and Elhaig, M.M. (2022). Prevalence of trypanosomiasis in arabian camels (camelus dromedaries) in eastern region, Saudi Arabia with special concern to treatment. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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HEAT STRESS IMPACTS ON FRIESIAN DAIRY CATTLE IN SOME AREAS IN MIDDLE EGYPT

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ABSTRACT

Heat stress is one of the major concerns that affect the production potential of dairy cattle most in every part of world. Elevated temperature and humidity negatively affects feed intake leading to negatively affecting the reproductive potential, which ultimately decrease milk production. El Menia governorate as a representative area of Middle Egypt with the aim of studying heat stress on adapted Friesian dairy cattle during the period of January (cold weather), April (control thermos neutral zone) and August (hot weather). Ambient air temperature (T °C) and relative humidity (RH) were used to calculate the temperature-humidity index (THI). A total of 120 pluriparous cows (4-7years) in their mid-lactation, in both desert and riverine areas were included. Cows classified according to area into 61 in riverine area and 59 in desert area, sub-classified according to season into summer (N=23), winter (N=23) and spring (controls, N=15) for riverine areas, and in desert area the classification was summer N=22, winter=22 and spring controls, N=15. Meteorological data showed significant differences between periods regarding air temperature (°C) and relative humidity (RH). During spring and winter the THI was less than 72, however during summer reached up to 96. Summer stress increased ($P<0.05$) RT, RR and HR when compared with other seasons, also decreased ($P<0.05$) milk production but increased ($P<0.05$) blood serum cortisol, total proteins and albumin ($P<0.05$) ALT, AST, urea, creatinine, cholesterol, triglycerides, serum, calcium and inorganic phosphorus and decreased ($P<0.05$) blood serum magnesium concentrations when compared with winter and spring seasons. The results emphasize the hazards of keeping cows under hot climatic conditions, so ameliorative methods and protection must be evident.

KEYWORDS

Heat stress, dairy cows, cortisol, environmental temperature and relative humidity

CITATION

Elsayed, H.K., Hussein, A.E. and Omran, A.H. (2022). Heat stress impacts on Friesian dairy cattle in some areas in middle Egypt. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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MOLECULAR AND ANTIBIOGRAM STUDIES OF RIEMERELLA ANATIPESTIFER ISOLATES IN DUCKLINGS

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ABSTRACT

Riemerella anatipestifer is contagious, often primary septicemic disease of domesticated ducklings. Economic loss to the duck industry from this disease is due to mortality, weight loss and condemnations. Due to the concern of severe drug resistance or reduction of susceptibility, the antibiogram with antimicrobial agents seems necessary. This study aimed to isolate, identify, and study the antibiogram and pathogenicity of *R. anatipestifer* in Qena province, Egypt. During the period between July 2019 and January 2021, 100 samples were collected from backyard ducklings (2-8 weeks of age) showing respiratory, digestive, nervous signs, and locomotor disturbance from different cities in Qena province. The tentative identification of the bacteria was done based on phenotypic characteristics. All the phenotypically positive isolates were further subjected to molecular identification targeting 16S rRNA gene. The antibiogram and pathogenicity for *R. anatipestifer* was performed. The results revealed a recovery of 6 *R. anatipestifer* isolates with a prevalence rate of 6%. The antibiogram pattern showed that 100% the *R. anatipestifer* isolates were sensitive to ciprofloxacin while 83,3% of isolates were sensitive to amoxicillin and enrofloxacin. All isolates were resistant to Ampicillin, penicillin G, and Cephadrine. Based on MIC, all isolates were sensitive to ciprofloxacin, gentamycin, and sulphamethoxazole–trimethoprim. Experimentally, the *R. anatipestifer* isolates showed pathogenicity to 14-days-old ducklings. *R. anatipestifer* isolates with a prevalence rate of 6%. The pathogenicity of *R. anatipestifer* was typical lesions for the field infection. It is important to perform antibiogram to avoid the resistance for the different antibiotics.

KEYWORDS

Riemerella anatipestifer, molecular, antibiogram

CITATION

Ahmed, M.S., Batahi, A.A., Ibrahim, I.A. and Osman, N. (2022). Molecular and antibiogram studies of *riemerella anatipestifer* isolates in ducklings. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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RUMINAL PH IN DIFFERENT LOCATIONS FOR COWS CONSUMING ENERGY DENSE OR FORAGE-BASED DIETS

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ABSTRACT

Although the pH difference between different locations of the rumen has previously been described, no study has been done to evaluate ruminal pH at various locations using continuous measurement system in two rumen locations when cows fed different diets. This study aimed to compare the pH of ventral rumen sac with that of the dorsal sac. The trial was conducted with 6 rumen-cannulated Holstein cows fed 2 total mixed rations, one is high grain diet and the other is forage-based diet. For continuous monitoring of ruminal pH, 2 ruminal pH sensors were inserted together (one sensor was floating in the rumen, to monitor the pH in the dorsal sac of the rumen while the other sensor was placed in the ventral sac). Free ruminal liquid (FRL) and particle associated ruminal liquid (PARL) samples were collected at 0, 4 and 8h post-feeding. Regardless of diet fed, the mean ruminal pH was lower in dorsal rumen compared to ventral rumen ($P=0.028$). While only in cows fed high grain diet, the time during which the pH decreases below the level of 5.8 was longer in the dorsal compared to the ventral rumen (141min/d longer, $P=0.05$). There was a strong correlations between dorsal and ventral pH values ($r=0.935$, 0.890 , for cows fed high grain and forage-based diet, respectively). The FRL pH ranged from 6.3-6.9 irrespective of diet fed. Diet affects pH of PARL, with pH ranging from 5.7-6.9 ($P<0.001$). The FRL and PARL pH linearly decreased with time from 2h post-feeding onwards compared to 0h in cows fed high grain diet only ($P<0.001$). There were differences in the pH of dorsal and ventral part of the rumen regardless type of diet fed with strong correlation suggesting ability to predict dorsal pH from ventral pH value.

KEYWORDS

Dorsal and ventral rumen sac, energy dense, high forage, cow

CITATION

Mickdam, E., Lopez, C. and Zebeli, Q. (2022). Ruminal pH in different locations for cows consuming energy dense or forage-based diets. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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HOW TO APPROACH PRACTICAL DISCIPLINES VIRTUALLY

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ABSTRACT

The worldwide educational systems have been greatly affected by Coronavirus disease 2019 (COVID-19) pandemic. Many universities around the world either postponed or cancelled all campus activities as a preventive measure to control the virus transmission. This was accompanied by immediate shifting of face-to-face traditional teaching to online and remote learning modes. This sudden transition was a major challenge used for the first time in many schools around the world without planning or training. Online education helps to keep the students up and running with an opportunity for self-study. However, the main challenge that online education faces in practical disciplines, such as medicine, dentistry, and veterinary medicine is how to deliver practical lessons. Since most of the subjects are practical; therefore, it is not easy to learn it online. Therefore, it is crucial to assess the impact of shifting to online teaching of practical subjects on students based on their concerns and views, student knowledge, and professional capabilities. These will help the decision-makers to put plans to either switch to online teaching, apply blended learning combining campus and online teaching together, find a substitution for the coming years. In addition, educational institutions should review the professional development of their teaching staff and reconsider the digital competencies. Online education can be improved in practical disciplines by making it more interactive, teach practical lessons by interactive tools, such as videos and 3D animation, and provide accessible eBooks and instructional videos for practical lessons. In addition to showing practical procedures, such as dissection and surgical operations in real situations, giving concise information, and providing virtual resources to mimic the real situation.

KEYWORDS

Face-to-face, online teaching, virtual resources, practical lessons

CITATION

Mahdy, M.A.A. (2022). How to approach practical disciplines virtually In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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ENHANCING GROWTH AND NON-SPECIFIC IMMUNITY OF JUVENILE STRIPED CATFISH BY INCORPORATING ASTRAGALUS MEMBRANACEUS EXTRACT IN FEED

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ABSTRACT

The present study was designed to evaluate the supplementing effects of dietary *Astragalus membranaceus* (AST) herbal extract on the growth and physiological responses of striped catfish (*Pangasianodon hypophthalmus*) juveniles. Four test diets were formulated to supplement 0.0 (control), 1.5 (AST1.5), 3.0 (AST3.0) and 4.5 (AST4.5) g / kg AST in a reference diet. Fish weighing approximately 11.50 g were stocked into four triplicate groups and were hand-fed on the test diets three times daily for 60 days with 3% of their wet body weight. At 60 days post-feeding, the growth performance, including final weight, weight gain and specific growth rate increased linearly ($R^2 > 0.90$) with increasing AST inclusion levels. A significant improvement in growth performance of fish fed AST3.0 and AST4.5 compared to AST0.0 and AST1.5 fed groups which considered the result of FI and FCR improvement in the same groups, as determined by One-way ANOVA. A significant increasing linear trend in digestive enzymes (lipase, α -amylase, and protease) was found along with increasing AST inclusion levels. Serum immunity (lysozyme and total Igs) was elevated significantly in AST fed fish groups compared to the AST0.0 fed groups. The aforementioned beneficial effects of dietary AST on striped catfish health underpinned the potentiality of AST to be used as a phyto-additive to improve the functionality of aqua-feed.

KEYWORDS

Astragalus membranaceus, striped catfish, non-specific immunity

CITATION

Khallaf, M.A., Chaklader, M. and Abdel-Latif, H.M.R. (2022). Enhancing growth and non-specific immunity of juvenile striped catfish by incorporating astragalus membranaceus extract in feed. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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COMPARATIVE MORPHOLOGY AND HORMONES OF THE DROMEDARY CAMEL TESTES DURING RUTTING AND NON-RUTTING SEASONS, WITH SPECIAL REFERENCE TO IMMUNOHISTOCHEMISTRY OF CELL ADHESION MOLECULES (NECTIN 2)

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ABSTRACT

The reproductive activity of the male dromedary camel as a seasonal breeder is affected by various seasonal changes that reflect on the sexual desire. In the current study, we explored the comparative changes occurred in the testes including hormonal, biochemical, morphometric, and immunohistochemical (apoptotic marker and nectin 2 cell adhesion molecule) investigations. The hormonal evaluation revealed a significant increase in the hormonal level specially testosterone, FSH and T3 while the biochemical analysis exposed decreased level of nitric oxide during rutting season. The morphometric study displayed clear enhancement in the epithelial thickness on the expense of luminal diameter of the seminiferous tubules in the rutting animals. Besides, the most obvious changes are in the Leydig cells ultrastructure where swelled mitochondria, vacuolated sER, and presence of different types of lysosomes in the non-rutting testes. The cellular localization of caspase-3 was mainly found in the interstitial tissue of the non-rutting camel. Interestingly, there was a clear difference in the expression of nectin 2 in the sertoli-sertoli junction at blood testes barrier and Sertoli-spermatids junction during spermiogenesis. These findings refer to cooperative changes between the hormonal, biochemical, morphological factors that affect the sexual activity of male dromedary camel throughout rutting and non-rutting seasons.

KEYWORDS

Morphology, hormones, camel testes, rutting and non-rutting seasons, immunohistochemistry, nectin 2

CITATION

Kassab, M., Rezk, S., Gewaily, M.S., Lashen, S.E., Shukry, M. and Farrag, F.A. (2022). Comparative morphology and hormones of the dromedary camel testes during rutting and non-rutting seasons, with special reference to immunohistochemistry of cell adhesion molecules (nectin 2). In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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THE POTENTIAL USE OF AUTOFLUORESCENCE IN IDENTIFYING EGGS OF 3 TRICHOSTRONGYLES COMMON TO INFECT SMALL RUMINANTS

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ABSTRACT

There is a clinical benefit in identifying eggs of various trichostrongyles to the genus/species level. The objective of the present study was to identify eggs of 3 trichostrongyles common to infect small ruminants worldwide, based on the natural autofluorescence (AF) characteristics. Fresh fecal samples were collected from a goat herd that was PCR-tested and displayed mixed infection with *H. contortus*, *T. circumcincta* and *T. axei*. Eggs harvested from that population exhibited various AF patterns when examined under the epi-fluorescence microscope using the DAPI filter cube. Most eggs appeared dim with a mean AF intensity of 26.3 intensity units (IU). However, a few eggs emitted high fluorescence signals from the inner blastomere cells, with a higher mean AF intensity (62.3 IU). These AF intensities did not significantly differ when eggs were stored for 5 days either at room temperature or at 4 °C. Eggs were then subjected to various lectin-binding assays using 3 fluorophore-conjugated lectins; Rhodamine-tagged peanut agglutinin (PNA) to identify *H. contortus* eggs, FITC-LCA (Lens culinaris agglutinin) for *T. circumcincta* eggs and FITC-AAL (Aleuria aurantia lectin) for *T. axei* eggs. At the same time, these eggs were examined at DAPI to evaluate their AF. When examined at the TRITC-B, all dim eggs at DAPI were found PNA-positive, confirming their identity as *H. contortus*. Eggs with high autofluorescence at DAPI bound either to LCA or AAL when examined at GFP-FITC, suggesting their identity either as *T. circumcincta* or *T. axei*. The present study provides a simple and fast approach to identify eggs of the most damaging trichostrongyle (*H. contortus*). Egg autofluorescence could be useful for fecal egg count reduction tests to investigate anthelmintic resistance of *H. contortus* populations.

