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نائب رئيس الجامعة للدراسات العليا والبحوث

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نائب رئيس الجامعة

للدراسات العليا والبحوث

أ.د. رانيا حلمي عبده

وكيل الكليه للدراسات العليا

والبحوث ومقرر المؤتمر

أ.د/ امال النحلة

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ط.ب/ دنيا عصام

د. احمد حافظ

أ.د/ سامح فاروق

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Time Program

- التسجيل للمؤتمر. 09:00am
- الجلسه الأفتتاحيه: 10:00am
  - السلام الجمهوري.
  - القران الكريم.
  - كلمة أ.د. أمال مختار النحله - سكرتيرومنسق المؤتمر.
  - كلمة أ.د. رانيا حلمي - وكيل الكليه للدراسات العليا والبحوث ومقرر المؤتمر.
  - كلمة أ.د. داليا منصور حامد - عميد الكليه ورئيس المؤتمر.
  - كلمة أ.د. ماجده محمد هجرس –نائب رئيس الجامعة للدراسات العليا والبحوث.
  - كلمة أ.د. ناصر مندور –رئيس الجامعة.

- ورشة عمل بعنوان خطوات البحث العلمي(أ.د. أمال مختار النحله) 11:00am
- بدا جلسات المؤتمر 11:30am
- توزيع الشهادات وإعلان الفائزين 4:00 pm

Chairmen

1 Prof. Mohammed Said El shahidy

2 Prof. Mahmoud Ezzat Elsayed

3 Prof. Ibrahim Hussein Ahmed

4 Prof. Mohamed Mostafa Mahmoued

5 Prof. Gamal Gomaa Medani

6 Prof. Abdelfattah Mohamed Abdelfattah Ali

7 Prof. Ali Meawad Ahmed

8 Prof. Amal Arafat Mokhtar

9 Prof. Gamal Absy

10 Prof. Manal Mohamed Ahmed

11 Prof. Hanan Mohamed Fathy Abdien

12 Prof. Mohamed El daharawy

13 Ass. Prof. Adel Ahmed Sabry Ibrahim El Nabtiti

14 Ass. Prof. Nahla Hamed Sallam

Steps of the scientific research

Prof. Dr. Amal El-Nahla

1. Ask a Question (Identifying the Problem)

A question about something that you observe: How, What, When, Who, Which, Why, or Where?

A well-identified problem will lead the researcher to accomplish all-important phases of the research process,

Researchable problems are those who have a possibility of thorough verification investigation, which can be effected through the analysis and collection of data,

A non-research problem is one that does not require any research to arrive at a solution. It is consists of vague details and cannot be resolved through research.The choice of a research problem is not as easy as it appears. It is generally guided by the researchers its own intellectual orientation

experience, knowledge on the subject matter, and intellectual ,level of training curiosity.

2. Do Background Research

Rather than starting from scratch in putting together a plan for answering your question, you want to be a savvy scientist using library and Internet research to help you find the best way to do things and ensure that you don't repeat mistakes from the past.

3. Construct a Hypothesis

A hypothesis is an educated guess about how things work. It is an attempt to answer your question with an explanation that can be tested. A good hypothesis allows you to then make a prediction:. Predictions must be easy to measure.

4. Test Your Hypothesis by Doing an Experiment

Your experiment tests whether your prediction is accurate and thus your hypothesis is supported or not. It is important for your experiment to be a fair test by making sure that you change only one factor at a time while keeping all other conditions the same. You should also repeat your experiments several times to make sure that the first results weren't just an accident.

5. Analyze Your Data and Draw a Conclusion

Once your experiment is complete, you collect your measurements and analyze them to see if they support your hypothesis or not. Scientists often find that their predictions were not accurate and their hypothesis was not supported, they will communicate the results of their experiment and then go back and construct a new hypothesis and prediction based on the information they learned during their experiment.

6. Communicate Your Results

Communicate your results to others in a final report and/or a display board. Professional scientists do the same thing by publishing their final report in a scientific journal or by presenting their results on a poster or during a talk at a scientific meeting. In a science fair, judges are interested in your findings regardless of whether or not they support your original hypothesis.

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Master Thesis Abstracts

Biochemical Studies on the Effect of Some Food Additives on Blood and Tissues of Rats

Shawkie Fathie Elwan Mohmed, Abd El Rehim A. El Ghannam, Abeer Gaffer Ali Hassan, Hoda Ibrahim Bahr

Department of Biochemistry, Faculty of Veterinary Medicine, Suez Canal University, Ismailia.