KEYWORDS

Eggs, autofluorescence, trichostrongyles, small ruminants

CITATION

Abbas, I. and Hildreth, M. (2022). The potential use of autofluorescence in identifying eggs of 3 trichostrongyles common to infect small ruminants. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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IMPACT OF NLRP3 INFLAMMASOME ON THE MITOCHONDRIAL ARCHITECTURE IN MICE SKELETAL MUSCLE

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ABSTRACT

Pathogens in vertebrates are recognized and eliminated by both innate and adaptive immune systems. Once the former one is activated, it can sense a wide range of pathogens through pattern-recognition receptors (PRRS). Nod-like receptors (NLRs) are a family of PRRs that expressed in cytosol and recognize intracellular pathogen and danger-associated molecular patterns (PAMPs and DAMPs). To investigate the effect of NLRP3 inflammasome on the morphology and ultrastructure of the gastrocnemius muscle and mitochondria, 3 months-old wild type (WT) and NLRP3 deficient (NLRP3^{-/-}) mice, were studied. Animals were anaesthetized by intraperitoneal injection of xylazine, transcardially perfused by Trump's fixative, and then the gastrocnemius muscle was dissected and processed for light and transmission electron microscopical (TEM) analysis. Different morphometrical measurements were studied on the acquired digital images. The results showed that gastrocnemius muscle fibers of NLRP3^{-/-} mice had larger cross section area (CSA) than that of the wild type mice at the same age, with the fibers closed to each other and showed less collagenous connective tissue infiltrations in epimysium and endomysium. WT mice revealed few small sized vacuolated mitochondria with damaged cristae, in contrast, NLRP3^{-/-} mice revealed a significant increase in the number of intermyofibrillar (IMF), and CSA, perimeter and diameter of both IMF and subsarcolemmal (SS) mitochondria with numerous cristae, while number of SS mitochondria was significantly reduced. No significant changes in the length of sarcomeres and A-, I-, and H-bands were detected. The results here reported indicate that NLRP3 inflammasome may affect negatively mitochondrial morphology, leading to their dysfunction and damage after its activation by inflammatory signals.

KEYWORDS

NLRP3 inflammasome, mitochondrial morphology, mice

CITATION

Sayed, R.K.A., Fernández-Ortiz, M. and Acuña-Castroviejo, D. (2022). Impact of nlrp3 inflammasome on the mitochondrial architecture in mice skeletal muscle.

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EFFECT OF COATED SODIUM BUTYRATE (CM3000®) AS FEED ADDITIVE ON ZOOTECHNICAL PERFORMANCE, IMMUNE STATUS AND NECROTIC ENTERITIS DISEASE SEVERITY AFTER EXPERIMENTAL INFECTION OF BROILER CHICKENS

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ABSTRACT

Sodium butyrate is a sodium salt of a volatile short chain organic acid (butyric acid). Butyric acid is a major short chain organic acid derived naturally from bacterial fermentation of undigested dietary carbohydrates. The present study was conducted to determine the effect of commercial coated slow release sodium butyrate (CM3000®) as a feed additive on zootechnical performance, immune status and *Clostridium perfringens* severity after experimental infection. Three hundred 1-d-old broiler chicks (Cobb breed) were randomly distributed into 3 treatment groups (4 replicates each) using 25 chicks per replicate on floor pens. Control (C) birds were offered non-supplemented basal diets. Treatments 1 and 2 (T1 and T2) were fed diets containing CM3000® at 300 and 500 g/ton feed respectively during the entire experimental period (35 days). The birds were challenged orally with 1 ml buffer containing 10⁶ CFU/ml *Clostridium perfringens* local isolate and prepared from necrotic enteritis (NE) diseased farms. The results revealed that body weight gain, feed intake and feed conversion were significantly ($P < 0.05$) improved in chicks fed on both doses of CM3000® compare to the control one. The best feed conversion was recorded in T2 group. Dressing percentage, liver weights and the other carcasses yields were not different between treatments. The butyrate significantly enhanced immune responses measured against vaccines. Sodium butyrate significantly reduced NE lesions, healthy improved the intestinal tissues in the samples collected from T1, and T2 challenged chickens versus those collected from control group. In conclusion, exogenous administration of slow release butyrate (CM3000®) is capable of improving performance, enhancing immunity and NE disease resistance in broiler chickens.

KEYWORDS

Coated sodium butyrate, performance, immune status, necrotic enteritis, broiler chickens

CITATION

Tony, M.A. and Hamoud, M.M. (2022). Effect of coated sodium butyrate (cm3000®) as feed additive on zootechnical performance, immune status and necrotic enteritis disease severity after experimental infection of broiler chickens. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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MYCOLOGICAL INVESTIGATION AND DETERMINATION OF AFLATOXIN AND OCHRATOXIN A CONTAMINANTS IN COMMERCIAL POULTRY FEED

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ABSTRACT

The present study was carried out to investigate the occurrence of the toxigenic fungi as well as to scrutinize the total Aflatoxin (TA) and Ochratoxin A (OTA) contaminants of poultry feed. A total of 100 samples from broiler and laying hen chicken feeds located in Sohag and Assiut governorates, Egypt were examined. Most of broiler feed samples (47%) had a total fungal count from 1 to 3×10^3 CFU g⁻¹, whereas 32.5% of laying hen feed samples had a 1.6 to 5.8×10^4 CFU g⁻¹. A total of 46 samples comprising of poultry feed was analyzed for the detection TA and OTA using Enzyme-Linked Immunosorbent Assay (ELISA). The incidence of TA was recorded as 100% in both broiler and laying hen chicken feed; whereas, OTA was determined in 90% and 93.8% in broiler and laying hen chicken feed, respectively. The most prevalence fungi were *Aspergillus* (71%), *Penicillium* (40%) and *Fusarium* (21%). Regarding *Aspergillus* species, *Aspergillus flavus* (46.4%), *Aspergillus niger* (25.4%) and *Aspergillus fumigatus* (14.1%) were the most isolated species. A high prevalence of toxigenic fungi as well as a potential exists for TA and OTA in examined poultry feed samples, are of both veterinary public health significance.

KEYWORDS

Toxigenic fungi, Aflatoxin, Ochratoxin A, Contamination, Poultry feeds

CITATION

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BACTERIOLOGICAL AND MOLECULAR IDENTIFICATION OF MYCOTIC CAUSES OF BOVINE MASTITIS IN MENOUFIA GOVERNORATE, EGYPT

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ABSTRACT

Globally, bovine mycotic mastitis is caused by several species of fungi, and *Candida* is the predominant isolated species. The current study was undertaken to identify the pathogenic species of mycotic mastitis including yeast and mold, and to verify their isolation rate and the prevalence in dairy cows in different localities in Menoufia Governorate, Egypt. Two hundred milk samples were collected from 200 cows suffering from acute, chronic, and subclinical mastitis from different localities in Menoufia governorate, Egypt during 2016 and examined bacteriologically for the presence of mycotic mastitis using traditional and molecular methods. The molecular identification was done by the application of PCR depending on ITS gene followed by sequence and phylogenetic analysis of amplified segments of some isolates. Results showed that, only 20% (40 samples) were positive for mycotic mastitis, amongst them 57.5% (23/40) were positive for yeast and 42.5% (17/40) were positive for mold. Different *Candida* species *Rhodotorula* and *Sacharomyces* species were identified as of yeast mastitis. On the other hand *Aspergillus* species, *Penicillium* species, *Alternaria* species, *Mucor* and *Cladosporium* species were isolated from mold mastitis cases. Six isolates from *Aspergillus* species and *Candida* species were genotypically identified based on ITS giving the specific amplicon size. Phylogenetic analysis of the *Aspergillus nomius* (KX431672) and *Candida catenulata* (KX431673) showed 98-100% identity with similar species isolated from Korea and Thailand, respectively. Results revealed that locality has no significant effect on the prevalence of mycotic mastitis but age and stage of lactation significantly affect its prevalence

KEYWORDS

Mycotic mastitis, Egypt, phylogenetic analysis

CITATION

Zaghawa, A., Salama, A., Elsify, A., Nayel, M., El-Hossary, K., Tag- Eldin, R., Trabees, R. and Mousa, W. (2022). Bacteriological and molecular identification of mycotic causes of bovine mastitis in menoufia governorate, Egypt. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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MOLECULAR IDENTIFICATION AND PHYLOGENETIC ANALYSIS OF CRUSTACEAN PARASITES CAUSING HIGH MORTALITIES IN FARMED MULLET AND NILE TILAPIA SPECIES IN EGYPT

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ABSTRACT

Parasitic diseases caused by crustaceans have a direct impact on global finfish and shellfish aquaculture either through production losses due to high mortalities, high control costs and as a port of entry for bacterial and viral infections especially under overstocking culture conditions with poor water quality. The current study aimed to use molecular identification as a tool for diagnosis to construct a phylogenetic analysis of the identified crustacean parasites causing high mortalities in mullet and tilapia farms in Egypt with special reference to their immunological impact and tissue pathology against external parasitic infestation that could help develop a better control method. Results showed that *Caligus curtus*, *Caligus clemensi* were the most common species-affecting mullet. *Renocila thresherorum*, *Nerocila orbignyi* and *Lernaea* sp. affecting tilapia species, while mullet mainly affected by *Renocila thresherorum*. In conclusion, molecular identification was a promising tool for diagnosis of crustacean parasitic affection among cultured fish.

KEYWORDS

Nile tilapia, mullet, molecular diagnosis, and phylogenetic analysis

CITATION

Abdelkhalek, N. and El-Adl, M. (2022). Molecular identification and phylogenetic analysis of crustacean parasites causing high mortalities in farmed mullet and Nile tilapia species in Egypt. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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OPPORTUNITIES AND CHALLENGES FACING VETERINARY PRACTICES IN SAUDI ARABIA

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ABSTRACT

The occupation of Veterinary Medicine is shaped by the local practices, needs and developmental program. Here comes the importance of the National Developmental Program in Saudi Arabia, widely known as Vision 2030, as the main driving force that can shape and restructure existing Veterinary practices and open new avenues for this profession in the same time. These changes include: structuring the legal frameworks of the profession in general and its subdivisions in the respected fields of practices, creating new specialities and widening existing ones that are linked to several subdivisions of the profession, many in the fields of food security, pharmaceutical industry and animal welfare. This presentation will focus on the opportunities and challenges facing these three later aspects of the profession and propose specific guidelines and insights into the development process that can ensure best practices.

KEYWORDS

Vision 2030, Saudi Arabia, Veterinary Medicine, Opportunities, challenges

CITATION

Al-Sabi, M.N.S. (2022). Opportunities and challenges facing veterinary practices in Saudi Arabia. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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POLYCYCLIC AROMATIC HYDROCARBONS (PAHS) OCCURRENCE IN SELECT COMMERCIALY PROCESSED MEAT

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ABSTRACT

Polycyclic aromatic hydrocarbons (PAHs) are toxic chemical compounds that can be formed as a result of the thermal treatment of meat, especially grilling or barbecuing. The aim of this study is to determine the level of contamination of 12 PAH compounds (benzo[a]anthracene, chrysene, benzo[b]fluoranthene, benzo[a]pyrene, Dibenzo [ae] pyrene, Dibenzo [al] pyrene, Dibenzo [ah] pyrene, Dibenzo [ai] pyrene, indeno [1,2,3-cd] pyrene, benzo [ghi] perylene, Cyclopenta(c,d) pyrene and Dibenzo [a,h] anthracene) with high-performance liquid chromatography (HPLC) on 30 heat-treated meat samples (charcoal grilled kofta, charcoal grilled chicken and gas grilled chicken) (10 of each), the mean values of PAH4 and PAH8 were 90 ± 93.17 , 19.7 ± 28.1 ; 69.6 ± 74.4 , 10.9 ± 16.25 ; 41.3 ± 44.9 , $3.4 \pm 5.1 \mu\text{g/g}$, respectively. All of the samples analyzed were found to be exceeded the European Union permitted limit ($5 \mu\text{g/kg}$) in terms of BaP. Special attention must be given to the intake of barbecued foods since high amounts of PAHs can be taken in a single meal.

KEYWORDS

Polycyclic aromatic hydrocarbons, barbecued foods, processed meat

CITATION

Abdelkhalek, N. and El-Adl, M. (2022). Polycyclic aromatic hydrocarbons (pahs) occurrence in select commercially processed meat. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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GROSS ANATOMY AND HISTOLOGICAL STUDY OF PRENATAL DEVELOPMENT OF THE HEART IN DROMEDARY CAMEL

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ABSTRACT

The cardiovascular system is one of the first body systems to appear within the embryo. It is active by the beginning of the fourth week. The present study aimed to investigate the prenatal development of the heart in the camel grossly and histologically. This study investigated general morphology and the histological changes of the pre-natal development of the dromedary camel heart. Ten hearts of camel fetuses obtained from Al-Ssalam and Tamboul slaughterhouses, Sudan, were used in this study. Three samples were dissected and seven samples were prepared by routine histological procedures and stained by the general histological stain (Hematoxylin and Eosin) and some other special stains. The most important feature of the camel foetus heart grossly is the presence of large amount of fat covering the coronary groove and the longitudinal grooves. At the 71day of gestation the pericardium was associated with the diaphragm, liver and thoracic vertebrae. The atrial outlines were irregularly showing many undulations, whereas the ventricular outlines were relatively regular. The epicardium appeared as a thin layer that showed a gradual increase in thickness and amount of adipose tissue. As foetal age increased, a gradual increase was also observed in the myocardial thickness of the ventricular wall and atrial pectinate muscles. It was concluded that the heart showed very important morphological and histological developmental changes after the second month of gestation.