Abstract:

The present study aimed to investigate the antioxidant, anti-inflammatory, anti-apoptotic, and hepatoprotective possibilities of Cinnamaldehyde and lycopene versus hepatic biochemical alterations induced by monosodium glutamate. Rats are classified into seven groups Group I-(control), Group II-(MSG 15 mg/kg bw), Group III-(MSG 35 mg/kg bw), Group IV (MSG 15mg/kg.bw + Cinnamaldehyde), Group V (MSG 35mg/kg.bw + Cinnamaldehyde), Group VI (MSG 15mg/kg bw + lycopene), Group VII- (MSG 35 mg/kg bw + lycopene). our results demonstrated that administration of both doses of MSG (15, 35 mg/kg bw/day) for 30 days induced obesity, dyslipidemia, hyperglycemia, increase insulin resistance, hepatic toxicity and steatohepatitis and hepatic histopathological detrition comparing to control group. On contrary supplementation of cinnamaldehyde and lycopene (10mg/kg bw/day) pre- MSG administration for 10 days and co- administration with MSG for 30 days in rats showed anti-obesity, hypolipidemic, antioxidant hepatoprotective, antidiabetic and anti-apoptosis effects. Anti-obesity activity via significant reduction in body weight gain and liver somatic index. Hypolipidemic effects indicated by significant decrease in TAG, TC, LDL-c and increased HDL-c. Hepatoprotective effects via reduction in liver enzymes (ALT, AST) activities and increased TAC, SOD, GSH, GPx, in line with decreased MDA. Anti-inflammatory response as referred by lowered serum TNF-α and IL6. Hypoglycemic and antidiabetic effects via decreased HOMA-IR, HOMA-β. Antifibrosis and anti-apoptosis properties as indicated by reduced hepatic TGF-β1, caspase 3 expression and elevated BCL2 expression. These findings were confirmed with improvement of histoarchitecture of liver with better ameliorative effects for cinnamaldehyde comparing to lycopene.

Cephradine Residues in Broiler Chicks

Sara Mohammed Ahmed Ali, Waleed Fathi Khalil, Abdel-Fattah Mohammed Abdel-Fattah

Department of Pharmacology, Faculty of Veterinary Medicine, Suez Canal University, Ismailia.

Abstract:

The present study was established to estimate cephradine residues in broiler chicks using HPTLC and to determine the efficacy of potassium citrate in reducing these residues. A total number of 40 Hubbard chicks of 21 days old were used in this study after dividing into 2 equal groups (each of 20 chicks) when reached 30 days old. Cephradine (Atocef forte®) was given as oral dose of 0.5 gm/liter twice daily for five consecutive days to group (1) and was given twice daily for first 3 days but at last 2 days, cephradine was given for 12hr, potassium citrate for another 12hr to group (2). Cephradine concentrations were assayed in serum, liver, kidney and breast muscle of broiler chicks at 24, 48, 72, 96hr post last dose. It could be concluded that, cephradine can be detected in kidney, liver at highest concentration with the lowest concentration in serum and breast muscle. Oral administration of potassium citrate result in disappearance of residues from breast muscle and liver 1 and 2 days earlier than when cephradine was administered alone where in kidney, cephradine residues were still measurable up to 4th day at very low concentration.

Molecular typing of *Gallibacterium anatis* strains isolated from chickens

Amira Ayman Elewa Elewa, Abdelazeem Mohamed Algammal, Wafaa Abd-El-Ghany Abd El-Ghany, Ahmed Mahmoud Ahmed Hamouda

Bacteriology, Immunology and Mycology Department, Faculty of Veterinary Medicine, Suez Canal University, Ismailia, Egypt.