KEYWORDS

Camel, development, foetus, heart, Prenatal

CITATION

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PHARMACOClinical, TOXICITY STUDY IN NATURAL INFECTED CATTLE WITH THEILERIA ANNULATA AND TREATED WITH BUPARVAQUONE AND OXYTETRACYCLINE AND THEIR COMBINATION

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ABSTRACT

Seventy of cattle in both sexes were infected naturally by Theileria parasites in Almagran, Atbra town-Nile River state- Northern Sudan. Cattle were divided into groups five in each, one group was kept as control group (untreated), another five cattle were free from theieriosis were kept as control negative group (uninfected). The rest groups (1-13) were divided as follows: Group (1) treated with single recommended dose of Buparvaquone (Bup), group (2) treated with single recommended dose of Oxytetracycline (OTC), group (3) treated with single two and half of the recommended dose of Bup, group (4) treated with single two and half of the recommended dose of OTC, group (5) treated with single five times of the recommended dose of OTC, group (6) treated with single half of the recommended dose of Bup plus the half recommended dose of OTC, group (7) treated with single recommended dose of Bup plus the recommended dose of OTC, group (8) treated with single of the half recommended dose of Bup plus the recommended dose of OTC, group (9) treated with single of the half recommended dose of Bup plus the two and half of the recommended dose of OTC, group (10) treated with single of recommended dose of Bup plus the two and half of the recommended dose of OTC, group (11) treated with single of tow and half the recommended dose of Bup plus the recommended dose of OTC, group (12) treated with single of two and half the recommended dose of Bup plus the tow and half of the recommended dose of OTC and group (13) treated with single half of the recommended dose of Bup plus the five times of recommended dose of OTC. The common clinical signs are swelling of the draining lymph node, lymphadenopathy, fever, anorexia, and a rapid loss of condition, lacrimation, nasal discharge, corneal opacity, an increased respiratory rate, and diarrhea. All infected untreated cattle were died after 35 days and all treated cattle were survived but, parasitaemia was slight in cattle of groups (1, 2, 4, 5, 6, 8, 9 and 13) no parasitaemia in the rest groups post treatment.

KEYWORDS

Theileria annulata, buparvaquone, oxytetracycline, cattle

CITATION

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NON-SURGICAL ARTIFICIAL INSEMINATION IN SUDANESE BREED OF EWE AS A CIRCUMVENTING PROCEDURE IN INFERTILITY DUE TO INCOMPLETE COUPULATION

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ABSTRACT

Artificial insemination is an important reproductive technology that plays critical role in the genetic improvement of sheep production. One basic infertility problem with Sudanese breed of sheep is inability of complete copulation of ewes during natural mating due to its broad heavy tail. So none surgical artificial insemination was carried out with freshly collected semen from a Sudanese ram. The semen was collected through electro-ejaculation method with the ram on standing position. After collection, the semen sample was analyzed immediately for gross motility and non-surgically introduced (transcervical) into two estrus synchronized ewes. The transfer to the ewes previously synchronized with Ovsynch synchronization protocol were properly restrained on standing position and sterile vagina speculum introduced into their vagina and the external os of the cervix gradually drawn out through the vulval opening with Allis tissue forceps. Bovine teat dilator was used to manipulate the cervical canal before loaded fresh semen sample in a modified syringe was introduced and semen deposited in the uterus. The ewes were scanned with 2 multi Iscan post insemination and were both found to be closed (pregnant). The two ewes were closely observed all through and one of the ewes successfully lambd at the end of gestation.

KEYWORDS

Artificial, Breed, Insemination, Sudanese, Transcervical

CITATION

Umaru, A. and Jibril, A. (2022). Non-surgical artificial insemination in sudanese breed of ewe as a circumventing procedure in infertility due to incomplete copulation. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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AN APPROACH TO DIAGNOSIS AND TREATMENT OF DIVERSE OPHTHALMIC AFFECTIONS IN CAMEL

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ABSTRACT

The importance of the eye in animals needs no emphasis and camel being no exception depends much on the vision than on the sense of smell. The orbits are situated laterally in the skull at its greatest transverse diameter; hence the eyes remain bulged for a better vision but at the same time are more prone to injury. Camel browses the upper storey tree vegetation and the thorny vegetation from shrubs and bushes, which often inflict injuries to the eyes of camel. In the present study the occurrence of various ophthalmic affections was recorded in camels presented at the camel clinic of department of Veterinary Surgery and Radiology, College of Veterinary and Animal Science, Bikaner. All the affections were acquired in nature and congenital abnormality of the camel's eye was not observed. The cases of present study were grouped according to age and sex of affected Camel and the part of eye involved namely; eyelids, conjunctiva, cornea and sclera, orbit and globe, periorbita and other affections. The etiology in these cases was ascertained by history and clinical examination. Diagnosis was made on the basis of detailed history, clinical examination and systematic ophthalmological examinations. The clinical examination of the eye and its adnexa was done after securing the animal in sitting position with or without xylazine sedation. The diverse ophthalmic affections diagnosed in Camels under study were; lacerations of eyelid, wounds of eye lid, conjunctivitis, keratoconjunctivitis, subconjunctival haemorrhage, keratitis, corneal opacity, corneal ulcer, corneal perforation, descemetocoele, exophthalmos, enophthalmos, ruptured eyeball, supraorbital abscess, prolapse of the nictitans gland. Judicious use of various surgico-therapeutic treatment were effectively adopted for management of these affections.

KEYWORDS

Camel, ophthalmic affections, diagnosis, surgical treatment.

CITATION

Jhirwa, S.K. and Gahlot, T.K. (2022). An approach to diagnosis and treatment of diverse ophthalmic affections in camel. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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EFFECT OF MELATONIN TREATMENT ON SOME OXIDATIVE STRESS PARAMETERS IN SERUM OF AGED FEMALE RATS

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ABSTRACT

Melatonin is a hormone secreted from the pineal gland. Its secretion is primarily related to the light/dark cycle. Melatonin secretion was gradually declined in aged human and animals. The objective of the present study is to determine the effect of melatonin therapy on some oxidative stress parameters of aged female rats. Twenty female aged rats (over 2 years) were divided into two equal groups. Rats in the first group were injected subcutaneously (S/C) daily with 1 ml 5% alcohol dissolved in saline for 8 weeks (control group). Rats in the second group (treated group) were administered melatonin at a dose of 1 mg/Kg dissolved in the same vehicle for the same period. Rats were killed and serum samples were separated for the determination of some oxidative stress parameters. Results showed that administration of melatonin significantly increased the reduced glutathione enzyme (GSH) and the superoxide dismutase (SOD). However, the malondialdehyde (MDA) was significantly decreased in treated rats compared to control (19.9 ± 2.1 nmol/ml Vs 40.6 ± 2.3 in control). Moreover, the corticosterone level was decreased in melatonin treated rats (510.7 ± 11.5 ng/ml Vs 1072 ± 13.8 in the control). In addition, the C - reactive protein (c-RP) was decreased in melatonin treated rats. It was concluded that administration of melatonin increased the antioxidant enzymes levels and decreased corticosterone and C-RP in serum of aged female rats. It was recommended to administer melatonin during aging to improve the antioxidant status and alleviate the stressful stimuli.

KEYWORDS

Melatonin, antioxidants, aged rats, corticosterone.

CITATION

Fayed, A.A., Gad, S.B., Zakaria, A., Morsi, M.H. and Esmail, K. (2022). Effect of melatonin treatment on some oxidative stress parameters in serum of aged female rats. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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GASTROINTESTINAL STASIS IN RABBIT-CASE REPORT

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ABSTRACT

Gastrointestinal (GI) stasis is a potentially dangerous condition in rabbits in which owners have to bring their companions as fast as possible because the movement of the digestive system slows down or stops completely which may expose them to real threaten. Case report: a two years old domestic rabbit was randomly selected from the animal farm of the college of veterinary medicine/ University of Baghdad for experimental gastrotomy in fifth year surgical clinic class. Pre-operative preparation: I/M anesthetic protocol was achieved (Ketamine hydrochloride-35mg/kg and Xylazine hydrochloride-5mg/kg; in addition to prophylactic antibiotics). When a surgical procedure was started, an impacted stomach was seen which was treated instantly as described in (Figure) by evacuate the stomach first; I/V fluid therapy for 72 hours, oral feeding of soft materials, and putting the rabbit under gastrointestinal stasis treatment (Ranitidine 2–5 mg/kg S/C once daily; Metoclopramide 0.2–1.0 mg/kg S/C once daily) for five days. Fibers were continued given with more frequencies but small quantities until defecation returned back to normal and X-ray examination was done to emphasize the normalized status of the Gastrointestinal tract. To prevent reoccurrence of GI stasis, feeding the farm rabbit or even the pet rabbit high-fiber, hay-based diet with some vegetable and fruits in addition to some pellets to stimulate normal intestinal motility, as well as helps wear down rabbits' continuously growing teeth then reduce the possibility of having dental problems.

KEYWORDS

Gastrointestinal stasis, rabbit, gastrotomy, treatment.

CITATION

Hussein, A.K. (2022). Gastrointestinal stasis in rabbit-case report. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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BLOOD SERUM CONCENTRATION OF SELENIUM AND SOME ANTIOXIDANT ENZYMES OF SHEEP TREATED WITH SELENIUM NANO-PARTICLES

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ABSTRACT

Antioxidants are substances necessary to neutralize the reactive oxygen species (ROS) normally produced during the metabolic processes. Selenium (Se) is essential trace element for animals and human. It plays a complementary role as antioxidant through activation of glutathione peroxidase enzyme (GSH.Px) involved in detoxification of peroxides before they attack the cell membrane. Least toxic form of Se is elemental Se, and hence its nano-form has attracted significant attention. Selenium nano-particles (SeNPs) exhibit less cytotoxicity and higher biological activity. The objective of the present study was to evaluate the administration of SeNPs on sheep antioxidant enzymes levels in serum. Selenium nano-particles were prepared by reduction of sodium selenite and subjected to high speed microfluidic homogenization. The particle size average was 75.1 nm and Zeta potential charge = + 58.7 mV and polydispersity index = 0.14. Five sheep of both sexes were subcutaneously injected with SeNPs suspended in oil base at a dose of 0.5 mg/Kg (Treated group). Other 5 sheep were injected with oil base only (Control). Blood samples were obtained after one week from treatment. Serum was separated and analyzed for Se and antioxidant enzymes levels. Results showed that injection of seNPs significantly increased GSH.Px (26 %) and superoxide dismutase (SOD) (88 %) and decreased Malondialdehyde (54 %), however no significant difference in the level of reduced glutathione (GSH) was detected. Selenium level was increased in treated animals (4.16 ± 0.48 ppm) compared to control (2.56 ± 0.35 ppm). It was concluded that injection of SeNPs improved the antioxidant status of sheep, which might lead to enhancement of the immune and reproductive capacity of treated animals..

KEYWORDS

Selenium nano-particles, antioxidant enzymes, immunity, sheep.

CITATION

Fayed, A.A. (2022). Blood serum concentration of selenium and some antioxidant enzymes of sheep treated with selenium nano-particles. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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STUDY OF ANTIMICROBIAL ACTIVITY OF CAMEL KEFIR

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ABSTRACT

Kefir is fermented milk, comes from the Caucasus. This beverage made by inoculating milk with kefir grain rich with starter probiotics. This study was conducted to test the antimicrobial activity of camel kefir against some pathogenic strains and detected which is better between the antibacterial activity of camel milk kefir and cow milk kefir. The antibacterial activity of (camel, cow) milk and (camel, cow) kefir were determined using the agar well method in MH agar against pathogenic strains. Camel kefir contains fat ($20.4 \pm 6.48\text{g/l}$) and $74, 7 \pm 1.4^\circ\text{D}$ lactic acid. The results showed that the Total aerobic flora in camel milk is lower ($\text{FAMT } 4.77 \times 10^4 \text{ UFC/ml}$) than in cow's milk ($\text{FAMT } 2.09 \times 10^6 \text{ UFC/ml}$). The bacterial load of lactic acid bacteria for camel kefir is 40.103 CFU/ml which is the highest compared to cow kefir, while for yeasts and molds the load is 5104 UFC/ml and which is the lowest. The antimicrobial activity of camel and camel Kefir against 6 pathogenic strains (*E. coli*, *Streptococcus*, *Klebsiella* Pneumonia, *Pseudomonas*, *Staphylococcus* and *Micrococcus*) illustrated. The well diffusion method showed that camel kefir has better antibacterial activity against 6 pathogenic strains compared to cow milk kefir. It has the best antibacterial activity with inhibition zone diameter of 6 mm. Based on the above this study suggest that camel kefir has a good microbiological quality and antimicrobial activity..

KEYWORDS

Milk, camel, microbiological activity, strains, *Escherichia Coli*, *Staphylococcus aureus*, *Streptococcus*, *Klebsiella pneumonia*.

CITATION

Arroum, S., Sboui, A., Fguiri, I., Ayebe, N., Dbara, M., Hammadi, M. and Khorchani, T. (2022). Study of antimicrobial activity of camel kefir. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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COMPARISON OF TWO SUPEROVULATION PROTOCOLS ON OVARIAN RESPONSE AND NUMBER OF EMBRYOS RECOVERED IN DROMEDARY CAMEL

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ABSTRACT

The current study aimed to evaluate the effects of two superovulation protocols on ovarian response and number of embryos recovered in dromedary camels. Multiparous dromedary camel females (n=18) aged 10 – 12 years were included in the current experiment. Females were divided into two groups. First group (n = 10) received Folltropin-V (400 mg NIH-FSH-P1) dissolved in 12 ml diluent and given twice daily in decreasing doses over 3 days (3ml, 2ml and 1ml). Second group (n = 8) received Folltropin-V (400 mg NIH-FSH-P1) dissolved in 20 ml diluent and given twice daily in decreasing doses over 5 days (3ml, 2.5 ml, 2ml, 1.5ml and 1ml). On the first day of the experiment two groups was received 6000 I.U PMSG. Ovarian monitoring using ultrasound was done day after day. The numbers of ovulatory sized (≥ 1.2 mm) follicles in 3 days and 5 days protocols were (13.3 ± 1.01 vs 10.62 ± 1.13) follicles. The numbers of corpora lutea in 3 days and 5 days protocols were (11.3 ± 1.07 vs 8.13 ± 1.19). The numbers of recovered embryos in 3 days and 5 days protocols were (7.6 ± 1.29 vs 4.87 ± 1.45). No significant different was observed between two groups in ovarian response, number of corpora lutea and recovered embryos. In conclusion, there is no significant different between Folltropin in 3 days protocol and 5 days protocol when used for induction of superovulation in dromedary camel. However, using Folltropin in 3 days protocol is preferable than 5 days protocol to save time and effort.

KEYWORDS

Dromedary camels, ovary, Embryo, FSH, Superovulation, PMSG.

CITATION

Ba-Awadh, H.A., Olarinre, I.O., Saadeldin, I.M., Alowaimier, A.N. and Swelum, A.A. (2022). Comparison of two superovulation protocols on ovarian response and number of embryos recovered in dromedary camel. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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TRYPANOCIDAL ACTIVITY OF DIFFERENT EXTRACTS FROM POLYGALA ERIOPTERA 'S IN INFECTED ALBINO RATS

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ABSTRACT

Background and objectives: Due to lack and resistance of trypanocidal drugs, for importance of trypanosomiasis in Sudan this study was designed to test the trypanocidal efficacy and toxicity of Polygala erioptera against Trypanosoma evansi experimentally infected murines. Materials and Methods: One hundred and ten Swiss albino rats were used. The animals were divided into eleven groups; each of ten rats. All rats were inoculated with 5x10⁵ parasites intraperitoneally except the negative control group. The plants extracts (water, methanolic and chloroformic) were injected intraperitoneally for treated after appearance of parasitaemia. Results: all infected untreated rats died by the end of the second week after infection, with decrease in RBCs counts, Hb concentration, PCV, and increase in Bil, ALT and AST activity. The 100 mg of water extract was successful in eliminating infection, but the 50 and 10 mg water extract could not eliminate the parasite. The 100 mg and 50 mg of either methanolic or chloroformic extracts cleared the parasite but were toxic. The 10 mg of either extracts eliminated the infection and all animals survived throughout the experiment period. In all treated groups there was variable decrease in haematological parameters and increase in serum enzymes. Conclusions: The extracts have a trypanocidal activity and further studies are recommended using Polygala erioptera's active ingredients extracts as antitrypanosomal treatment.

KEYWORDS

Polygala erioptera, T. evansi, rats, treatment and toxicity.

CITATION

Youssif, F.M., Mohamed, E.B., Mohamed, O.S.A. Jameel, A.A. and Hassan. T. (2022). Trypanocidal activity of different extracts from polygala erioptera 's in infected albino rats. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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TRYPANOCIDAL EFFECT OF ERYTHRINA ABYSSINICA'S EXTRACTS ON T. EVANSI INFECTED ALBINO RATS

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ABSTRACT

The research for new approaches to control African trypanosomosis will require intensive and extensive research into several aspects of the basic biology of the parasites themselves, the role of the tsetse flies in transmitting the infection and the response to infection of different livestock species and breeds. One hundred and sixty-five of Swiss albino rats were divided into groups 15 in each, two groups were used as control groups, the remaining 9 groups and the control positive group were infected with *T. evansi* and treated with extracts of *Erythrina abyssinica*, treated with 1 ml, 0.5 ml, 0.1 ml of water or methanolic or chloroformic extracts. In the chloroformic extract groups the trypanocidal effect of 0.1ml of the extract was observed at day 3. No rat died; all rats were sacrificed at the end of the experiment. The parasitaemia declined when rats were treated with 1ml, 0.5 ml of the chloroformic extract. The parasitaemia declined gradually and clearance occurred in all rats at day 7. Parasitaemia fluctuated in rats treated with 0.1ml of the extract. In the methanolic extract groups the parasitaemia declined gradually on day 5 onwards no parasite was detected in the peripheral blood of all rats at till death. Rats treated with treated with 1 ml the parasitaemia declined up to day 3 in rats treated with 0.5ml of the extract. The trypanocidal effect of 0.1ml of the extract was observed at day3; the parasitaemia declined slightly from day 3. No rat died; all rats were sacrificed at the end of the experiment. The study showed that *Erythrina abyssinica* has properties as trypanocidal against *Tyrpanosoma evansi* infection in rats.

KEYWORDS

Erythrina abyssinica's, extracts, *T. evansi* infected, albino rats.

CITATION

Youssif, F.M., Mohammed, O.S.A. and Mohamed, E.B. (2022). Trypanocidal effect of erythrina abyssinica's extracts on t. evansi infected albino rats. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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EVALUATING THE EFFECT OF APPLYING NANO- AND MICRO FORMS OF MgO POWDER ON ACCELERATING INJURED SCIATIC NERVE IN RAT MODEL USING IN VITRO CONDUCTIVE VELOCITY PARAMETER OF TREATED TRANSECTED SCIATIC NERVE IN RAT MODEL

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ABSTRACT

The aim of this research was to evaluate effect of two forms of MgO powder on the regeneration of transected sciatic nerve injury in rat model using in vitro electrophysiological examination. Sixty adult healthy male rats had body weight average (230 ± 20) gram were included in this work in which a transection of sciatic nerve at 1-1.5 cm proximal to the bifurcation then sutured were achieved; and randomly divided into three equal groups as: Control group (CG), Nano-form group (NG) and Micro-Form group (MG) of 20 each. The CG was left without any interference after neurorrhaphy; while a single dose of 0.5 mg of MgO Nano-form (20-33nm) was applied around the site of the neurorrhaphy in NG and 5 mg of Microform (100-170 μ m) as above in MG after neurorrhaphy. In vitro conductive velocity examinations were evaluated in normal rats then at 4, 8, and 12 weeks post-Surgery and recorded. Significant decrease of the CV values were seen four weeks post-surgery ($P=0.4706$); then Gradual and faster statistical increase ($P=0.0075$) of CV of Nano-form group (51.22 ± 0.9107) and Micro-form group (54.30 ± 1.237) m/s in comparison to Control group (58.96 ± 0.4331) m/s. It is concluded that using in vitro conductive velocity parameter reflex the degree of nerve regeneration..

KEYWORDS

MgO, Sciatic nerve, conductive velocity.

CITATION

Hussein, A.K. and Helal, M.M. (2022). Evaluating the effect of applying nano- and micro forms of mgo powder on accelerating injured sciatic nerve in rat model using in vitro conductive velocity parameter of treated transected sciatic nerve in rat model. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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CYSTICIDAL EFFECT OF *BALANITES AEGYPTIACA* AND *MORINGA OLEIFERA* ON BOVINE CYSTICERCOSIS WITH MONITORING TO DYNAMICS OF SERUM TUMOR NECROSIS FACTOR A (TNF-A)

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ABSTRACT

New cysticidal drugs including those from medicinal plants, because of their consideration as eco-friendly as well as having multiple bioactive compounds that may translate to multiple mechanisms in killing the parasites. This study was achieved to evaluate, for the first time, the efficacy of methanolic extract of *Balanites aegyptiaca* fruits and *Moringa oleifera* seeds against metacystode larval stage of the cestode *Taenia saginata* in BALB/c mice compared with commonly used anthelmintic albendazole and assigning the level of tumor necrosis factor (TNF- α) to monitor and immune and inflammatory response of experimentally infected animals. The results revealed a marked decrease in the numbers of cysticerci found in all treated mice groups and up to 88% reduction was achieved in the *B. aegyptiaca* treated group; higher than that was recorded in both *M. oleifera* (72.23%) and albendazole treated ones (80.56). The cysts of the treated groups were smaller in size than that of the control one. Besides, the mean concentration of TNF- α following treatment with *Balanites* and *Moringa* extracts, was higher than that in the untreated infected control one, evidence for inflammation and cyst damage. It can be concluded that the in vivo efficacy of *M. oleifera* extract was comparable to a commercial anthelmintic, and the *B. aegyptiaca* extract was superior in reduction of cysticerci numbers.

KEYWORDS

Cysticercosis, *Balanites aegyptiaca*, *Moringa oleifera*, albendazole, TNF- α .

CITATION

Kandil, O.M., Hassan, N.M.F., Sedky, D., Shalaby, H. A., Ashry, H.M., Abu El Ezz, N.M.T., Kandeel, S.M. and Abdelfattah, M.S. (2022). Cysticidal effect of *balanites aegyptiaca* and *moringa oleifera* on bovine cysticercosis with monitoring to dynamics of serum tumor necrosis factor α (tnf- α). In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)

EFFECT OF HEPARIN AND CALCIUM IONOPHORE A23187 ON DROMEDARY CAMEL EPIDIDYMAL SPERM FUNCTIONS AND IN -VITRO FERTILIZATION

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ABSTRACT

The objectives of this study were to evaluate the effect of use heparin (Hep) and heparin + calcium ionophore A23187 (Hep+Ca) and incubation time on dromedary camel epididymal sperm functions (Individual motility, sperm morphology, membrane integrity, and acrosome reaction (AR)) and their effect on in vitro fertilization (IVF) and subsequent embryo development of dromedary camel oocytes. In Experiment 1, epididymal sperm were collected using the retrograde flushing technique from the mature dromedary camel using 1 mL of S-TALP medium supplemented with hep. (10mg/mL) or Hep+Ca (0.1 mM/mL). Individual motility, sperm morphology, membrane integrity, and AR were recorded at 0, 1, 2 and 3 h post-incubation for all treatments. Experiment 2, the effect of adding hep. (10mg/mL) or Hep+Ca (0.1 mM/mL) in vitro fertilization media (FM) (FM+Hep or FM+Hep+Ca) on in vitro developmental competence of dromedary camel embryos. Our results show that, the use of Hep+Ca media significantly increase sperm motility, normal morphology, membrane integrity, and AR when compared with hep. group. The fertilization, cleavage, and the morula rate were significant increase (P value<0.01) in FM+Hep+Ca media when compared with FM+Hep media. In conclusion Hep+Ca media enhance epididymal camel sperm function and improve IVF more than hep. group.

KEYWORDS

Dromedary camel, camel epididymal sperm capacitation, in vitro embryo production, acrosome reaction.

CITATION

Kandil, O.M., Elsharnoby, H.A., Sahar, M.K. and Abu-Elnaga, N.A. (2022). Effect of heparin and calcium ionophore a23187 on dromedary camel epididymal sperm functions and in -vitro fertilization. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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VETERINARY EDUCATION

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ABSTRACT

The mounting challenges of zoonotic diseases and food of animal origin borne infection along with engagement of the veterinary profession in the joint works within the one health approach reflects the necessity of accreditation scheme for veterinary education to keep abreast with changing needs. Qualified veterinarian are the final products of high-quality veterinary schools or colleges, therefore OIE believes that veterinary education accreditation is of pressing importance to equip veterinary profession with high caliber practitioners. That are fully qualified to perform the required roles and responsibilities according to the PVS tool. There is great variation in the quality of veterinary colleges around the world make it essential to set specific standards to accredit veterinary schools and their capabilities to provide curricula to equip graduates with the Day One Competencies. This accreditation is considered as an advantage to graduates in relation to need to eligible licensing to compete in the job markets increase with graduation from accredit colleges, as accredited colleges always have standardized the measurement of the quality of their graduates.

KEYWORDS

Qualified veterinarian, graduates, veterinary education.

CITATION

Alhosani, M.A. (2022). Veterinary education. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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The First International Saudi Veterinary Medical Society Conference:

Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)

BIOLOGICAL DIFFERENCE BETWEEN CAMELS AND OTHER MAMMALS

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ABSTRACT

Dromedary camel (*Camelus dromedarius*) is a multipurpose domestic animal that plays an economic heritage, and social role in countries mostly located in arid and semi-arid areas. Beside they are unique in many aspects making them an incredible, as in our Holy Book the Quran, Allah Asked us to look for the creation of the camel "Do they look for the creation of the camel" Al Ghashiah. My presentation will discuss the anatomical, physiological, reproductive and immunological difference between camel and the other mammals which make him Ayatullah.

KEYWORDS

Biological differences, camels, anatomy, physiology, other mammals.

CITATION

Abdoon, A.S.S. (2022). Biological difference between camels and other mammals. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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EARLY HOST IMMUNE RESPONSES AS INDICATOR BIOMARKERS OF PROTECTION AGAINST INFECTIOUS BRONCHITIS VIRUS IN CHICKENS

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ABSTRACT

The European Pharmacopeia (EP) protocol on infectious bronchitis (IB) vaccine efficacy is overly reliant on the cilia-stopping test. This test is dependent on subjective reading of tracheal ciliary movement of vaccinated and unvaccinated chickens, with or without virulent IB virus (IBV) challenge. Though the trachea is an important site of IBV replication, head-associated lymphoid and respiratory tissues play an important role in the protection against IBV. In order to propose quantitative parameters for assessment of protection in IBV vaccine efficacy studies, this study examined early host immune responses using laboratory and data analysis methods. Day-old broiler chicks were vaccinated via the oculonasal route with live IBV vaccines, and at 21 days post vaccination (dpv), chicks were challenged with virulent IBV M41. Blood and lachrymal fluid were collected at 1-5 days post challenge (dpc) for anti-IBV IgA and IgY detections. Tissue samples [harderian gland (HG), choanal cleft, turbinate and trachea] were also taken at 1-5 dpc and examined for viral load and host responses. Based on viral load and immunostaining of these tissues, it was demonstrated that IBV levels equivalent to the trachea were found in the HG, choanal cleft and turbinate. Also, in turbinate and trachea, significant changes in the mRNA expression of TLR3, MDA5, IFN- α and IL-6 were found in M41-infected birds. In comparing the vaccinated-challenged and vaccinated-unchallenged groups, significant differences were found: i) mucosal immunity as reflected by lachrymal IgA and IgY, ii) TLR3, MDA5, IFN- α and IL-6 expressions in the choanal cleft, turbinate and trachea. This study provides evidence for the inclusion of quantitative assays to measure protection and can be taken into consideration to alter the current EP protocols on IBV vaccine efficacy testing.

KEYWORDS

Virus, immunity, protection, head-associated lymphoid tissues, broilers.

CITATION

Al-Rasheed, M., Ball, C., Leeming, G. and Ganapathy, K. (2022). Early host immune responses as indicator biomarkers of protection against infectious bronchitis virus in chickens. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)

EFFECT OF HORMONAL TREATMENTS ON REPRODUCTIVE PARAMETERS OF POSTPARTUM BUFFALO COWS

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ABSTRACT

This study aimed to explore the effect of 4 treatment protocols during 42 days postpartum on reproductive parameters in buffalo-cows. 130 buffalo-cows (80 multiparous -50 primiparous) clinically healthy, randomly allotted into five groups: each (n=16) multiparous and (n=10) primiparous. The first group; was injected by 5 ml saline 0.9% at day 14 postpartum (control). The second group; was injected by GnRH analogue 20 µg Buserelin at day 14 post-partum. The third group; was injected by two doses of GnRH analogue 20 µg Buserelin at day 14 post-partum and day 21 then PGF2α 750 µg cloprostenol at day 28 post-partum. The fourth group was injected by 1000 IU eCG at day 14 post-partum. The fifth group was injected by 1000 IU eCG at day 14 post-partum, 20 µg Buserelin at day 21 post-partum and 750 µg cloprostenol at day 28 post-partum. Fertile bulls were used for natural mating introduced 42 days postpartum. Blood samples were collected at the days 28 and 42 post-partum and serum progesterone assays were performed. Ultrasound pregnancy check was done at day 90 post-partum then every 2 weeks. Days open and conception rate were determined. The results indicated that progesterone levels at day 28 (0.92 ± 0.11 ng/ml and 0.96 ± 0.11 ng/ml) and 42 (0.85 ± 0.13 ng/ml and 0.86 ± 0.10 ng/ml) post-partum in the third and fifth groups respectively were significantly ($P > 0.05$) higher compared to the same day in both second and fourth groups while the first group was the lowest that indicated the activity of corpora lutei in the treated groups. The progesterone levels in primiparous were not significantly higher than in multiparous in the same group. Conception rates in both third and fifth groups (69.23 % in each) were significantly ($P > 0.05$) higher compared to both second and fourth groups (57.69 and 53.84 % respectively) while the first group was the lowest (19.23%) with not significant increases in primiparous in the same group. In conclusion, the application of hormonal protocols during early postpartum period in buffaloes resulted in improving reproductive performances as increases of conception rate and decreases of days open specially in the protocols used in both third and fifth groups.

KEYWORDS

Buffalo, post-partum, reproduction, hormonal treatments, conception rate, days open.

CITATION

Metwally, K.K. and Hussein, F.M. (2022). Effect of hormonal treatments on reproductive parameters of postpartum buffalo cows. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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THYROID ACTIVITY IN THE DROMEDARY CAMEL

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ABSTRACT

Camels survive the harsh desert weather through highly efficient biological systems, including the endocrine system. The thyroid gland develops from the primitive pharynx and descends caudally to its final location on the animals' necks. The thyroid gland is made up of two lobes located at the upper part of the neck and connected with an isthmus. The cellular components of the thyroid gland are formed of follicles filled with thyroglobulin and parafollicular cells. The follicular cells synthesize and secrete thyroid hormones, triiodothyronine (T3) and thyroxine (T4), which have diverse processes in animals' bodies, especially energy metabolism. While parafollicular cells produce calcitonin, a peptide that inhibits osteoclast absorption of bone and lowers the blood calcium level. Our laboratories at King Faisal University, Saudi Arabia, have investigated the morphological and histological features of the thyroid and the effect of the seasons and sex on the structure and activity of the thyroid gland. The thyroid gland showed that the height of the follicular epithelium in the winter, $10.5 \pm 0.46 \mu\text{m}$, reduced to $7.47 \pm 0.32 \mu\text{m}$ in the summer. The hormonal levels in winter (T3: $1.14 \pm 0.12 \text{ ng/ml}$, T4: $28.87 \pm 1.36 \mu\text{g/dl}$) are higher than in the summer (T3: $0.95 \pm 0.10 \text{ ng/ml}$, T4: $31.91 \pm 2.46 \mu\text{g/dl}$). These measurements showed that the epithelium is higher in males ($9.2 \pm 0.66 \mu\text{m}$) than in females ($8.4 \pm 0.69 \mu\text{m}$). Likewise, the hormonal data is higher in males (T3: $1.37 \pm 0.34 \text{ ng/ml}$, T4: $30.14 \pm 2.45 \mu\text{g/dl}$) vs. females (T3: $1.06 \pm 0.06 \text{ ng/ml}$, T4: $25.8 \pm 2.20 \mu\text{g/dl}$). These data indicate that these variations were significantly affected by season and sex.

KEYWORDS

Thyroid activity, season, sex, the dromedary camel.

CITATION

Al-Ramadan, S.Y. (2022). Thyroid activity in the dromedary camel. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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ORAL PHOTOSTABLE SELENIUM /BEE VENOM NANOCOMPOSITES ATTENUATES DIABETIC-INDUCED TESTICULAR DYSFUNCTION IN MALE RATS

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ABSTRACT

The incidence of male infertility secondary to diabetes has been reported. Natural products, including Bee Venom, derived bioactive molecules have been associated with improving insulin resistance and decreasing diabetic complications. The main objective of this study was to investigate the potential protective effect of oral administration of Selenium nanoparticles (SeNPs) alone or in combination with bee venom in type one diabetes induced with single intra peritoneal injection of 65 mg/kg Streptozotocin (STZ) in male rats in particular testicular complications. One hundred and twenty adult male Sprague Dawley rats were randomly assigned to 8 groups (n=15) and reared for 3 months; control group, diabetic group, SeNPs treated diabetic group, Bee Venom treated diabetic group, SeNPs/ Bee Venom mixture treated diabetic group at low dose, SeNPs/ Bee Venom mixture treated diabetic group at high dose, selenium /bee venom nanocomposite treated diabetic group at low dose, and selenium /bee venom nanocomposite treated diabetic group at high dose. The induction of type 1 diabetes induced elevated fasting blood glucose level and reduced body weight, serum insulin, LH, FSH, and free testosterone levels, relative and absolute testicular weights, sperm count, motility, and live ratio. Also, downregulated the hypothalamic kisspeptin-GnRH system, HPG axis and testicular steroidogenesis compared to control group. Though, oral SeNPs/bee venom mixture or composites administration maintained a normal physiological tone in most of these parameters in a dose dependent manner suggesting several potential protective effects against testicular diabetic complication. In conclusion, these suggested nanomaterials could be regarded as promising candidates to possess diabetic protective effects that indeed need additional In-Vivo and In-Vitro studies.

KEYWORDS

Selenium nanoparticles, bee venom; Diabetes, HPG axis; Kisspeptin system; steroidogenic pathway.

CITATION

Saad, D.A., Arisha, A.H., Khamis, T., Abdo, M. and Attia, Y.A. (2022). Oral photostable selenium /bee venom nanocomposites attenuates diabetic-induced testicular dysfunction in male rats. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)

THE EFFICACY OF NANO-COLLOIDAL SILVER IN TREATMENT OF POSTPARTUM ENDOMETRITIS IN DAIRY COWS

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ABSTRACT

Postpartum endometritis due to bacterial infection is one of the most common postpartum diseases affecting dairy cows, and antibiotics are widely utilized for its treatment. Recently, bacterial resistance to antibiotics became the most important problem facing the scientific community. The aim of study was to detect the efficacy of nano-colloidal silver in treatment of postpartum endometritis in dairy cows. Twenty one Holstein cows were diagnosed with postpartum endometritis at 35-40 days postpartum, relying on clinical and ultrasonography examination. The treatment protocol depends on intrauterine administration of 50 ml of nano-colloidal silver solution (25 ppm/ml) for five consecutive days, and one dose of PGF-2 α analogue (cloprostenol) for animals with a corpus luteum on their ovaries. At 7th day post-treatment, serum level of serum amyloid-A (SAA), C-reactive protein (CRP), tumor necrosis factor- α (TNF- α) and interleukin-6 (IL-6) was significantly decreased ($P < 0.001$). The level of haptoglobin and ceruloplasmin did not change significantly ($P < 0.001$). Also, the uterine secretions were decreased or disappeared, and endometrial thickness was decreased upon ultrasonography examination. At re-examination (49-54 days postpartum), 14 animals out of 21 animals (66.6%) were recovered successfully from endometritis. The pregnancy rate on 40th day post-service was 71.4 % (10 out of 14 animals were found pregnant after insemination on their observed estrus). In conclusion, the study indicated the effectiveness of nano-colloidal silver in treatment of postpartum endometritis in dairy cows. So, it could substitute the treatment with antibiotic in such cases to avoid the antibiotic resistance problems.

KEYWORDS

Postpartum endometritis, nano-silver, dairy cows.

CITATION

El-Amrawi, G. (2022). The efficacy of nano-colloidal silver in treatment of postpartum endometritis in dairy cows. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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POST-HATCHING HISTOLOGICAL, IMMUNOHISTOCHEMICAL AND MOLECULAR CHANGES IN THE TESTES OF COMMON QUAIL (*COTURNIX COTURNIX*, LINNAEUS, 1758) IN DIFFERENT FIVE AGE STAGES

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ABSTRACT

The quail testes are fundamental to reproduction as it is the site of spermatogenesis and androgen production. During the post-hatching stages, the testes are subjected to several developmental changes in seminiferous tubules and interstitial tissue. this study focus on the post-hatching histological, immunohistochemical and molecular changes in the testis in five age stages. The testes of 50 quail; ten birds / age stage (10, 20, 30, 35 and 45 days) were taken. Half of them were processed for histological and immunohistochemical (PCNA, SMA) examination and the others was used for molecular investigations. The thickness of tunica albugenia and the vasculature was increased with age and become apparent at 30 days forward. The seminiferous tubules lined with one row of cells composed of spermatogonia and Sertoli cells at 10 days. The number of layers increased due to spermatomgenesis at 30 days. The first appearance of elongated spermatid and mature spermatozoa at 35 days. The myoid cells show weak SMA expression at 10 days. The intensity of reaction increased forward with progress of age while the PCNA expression was restricted to the sertoli cells, spermatogonia, primary spermatocytes and some interstitial cells. The mRNA expression of the steroidogenic acute regulatory (StAR) protein, cytochrome P450 side-chain cleavage (P450scc) was markedly increased with age from 35 days 35 forward.

Conclusion: the results of this study revealed that the spermatogenesis process begin from the 35 days age stage

KEYWORDS

Quail, testes, post-hatching development, PCNA, SMA.

CITATION

Farrag, F., Shukry, M., Abumandour, M. and Kassab, M. (2022). Post-hatching histological, immunohistochemical and molecular changes in the testes of common quail (*coturnix coturnix*, linnaeus, 1758) in different five age stages. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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EFFECT OF BACILLUS SUBTILIS-BASED PROBIOTIC SUPPLEMENTATION ON THE GUT MICROBIAL ENVIRONMENT AND HISTOMORPHOMETRY OF SMALL INTESTINE OF BROILER CHICKENS

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ABSTRACT

Probiotics are one of the bacterial nutritional supplements that have recently spread and have several health benefits that have been discovered for humans and animals. The most used probiotic bacteria are strains of the genus *Lactobacillus*. This study was aimed at evaluating the effect of adding different concentrations of bacillus subtilis-based probiotic (Clostat™) (0, 0.25, 0.5 g per kg of feed) to the feed provided to the broilers from 1 to 35 days of age that are raised under natural conditions on small intestine histomorphometry and microbial environment. After 34 days of feeding, for microbial Analysis, the cecal contents of individual chickens (1 g) were collected aseptically for enumeration of lactobacilli and total bacterial count. The histomorphometry analyses revealed a significant increase in the length and width of the villi Intestinal and in the ratio of the length of the intestinal villi to the depth crypt. In conclusion, Dietary supplementation of probiotic-based bacillus subtilis (Clostat™) at the levels were used in this study has favorable influences on the gut health of broiler chickens.

KEYWORDS

Probiotic, clostat™, broiler, intestine, histomorphometry, microbial analysis.

CITATION

Abdellah, N., ElSayed, M.A.M., Mohammed, A.A., Abdel-Rahman, M.A. and Darwish, M.H.A. (2022). Effect of bacillus subtilis-based probiotic supplementation on the gut microbial environment and histomorphometry of small intestine of broiler chickens. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)

INVESTIGATION OF ORGANOCHLORINE COMPOUNDS IN ECOSYSTEM AT UPPER EGYPT

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ABSTRACT

Organochlorine compounds are group of chemical used for destruction of insects, weeds, and fungi. Organochlorine residues consider as a source of contamination of environmental factors. The greater use of pesticide for high agricultural production has led to increase pollution of environmental compartments [soil, water and air]. A total 200 samples of [water, sediment and fish tissues] were obtained at two seasonal periods [autumn and spring] at Sohag governorate. use GC-ECD [gas chromatography with electro-captured for measuring of organochlorine compounds. this study was conducted to monitor and evaluate changes in water ecosystem during two seasons. the levels of organochlorine pesticides were greatly affected by season. the obtained data demonstrated that Aldrin, PP-DDE and PP-DDT were found in water samples in both seasons were lower than permissible limits of (WHO, 2015). PP-DDT and OP-DDT were found in sediment samples. DDT and its analogues and Aldrin were more predominant in fish samples. the levels of organochlorine pesticides were greatly affected by season, which were observed greater during spring season as compared to autumn season. Organochlorine residues were observed greater at industrial and agricultural areas.

KEYWORDS

Organochlorine pesticides, residues, water, fish, upper Egypt.

CITATION

Abdellhaa, A.M. (2022). Investigation of organochlorine compounds in ecosystem at upper Egypt. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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COMPARISON OF ESTRUS INDUCTION AND SUBSEQUENT FERTILITY FOLLOWING SYNCHRONIZATION WITH SIX PROTOCOLS IN OSSIMI EWES OUTSIDE THE BREEDING SEASON

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ABSTRACT

Ewe breeds vary in their reproductive activities based on various factors such as season, puberty onset, and follicular waves. This study investigates the influence of long and short-term estrus and/or ovulation synchronization protocols on the fertility of Ossimi ewes outside the mating season. During June, 140 ewes were assigned at random to seven groups, with every group ($n = 20$) receiving one of the following: 1) Short-term P4-treated ewes received 20 mg P4 every other day for six days; 500 IU eCG on Day 6; 2) Long-term P4-treated ewes received 20 mg P4 every other day for 12 days; 500 IU eCG on Day 12; 3) Double PGF2 α (175 μ g Cloprostenol) 7 days apart; 500 IU eCG on Day 7 (PGF2 α -7d); 4) Double PGF2 α (175 μ g Cloprostenol) 14 days apart; 500 IU eCG on Day 7 (PGF2 α -14d); 5) Traditional Ovsynch-treated ewes (GnRH-0 Day; PGF2 α -5 Day; GnRH-7 Day; T-Ovsynch); 6) Non-traditional Ovsynch-treated ewes (GnRH-0 Day; PGF2 α -7 Day; GnRH-9 Day; NT-Ovsynch); 7) Control ewes. There were considerable variances ($P < 0.01$) among groups for estrus rate, the onset of estrus, pregnancy, and lambing rates, in addition to prolificacy and gestation period. The maximum (90%) estrus rate was observed in the LT-P4, PGF2 α -14d, and NT-Ovsynch protocols, while pregnancy and lambing rates were at their maximum (100%) in the PGF2 α -14d protocol. The NT-Ovsynch protocol showed the earliest onset of estrus, while the Control group recorded the latest onset. Even though all procedures had a beneficial effect on ewe fertility, long-term protocols, particularly PGF2 α -14d, are recommended to improve Ossimi ewe fertility outside the breeding season.

KEYWORDS

Estrus induction, synchronization, Ossimi ewes, long, short, term.

CITATION

Shukry, M. and Almadaly, E.A. (2022). Comparison of estrus induction and subsequent fertility following synchronization with six protocols in ossimi ewes outside the breeding season. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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MULTICENTER PROSPECTIVE STUDY OF CANINE SPECIFIC S100A12 AS NON-INVASIVE BIOMARKER OF ACUTE ACALCULUS CHOLECYSTITIS IN DOGS

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ABSTRACT

Acute acalculous cholecystitis (AAC) is a major life-threatening complication in the critically ill and hypovolemic shocked dogs. The initial diagnosis is based on non-specific inflammatory markers and the limited imaging modality criteria. We aimed to assess the diagnostic efficacy of S100A12 versus WBC count and CRP in identification of AAC and prognosis of its severity. This was a multicentric prospective study. Over a five-year period, 105 dogs diagnosed with mild and moderate to severe AAC, and healthy control dogs, were included in the study (35 each) based on the hemato-biochemical, ultrasonographic, and histopathologic findings. The serum levels of canine specific S100A12 and CRP were measured by ELISA. S100A12 concentration was significantly elevated in dogs with mild ($P<0.01$) or moderate to severe ($P<0.001$) AAC compared to the control, and at an area under the curve (AUC) of 0.91 and 0.96, respectively, exhibited potential roles in discriminating diseased groups from the control. WBC count and CRP exceed the reference interval and only increased ($P<0.01$) in moderate to severe AAC group and at AUC of 0.81 and 0.87 showed a moderate diagnostic performance in differentiating this group from the healthy one. The discriminative potential of S100A12 was superior to that of WBC count and CRP for diagnosing different grades of AAC severity. S100A12 can be considered as a reliable inflammatory biomarker for AAC particularly at early stages which could help the clinician to initiate a tier one priority medical intervention to increase animal survivability.

KEYWORDS

Dogs, cholecystitis, ELISA, S100A12, WBC count, CRP, AUC.

CITATION

El-Sebaey, A.M., Abramov, P.N., Pozyabin, S.V., Gnezdilova, L.A., Slesarenko, N.A., Borunova, S.M., Risha, E. and Abdelhamid, F.M. (2022). Multicenter prospective study of canine specific s100a12 as non-invasive biomarker of acute acalculus cholecystitis in dogs. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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ASSESSMENT OF POSSIBLE RISKS ASSOCIATED WITH HUMAN CONSUMPTION OF BROWN-SPOTTED GROUPER (EPINEPHELUS AREOLATUS) TISSUES IN AL-AHSA MARKET, SAUDI ARABIA BY DETERMINATION OF HEAVY METALS AND TRACE ELEMENTS CONTENTS

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ABSTRACT

Brown-spotted grouper (*Epinephelus areolatus*) fish is one of the most consumed fish in the Al-Ahsa market, Saudi Arabia. Fish were evaluated for their muscle, gill, liver, intestine, kidney and heart tissues contents of trace elements (Cu, Zn, Fe and Mn) and heavy metals (Cd and Pb). The possible risk associated with their human consumption was also evaluated. The concentration of metals was determined in tissues of fish by atomic absorption spectrophotometry after microwave-wet digestion. The results showed that the accumulation pattern of analyzed metals in all fish tissues followed the order; Fe>Zn>Cu>Mn>Pb>Cd. Higher accumulation of copper, iron and zinc has been observed in liver tissues. Other elements were accumulated within the same range. The calculated maximum daily intakes (MDI) were found to be 0.004, 0.017, 0.084, 0.003, 0.0000, and 0.0000 mg/day/person for Cu, Zn, Fe, Mn, Cd and Pb in fish muscles, respectively, which below Saudi and International Legislations for fish human consumption permissible limit. Conclusively, the present data indicated that, muscles of the examined fish contain relatively fewer burdens of trace elements and heavy metals and no health problems would be raised from human consumption of the examined commercial fish in the Al-Ahsa market, Saudi Arabia.

KEYWORDS

Trace elements, heavy metals, Brown-spotted grouper (*Epinephelus areolatus*), tissues.

CITATION

Meligy, A.M.A. and El-Bahr, S.M. (2022). Assessment of possible risks associated with human consumption of brown-spotted grouper (*epinephelus areolatus*) tissues in al-ahsa market, saudi arabia by determination of heavy metals and trace elements contents. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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INCIDENCE, MOLECULAR CHARACTERIZATION, ANTIBIOTICS RESISTANCE OF SALMONELLA ISOLATED FROM DIFFERENT TYPES OF EGYPTIAN CHEESE

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ABSTRACT

Cheeses are nutrient-dense dairy diet which possess a high consumption level around the world including Egypt. Hence, there is a growing concern regarding the regular evaluation of the microbial quality and safety of cheese. The current study aimed to recently investigate the incidence, serovars, virulence genes, antimicrobial resistance profile of Salmonella spp. in the commonly consumed cheeses in Egypt. At intervals between October 2021 and May 2022, two hundred ten random samples of Ras (Rumi), pasteurized Kareish and soft cheeses (70 each) were collected from the Mansoura hypermarkets (Egypt) and directed for microbiological, serological and molecular analysis. Salmonella spp. were detected in 8.5% (18) of all cheese samples, 22.8% (16) of Rumi cheese and 2.8% (2) of pasteurized Kareish cheese. *S. Typhimurium*, *S. Enteritidis*, *S. Infantis*, *S. Tsevie* and *S. Virchow* were the most prevalent serovars. Salmonella spp. marker genes; *InvA*, *HilA*, *Stn*, and *SpvC* were respectively expressed in 100%, 94.4%, 88.8%, and 27.7%, of all isolates. Among identified Salmonella isolates, 5.5%, 16.6%, and 61.11% were classified as pan-drug resistant (PDR), extensively-drug resistant (XDR), and multidrug resistant (MDR). This study reported the widespread of virulent, XDR and MDR Salmonella spp. in the majority of investigated Egyptian Rumi and pasteurized Kareish cheeses, which may be of public health concern. Hence, inflexible hygienic practice must be applied during their handling, manufacture, and distribution.

KEYWORDS

Rumi cheese, Kareish cheese, Salmonella spp, incidence, virulence genes, antimicrobial resistance, Egypt.

CITATION

Elzhraa, F., Elsherbini, M. and Al-Ashmawy, M. (2022). Incidence, molecular characterization, antibiotics resistance of salmonella isolated from different types of Egyptian cheese. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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THE IMPACT OF SUPPLEMENT DUCK DIETS WITH MORINGA (MORINGA OLEIFERA) LEAVES

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ABSTRACT

The current study was carried out to investigate the effect of various levels of Moringa oleifera leaf meal content as untraditional feedingstuff constituents on ducks performance, carcass traits parameter, blood biochemical parameters and meat chemical composition. A total number of 50 (two weeks old) molar ducklings were randomly distributed into 5 groups, each of 10 ducklings. The first group was considered as control (T1) and was fed ad-libitum on a grower /finisher diets. The other four groups (T2, T3, T4 and T5) were fed on diets containing MOLM at levels of 2%, 4%, 6% and 8%, respectively. The experiment was extended for 8 weeks. Results showed that there was no mortality of ducks and no significant difference in the feed intake in all treatment groups along the experimental periods. The higher body weight was achieved in birds fed 4% MOLM, while the lower body weight recorded in birds fed 8% MOLM in diets. The pre-slaughter weight, eviscerated weight and dressing weight were significantly higher in 4% MOLM group compared to control group and birds fed 8% MOLM. There weren't significant differences of weight, relative percentage of internal organs (liver, heart, spleen, gizzard) and meat chemical composition, while there was significant difference in proventriculus between different experimental groups. There weren't significant differences of serum protein profile, but there was significant difference among tested groups in triglyceride and cholesterol. It was concluded that dietary inclusion of Moringa oleifera leaf meal (MOLM) to ducks has a beneficial effect on the growth parameters, meat composition and carcass traits as well as reduced serum triglyceride and cholesterol.

KEYWORDS

Duck, diet, moringa, leaves.

CITATION

Abdel-Raheem, G.S.E., Ahmed, A.M.A., Ahmed, A.N.S. and Eldeeb, F.A. (2022). The impact of supplement duck diets with moringa (moringa oleifera) leaves. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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REPRODUCTIVE PERFORMANCE OF BUFFALO-HEIFERS UNDER STRESSFUL CONDITION

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ABSTRACT

The objectives of this study were to investigate the effect of environmental stress on reproduction of buffalo-heifers in Egypt. This study was carried out on 28 buffalo heifers, at two different environmental seasons (winter and summer). All animals were mature, free from pathological and congenital affections and fed on balanced rations. Animals were divided into two groups (14 buffalo heifers per each) in summer and winter. Each group was divided into two subgroups (7 buffalo heifers per each) a control group kept indoors (in a closed building), and the other group outdoors (exposed to direct environmental stress). Estrus synchronization using two doses of PGF2 α 11 days interval was carried out. The heifers were examined ultrasonography per rectum and blood samples were collected at 2nd and 15th day after 2nd PGF2 α injection to accurate detection the estrus and determine the number, size, and diameter of follicles and corpus luteum and assay progesterone, estrogen, cortisol and glucose. Mating was occurred naturally using fertile buffalo-bulls introduced to heifers after 2nd PGF2 α injection. Temperature humidity index (THI) was calculated. Pregnancy diagnoses were carried out ultrasonography and conception rates were determined. The results indicated that, THI in outdoors was significantly higher than in indoors in summer season and not significantly different during winter. In the follicular phase, the estrogen and glucose levels in outdoors heifers were significantly lower than in indoors heifers during summer and winter seasons also the progesterone levels during the luteal phase. While, the vice versa were determined with cortisol levels. Conception rates were significantly higher in indoors (85.7 and 71.4%) than in outdoors (57 and 43%) during winter and summer seasons respectively. In conclusion, environmental stress resulted in lowering reproductive performance in buffalo heifers specially in summer season and indoors housing significantly improved the reproduction.

KEYWORDS

Buffalo-heifers, environmental stress, reproductive performance.

CITATION

Hussein, F.M. and Metwally, K.K. (2022). Reproductive performance of buffalo-heifers under stressful condition. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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LINGUAL PAPILLARY SYSTEM ADAPTATIONS OF THE ARAB ZEBU CATTLE IN ITS CHAD ENVIRONMENT

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ABSTRACT

Our study represents the first attempt to describe the ultrastructural features of the lingual papillary system of the Arab Zebu cattle to illustrate their adaptations to Chad's environment. The papillary system has mechanical (filiform, conical, and lentiform) and gustatory (fungiform and circumvallate) types. The tip's surface was covered by very few filiform papillae, while well-developed ones were found on the apex and body. The torus lingua had few lentiform papillae, while its lateral surfaces had two subtypes of the conical papillae with numerous circumvallate papillae. Six filiform papillae subtypes exist: long and rod-like, tongue-like and elongated, transient, and leaf-like. The accessory processes were: one pair (on the long, tongue-like, and transient), two pairs (on the leaf-like and elongated), and four pairs on the large conical papillae. The two fungiform papillae subtypes were surrounded by a groove and possessed taste pores. U-shaped annular bad around the ovoid circumvallate papillae and circular around the round ones. The circumvallate possessed taste pores. The papillary system's regional divergence was specialized for their harsh and semi-harsh diet.

KEYWORDS

Arab Zebu cattle; lingual papillary system; lingual scales; scanning electron microscope (SEM).

CITATION

Abumandour, M.M.A. (2022). Lingual papillary system adaptations of the arab zebu cattle in its chad environment. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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COMPARISON OF SLEEVE GASTRECTOMY ON BODY WEIGHT, BLOOD GLUCOSE AND - CONCENTRATION OF HORMONES IN BLOOD PLASMA (INSULIN NG/ML) IN CASTRATED, NON CASTRATED OBESE DOGS

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ABSTRACT

Obesity adds a significant burden to obese dogs, as well as the veterinary health-care systems. Bariatric surgery is the most effective treatment for severe obesity and its comorbidities. Twenty four obese dogs (8 controlled, 8 castrated, and 8 non-castrated) were recruited into the study. The aim of this study was to evaluate sleeve gastrectomy as bariatric intervention in groups under study by estimating body weight and evaluating blood glucose and insulin levels in castrated, non-castrated obese dogs. Postoperatively, we evaluated the body weight in the groups and estimated the blood glucose and insulin levels in the castrated, non-castrated obese dogs at 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 weeks after the operation. After sleeve gastrectomy, the average body weight in control, castrated obese dogs was higher than non-castrated obese dogs with a significant difference at a significant level (.05). Post operation, the average blood glucose and insulin levels in the blood are higher in castrated obese dogs than in non-castrated obese dogs, with statistically significant differences at a significant level (.05). After the operation, we observed a general decrease in the average body weight, blood glucose and insulin levels in the groups with a clear increase in the average body weight, blood glucose and insulin levels in castrated obese dogs than in non-castrated obese dogs.

KEYWORDS

Obesity, sleeve gastrectomy, castration, body weight, glucose, insulin.

CITATION

Mohamed, G.A., Elhassan, K.A.A., Ahamed, A.A. and Abdulla, J.A. (2022). Comparison of sleeve gastrectomy on body weight, blood glucose and -concentration of hormones in blood plasma (insulin ng/ml) in castrated, non castrated obese dogs. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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FLUORESCENTLY- LABELLED PUL49 TRACKING MDV-INFECTED CELLS DURING THEIR REPLICATION IN VIVO AND IN VITRO.

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ABSTRACT

A lymphotropic alphaherpes virus called Marek's disease virus (MDV) causes Marek's disease (MD) in chickens. Chronic wasting, T cell lymphomas in the visceral organs, and neurological symptoms are all characteristics of MD. MDV exclusively releases infectious virus particles from feather follicle epithelial (FFE) cells in the skin, which permits MDV transmission. MDV replicates in a highly cell-associated way in vitro and in vivo, however the mechanisms of differential virus gene expression have remained a mystery. Our goal was to generate a pathogenic MDV that expressed red fluorescent protein so that it could be observed as it replicated. Here, we generated a recombinant MDV by fusing a red fluorescent protein (mRFP) to VP22's N-terminus and inserting a 2A ribosomal skipping motif, which provides an efficient way to better decipher the role of VP22 in vivo and monitor MDV morphogenesis in tumors cells. The mutant was replicated in an indistinguishable level comparable with the parental virus vRB 1B Δ IRL. It induced lymphoma in different organs without any attenuation. In addition, pUL49-P2A mRFP was expressed in vivo in different levels exceptionally feather follicle epithelium where pUL49-P2A mRFP was highly expressed. Our findings demonstrated that this fluorescently labeled virus enables the visualization and selection of MDV-infected cells, opening up new options to study MDV morphogenesis in various cell settings.

KEYWORDS

MDV, Lymphoma, VP22, pUL49-P2A mRFP.

CITATION

Ali, F.A.Z., Abd-Elghaffar, S.K., Salah, M. and Kaufer, B.B. (2022). Fluorescently- labelled pul49 tracking mdv-infected cells during their replication in vivo and in vitro. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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INTERSPECIFIC NUCLEAR TRANSFER EMBRYOS RECONSTRUCTED FROM ARABIAN ORYX SOMATIC CELLS AND BOVINE OOPLASM

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ABSTRACT

Somatic cell nuclear transfer (SCNT) or cloning involves transferring a donor cell into an enucleated oocyte, allowing terminally differentiated cells to be reprogrammed into totipotent cells. The study was to use the Interspecific somatic cell nuclear transfer (iSCNT) to clone the Arabian Oryx using the somatic cell from the Oryx and transfer it to the enucleated oocytes of the domestic cow. SCNT technique same steps in our previous study, The recipient oocytes were obtained from ovary slaughtered cow, Here, embryonic stem cells were produced by injecting oryx somatic nuclei into cow oocytes. we compare 3 groups (iSCNT) interspecific Oryx and cow, Group SCNT from the same species, and Group IVF in Cow, cow oocytes showed the capability to support Oryx iSCNT embryo development up to the blastocyst stage with group SCNT. The blastocyst developmental rate of SCNT embryos was significantly higher than that of the iSCNT group. We used in vitro-fertilized (IVF) cow embryos to Verify all mediums we will be using in this work, In conclusion, the capability to support oocyte to cloned oryx on iSCNT embryo production were found to be species-specific and dependent on individual characteristics.

KEYWORDS

Interspecific, somatic cell, nuclear transfer, cloning, oocyte, Arabian Oryx.

CITATION

Ammari, A., Alghadi, M.G., Alhimaidi, A.R. and Ramzi A Amran, R.A. (2022). Interspecific nuclear transfer embryos reconstructed from Arabian Oryx somatic cells and bovine ooplasm. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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IMPACT OF THE SEXUAL MATURITY AND SEASONALITY ON THE EXPRESSION OF S100 IN THE EFFERENT DUCTULES OF THE DROMEDARY CAMEL

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ABSTRACT

S100 proteins possess a wide range of activities (absorptive, secretory and propulsive) that control the vital and different functions of efferent ductules (ED). The study was designed to explore the association between gene expression of S100 as well as immunolocalization of the proteins it regulates within ED from one side, and the sexual maturity and seasonality from the other side. For each season, tissue specimens were obtained from 7 adult and 7 juvenile, clinically healthy male dromedaries. Specimens were investigated by molecular and immunohistochemical procedures. Gene expression analysis displayed that pattern of mRNA expression was variable in adults during different seasons. Expression was significantly higher in adults during season of sexual activity (winter), fairly reduced during periods of transition from activity to inactivity (spring) or from inactivity to activity (autumn) and reaches its lowest magnitude during season of sexual inactivity (summer). Contrariwise, expression in ED from juvenile males was nearly uniform throughout the year and approximates levels in adults during periods of transition. Yet, it was significantly lower than that of sexually active adults. Molecular findings were supported by a distinct S100-immunoreactivity in ductular ciliated cells, which was evident during periods of sexual activity. On the other hand, ductular non-ciliated cells were negative both in juveniles and adults throughout the year. The variations in gene expression and immunoreactivities are positively correlated with both of sexual activity and maturity, suggesting a crucial role of S100 proteins in regulating the diverse functions of ED in male dromedaries.

KEYWORDS

Dromedary camel; efferent ductules, S100; gene expression

CITATION

Alkafafy, M.E. (2022). Impact of the sexual maturity and seasonality on the expression of s100 in the efferent ductules of the dromedary camel. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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MORPHOLOGICAL AND HISTOLOGICAL STUDIES ON MECKEL'S DIVERTICULUM IN ADULT GOOSE

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ABSTRACT

The intestine plays an important role in mediating between the bird and its nutritional environment. Geese have a greater digestive capability and seem to digest the dietary fibers more efficiently. The small intestine in geese is divided into the duodenum, jejunum, and ileum. The yolk stalk (Meckel's diverticulum) is a landmark between the jejunum and ileum. This work aimed to investigate the anatomical, histological, and electron microscopical features of the Meckel's diverticulum (MD) in adult goose. The present study was carried out on 20 adult healthy geese from the Assiut governorate. The intestine was dissected from the bird's body cavity and Meckel's diverticulum was exposed and prepared for light and electron microscopical examinations. Our results revealed that MD mucosa is thrown up into villi and crypts, and the mucosal epithelium is columnar epithelium with goblet cells as well as intraepithelial lymphocytes. Lymphoid follicles and numerous immune cells were demonstrated within the lamina propria. The mucous glands were also observed within the lamina propria and amongst the lymphoid follicles. The lining epithelium of MD appeared with different staining affinities; Dark cells (electron dense) and light cells (electron lucent) contained few mitochondria and more secretory vesicles, while dark cells contained more mitochondria and fewer secretory vesicles. Taken together, our findings suggest the Meckel's diverticulum is considered an immune organ in adult birds.

KEYWORDS

Meckel's diverticulum, immune cells, electron microscop.

CITATION

Abdel-maksoud, F.M., Anwar, S.M., Hanan H. Abd-Elhafeez, H.H. and Abdalla, K.H. (2022). Morphological and histological studies on Meckel's diverticulum in adult goose. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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SURVEY OF POISONOUS PLANTS TOXICITY AND THEIR TOXICS EFFECTS ON LIVESTOCK IN AL-AHSA PROVINCE

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ABSTRACT

Hence, the livestock health in the area is at high risk of exposure to these toxic plants and therefore the government should intervene to create awareness among the community about the effects of these plants and for further photochemical and toxicological studies and possibly pharmacological activity. Poisonous plant is one of the most important causes of livestock toxicity all over the world and brings significant economic loss. Therefore, the area of study was concluded in and around Al-Ahsa district Northern of KSA. The objective of identifying poisonous plants and their active principles and toxic effects in the study area. In order to put the objective into practice, structured questionnaires were developed through livestock owners and veterinarian animal health practitioners. At the end of the survey, it was found that 20 (33.33%) of livestock owners and 40 (66.66%) of animal health practitioner complained the presence of plant poisoning on livestock's in the study area. Similarly, 15 plants were identified as having poisoning effect on livestock.

KEYWORDS

Poisonous plants, toxicity, livestock, Al-Ahsa, KSA.

CITATION

Alnuwaysir, Y. and Hussein, Y. (2022). Survey of poisonous plants toxicity and their toxics effects on livestock in Al-Ahsa province. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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PRENATAL DEVELOPMENTAL STUDIES ON THE RABBIT LIVER

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ABSTRACT

To understand the prenatal development of the liver, morphological studies were performed on 114 healthy New Zealand white rabbit embryos (aging from 10th to 30th gestational days). The liver primordium appeared at the 10th day of gestation in the region of the anterior intestinal portal as a hepatic bud. The ductus venosus was observed at the 13th day and still patent to the end of gestation. All lobes could be observed at 13 day except the papillary process which was observed at 20 day. The liver had an exceptionally large caudate process, bearing a deep renal impression. The central veins and the portal triads were firstly appeared at 18-day embryo. Fatty vacuoles and glycogen could be observed in the developing hepatocytes at 22- and 24- day embryo respectively, which increased with the advancement of age. Hepatic erythropoiesis began at 12 day and increased reaching its maximum at 22&24 days then decreased gradually to the end of gestation. Granulocytopoiesis began at 26 days and increased to the end of gestation. Megakaryocytes were firstly observed at 15 days. In addition to the well-known ligaments, another ligament was observed between the caudate process and the ascending duodenum. The liver gained its most extension at 20-day then started to retreat cranially until reached the level of the 4th lumbar vertebra at 30-day. Ventral retreat was more extensive on the left side. Consequently, the liver was situated mainly on the right side. In conclusion, the developmental changes of rabbit liver keep a delayed time-course

KEYWORDS

Rabbit, liver, development, embryo

CITATION

Gaber, W., Hifny, A. and Abdel-Rahman, Y.A. (2022). Prenatal developmental studies on the rabbit liver. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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LAPAROSCOPIC REPOSITION WITH ABOMASOPEXY (JANOWITZ METHOD) FOR TREATMENT OF LEFT DISPLACED ABOMASUM IN DAIRY COWS

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ABSTRACT

This article describes a minimal-invasive technique for surgical correction of left displaced abomasum in dairy cows. This laparoscopic technique was first described by Janowitz in 1998 as a two-step-method. During the first part the cow is in standing position. From the left flank the displaced abomasum is visualized with a laparoscope and punctured with a trocar. Under laparoscopic control the abomasum deflates and a special toggle is inserted in the abomasal lumen. For the second part of surgery the cow is placed in dorsal recumbency. The laparoscope and a special forceps are inserted in the abdominal cavity from the ventral abdominal wall. The toggle sutures are visualized, grasped with the forceps and exteriorized. In right lateral recumbency the abomasum is positioned with the toggle sutures and each suture is threaded through a bandage and tight together. The sutures are cut 4 weeks after surgery. Field experiences with this method and two controlled clinical trials show that it is a fast and well suitable technique for surgical correction of left displaced abomasum. It can be performed regardless of the degree of abomasal displacement and rumen filling. Using the laparoscope a fixation of the pyloric part of the abomasum or other abdominal structures is avoided and the diagnosis of adhesions of the abomasum is possible. Further advantages of this technique are a low incidence of complications and a fast postoperative recovery of the animals.

KEYWORDS

Dairy cows, left displaced abomasum, laparoscopic surgery

CITATION

EL-Ghoul, W. and Seeger, T. (2022). Laparoscopic reposition with abomasopexy (janowitz method) for treatment of left displaced abomasum in dairy cows. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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IMULATION MODELLING OF PESTE DES PETITS RUMINANTS (PPR) SPREAD IN UAE – CHOICES FOR CONTROL AND ERADICATION STRATEGIES

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ABSTRACT

Peste des Petits Ruminants (PPR) is an important infectious viral disease of sheep and goats, threatening food security across the Middle East, Africa, and Asia. Currently, the United Arab Emirates (UAE) is at stage 3 of the five stages of the progressive stepwise approach developed by FAO and WAOH for the prevention and control of PPR. Even though considerable progress in controlling PPR in UAE was achieved, no PPR spread simulation trials were carried out to assess the effectiveness of the available different disease control policies. This study aimed to run a mathematical model for PPR spread in UAE, simulate control and eradication policies, and evaluate the effectiveness and the financial cost of adopting each policy. To achieve this, three scenarios of PPR spread in UAE with corresponding different control policies were simulated using a modified North American Animal Disease Spread Model (NAADSM) suit UAE. The control policies tested included: (1) ceasing vaccination with moderate animal movement control, (2) implementing mass vaccination with stamping out, and (3) adopting mass and ring vaccinations with strict movement and stamping out. Results revealed that the 3rd policy was effectively suitable to control and eradicate PPR from UAE as both duration of PPR outbreak and morbidity were reduced compared to the 1st and 2nd simulated policies. This, in turn, will result in the low cost needed. The findings obtained here provide a base for the concerned stakeholders in the animal health sector within UAE with the best policy to be adopted to accelerate the control and eradication of PPR from the country

KEYWORDS

Peste des petits ruminants (PPR); disease spread; vaccination; eradication

CITATION

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OCCURRENCE OF EXTENDED-SPECTRUM-B-LACTAMASE AND CARBAPENEMASE-PRODUCING GENES IN ESCHERICHIA COLI FROM NEWLY BORN LAMBS

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ABSTRACT

The emergence of extended-spectrum β -lactamases and carbapenemases from livestock is concerning because they have the potential to spread to humans and lead to dramatically escalated clinical and socioeconomic situations for human beings. This study was conducted to investigate the occurrence of extended-spectrum β -lactamase (ESBL) and carbapenemase (MBL) production among *Escherichia coli* isolated from newly born lambs in Saudi Arabia and molecular characterization of the isolates. Fresh fecal samples were collected from 200 lambs from 15 flocks located in the eastern region of Saudi Arabia over one year period. A selective chromogenic media were used for the primary isolation, and the isolates were identified to genus level by Vitek 2 compact and screened phenotypically for their ESBL and MBL activities. The genetic characteristics of ESBL and MBL strains were investigated for blaTEM, blaSHV, blaCTX-M, blaIPM, and blaVIM genes, phylogenetic groups, and virulence genes. The antimicrobial susceptibility of the isolates was determined by broth Microdilution Assay. The isolates exhibited a high rate of resistance to ampicillin (80 %) and tetracycline (55%). Multidrug-resistant was observed in 32% (48/150) of the isolates. Genotypically blaTEM, blaSHV and blaVIM were the most prevalent ESBL and MBL encoding genes, respectively. MDR, ESBL, and MBL isolates exhibited different combinations of virulence genes. The spread of mobile resistance genes between MDR and virulent *E. coli* isolates from newly born lambs confirms its dissemination environment, animals, and humans. Therefore, surveillance programs to monitor and control MDR bacteria in animals are required.

KEYWORDS

Extended-spectrum- β -lactamase, carbapenemase, genes, *escherichia coli*, newly born lambs

CITATION

Almubarak, A.H., Alsunaini, S.J., Al Amer, A.S., Al-Marri, T.M., Almubarak, A. and Fayez, M. (2022). Occurrence of extended-spectrum- β -lactamase and carbapenemase-producing genes in *escherichia coli* from newly born lambs. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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COMPARISON OF HIGH AND NORMAL AREAS FOR EVALUATION OF MICROBIAL CONTENT OF CAMEL MILK FROM POPULAR MARKETS

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ABSTRACT

Camel milk is considered one of the important materials for food because it contains useful substances. Camels must be treated and heat treated to eliminate the microbial content for the healthy nutrition of camel milk. The method of assessing the microbial content is one of the ways to help treat camels and protect animal health and the health of individuals. The aim of the research was to make a comparison of the high area from the normal area as it affects the microbial content of camel milk. Therefore, a comparison was needed to prove the effect of high areas on the microbial content of camel milk, which affects animal health and the health of individuals. The samples 50 of camel milk were collected from the popular market in the high-rise area of Taif, and also 50 from the popular market in the normal high-rise area of Ranyah. Microbes were isolated and classified using modern methods by Chromo-agar and Micro-Scan. The result indicated Staph. sp., Bacillus sp., Salmonella sp., E. coli, Klebsiella sp., and fungi were (18.0%, 10.0%, 2.0%, 20.0%, 18.0% and 22.0%) for high area milk samples. As well were (17.0%, 8.0%, 1.0%, 19.0%, 16.0%, and 21.0%) for normal area milk samples. It was concluded that the microbial content of camel milk in the elevated region was higher than the normal region. That due to the effect of high altitude on the immune status of the camels. This may increase morbidity for camels and individuals using camel milk without heat treatment. It was recommend following up on the microbial content of camel milk to treat infected camels. Heat treatment is required to eliminate the microbial content and maintain the individuals' health.

KEYWORDS

Camel milk, staph. sp., bacillus sp., salmonella sp., e. coli, klebsiella sp

CITATION

Sabra, S.M.M. (2022). Comparison of high and normal areas for evaluation of microbial content of camel milk from popular markets. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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A NEW GREGARIOUS SPECIES OF MICROPLITIS IDREESI FÖRSTER (HYMENOPTERA: BRACONIDAE, MICROGASTRINAE), A PARASITOID WASP OF SPODOPTERA GUENÉE (LEPIDOPTERA: NOCTUIDAE) IN SAUDI ARABIA

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ABSTRACT

A new species of parasitoid wasp (Braconidae: Microgastrinae) from Saudi Arabia is described, *Microplitis idreesi* Arias-Penna, n. sp. Here, it is reported as the first host-parasitoid association in Saudi Arabia. The species attacks *Spodoptera Guenée*, a Noctuidae genus, considered an important pest of agricultural crops. Some natural history information (e.g., association male-female, geographical distribution, hosts, possible food plants, and details of wasp cocoons) is also provided. Characters of this new species and its affinities is presented.

KEYWORDS

Braconidae: microgastrinae, microplitis idreesi förster

CITATION

Al-Sabi, M.N.S., Idrees, N.R.N., Al-Jabr, O., Alhudaib, K.A., Almaghasla, M.I. and Arias-Penna, D.C. (2022). A new gregarious species of microplitis idreesi förster (hymenoptera: Braconidae, microgastrinae), a parasitoid wasp of spodoptera guenée (lepidoptera: Noctuidae) in Saudi Arabia. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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IN VITRO STIMULATION OF WHOLE MILK: A METHOD TO ANALYZE CELLULAR IMMUNITY OF THE CAMEL MAMMARY GLAND

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ABSTRACT

Understanding the cellular immune response of the mammary gland in healthy and inflammatory conditions represents a key to understand the nature of mastitis and contributes to the development of effective diagnostic and control strategies. The present study evaluated the in vitro stimulation of whole milk samples as a methodology for the analysis of cellular immune activity of the mammary gland in camels. Establishing a new method for studying the cellular immune response of the camel mammary gland to mastitis pathogens. Milk samples were collected from healthy she-camels and stimulated in vitro with the protein kinase C activator phorbol 12-myristate 13-acetate (PMA) or with the toll-like receptor (TLR)-ligands LPS or Pam3CSK4 for 18h at 37°C. After incubation milk cells were separated by centrifugation and removing the fat layer. Separated cells were stained with mouse anti MHCII monoclonal antibody and analyzed by flow-cytometry. The number of viable cells separated from stimulated whole milk didn't differ significantly from values measured for cells separated from the collected samples before incubation, indicating no significant effect of the methodology on milk cell vitality. The analysis of side-scatter (SSC), an indicator for cell granularity, revealed reduced SSC values for granulocytes separated from PMA-, LPS-, or Pam3CSK4-stimulated samples. Indicating a stimulation-induced degranulation of milk-granulocytes. This method relies on preserving the microenvironment of interaction between the pathogen and milk immune cells as it presents in vivo. This method is employable for the analysis of host-pathogen interaction mechanisms in the camel mammary gland immune system.

KEYWORDS

Camel, mammary gland, immune system, cellular immunity, Mastitis, pathogens

CITATION

Al-Sukruwah, M.A., Almohammed, H., Alghatam, F.H., Alhafiz, G.A. and Hussen, J. (2022). In vitro stimulation of whole milk: A method to analyze cellular immunity of the camel mammary gland. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.

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The Collaborating Reference Center for Camel Diseases and its Role in Enhancing regional Biosecurity

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ABSTRACT

The World Organization for Animal Health (WOAH) has designated the veterinary laboratories of the Abu Dhabi Agriculture and Food Safety Authority as a collaborating center for camel diseases in the Middle East as of May 2022 in recognition of its scientific and technical efforts at the national and international levels. The center is supported by highly qualified staff and specialists in various specialties, and it is equipped with cutting-edge diagnostic technologies to conduct conventional, immunological, and molecular assays for diagnosing infectious diseases in camels as well as to produce biological reagents and store reference materials at its Biobank. The center has also received several certifications and accreditations from national and international organizations for its work in identifying zoonotic and epidemic diseases. The center provides technical assistance and consulting services for developing strategies for monitoring and controlling infectious diseases as well as standardized diagnostic procedures for camel diseases. To enhance camel health and allow collaboration with regional, national, and worldwide scientific partners, it also offers workshops and short trainings in diagnostic technologies and quality management systems. The center has led the way in establishing inter-laboratory comparison programs in camel diseases at the national and international levels in addition to its extensive experience in collaborative and multidisciplinary one health approach and antimicrobial resistance. The competence of the center is further strengthened by collaboration with international organizations and reference labs like the CDC and IZS (Italy). Several camel disease research projects are currently in progress.

KEYWORDS

Camel, WOAH, Diagnostic, monitoring, Diseases, Laboratory

CITATION

Mohammed, Asma. A. (2022). World Organization for Animal Health (WOAH) Collaborating Center for Camel Diseases. In: *The First Saudi Veterinary Medical Society Conference: Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances)*, King Faisal University, Al Ahsa, Saudi Arabia, 11-13/10/2022.





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