Abstract:

The aim of the present study was to investigate the prevalence , the antibiogram and the PCR based detection of virulence genes (*gtx*A, *fif*A, and *gyr*B) and antibiotic resistance genes (*bla*$_{ROB}$, *aph*A1, and *tet*H) in *G. anatis* isolated from diseased chickens from private commercial layer farms at ELsharkia governorate, Egypt. A total of 400 samples obtained from 100 layer chickens suffering from rales, sneezing and decreased egg production, which were examined by collecting swabs from trachea, coloaca, oviduct and ovarian tissues,and lung. The collected samples were subjected to bacteriological examination, where the prevalence of *G.anatis* 30% (*n*=120). The antimicrobial susceptibility was carried out, where the tested isolates were resistant to oxytetracycline (98%), ampicillin, pencillin (96%), kanamycin and neomycin (95%), while the recovered isolates were sensitive to erythromycin and azithromycin (96%), florfenicol (90%) sulfamethaxole trimethoprim (57.3%), and enrofloxacin (44%). The conventional identification of *G.anatis* was confirmed using PCR targeting the *16srRNA* and *23srRNA* primer sets. Moreover, PCR was used for detection of virulence genes and antibiotic resistance genes in the recovered isolates. The tested isolates were found to harbor *gtx*A, *fif*A, *gyr*B, *bla*$_{ROB}$, *aph*A1 and *tet*H genes. In conclusion, the combination of both phenotypic and genotypic characterization is reliable epidemiological tool used in identify of *G.anatis* infection.

Evaluation of the Sensory Inspection of Imported Fresh Fish for their Quality Assessment at Arrival Air Port

Effat Maher Elsayed Ismail, Hosny A. Abdelrahman, Nashwa M. Ismail

Department of Food Control, Faculty of Veterinary Medicine, Suez Canal University, Ismailia, Egypt.

Abstract:

Fish, in international commerce, constitute an important food commodity due to the increasing demand for protein with high biological value. This study was conducted to evaluate the sensory quality of air freight fish at Kuwait Airport during a period from January 2019 to April 2020. The number of fish consignments reached 37193 packages, with a total weight of 7462332 kg. Considering source (A), zobaidy fish (Stromateus linnaeus) was imported with251640 kg, while the imports of shrimp (Peneaus japonicus) were 8872 kg. For source (B), Arabian grouper reached 131760 kg; green snapper represented 50760kg; imported small grouper was 9720kg; sobaity bream was imported with 39240kg; red snapper with 96840kg; carnax with 135720 kg, and Spanish mackerel with 4100 kg. While, in the source (C), the imported grey mullet was 13680 kg. Fish packages were rejected based on the sensory criteria, such as odour, secretions, and rigidity, besides gills and eye characteristics. The rejected packages of zobaidy fish were 2096 (16.7 %); those of the Arabian grouper was1941(29.5%); of green snapper was 253(10.0%); of small grouper was 46(8.2%);of sobaity bream was 18(1%), of red snapper was 36(0.7%), of caranx was 66(1%), of Spanish mackerel was 26(6.5%), and of the grey mullet was 48(7.0%).With respect to sources, the rejected fish packages from source A were 2229;from source, B were 2380, and from source, C was 48. The total economic losses from different sources during the study period reached 571200 KD.

Studies on Salmonella and E coli Infection in Pigeons

Ibrahim Mohammed Ibrahim Elgresly, Hanan Mohamed Fathy Abdien, Wael Mohammed Kamel Elfeil

Department of Avian and Rabbit Diseases, Faculty of Veterinary Medicine, Suez Canal University.

Abstract:

This study was carried out to investigate the prevalence of salmonellosis among fancy pigeons in Port- Said Governorate, Egypt. Two hundred (150 pet stores and 50 lofts) samples were collected from pigeons suffered from general signs of illness, joint lesions and diarrhea. Bacteriological and serological analysis revealed 12 (6%) isolation of *Salmonella* species distributed among eight serotypes, in which *S.* Virchow was more frequently isolated (25%), followed by *S.* Typhimurium and *S.* Paratyphi (16.6% each). Meanwhile, *S.* Akay, *S.* Salamae, *S.* Anderlecht, *S.* Magherafelt and *S.* Montevideo were 8.3%, each. All *Salmonella* isolates showed 100% sensitivity towards norfloxacin followed by ciprofloxacin (83.3%). On the other hand, ten Salmonella serotypes showed high resistance to erythromycin and rifampicin by 91.7 %. However, 42.1% of the recovered isolates exhibited Multi drug resistant (MDR) and 16.6% exhibited Extensive drug resistant (XDR) to different antibiotics. Molecular detection of 5 virulence genes (*inv*A, *stn, sop*E1, *pef*A and *fim*H) among four chosen Salmonella serotypes (*S.* Paratyphi, *S.* Typhimurium, *S.* Virchow, *S.* Montevideo) using conventional PCR revealed the presence of *inv*A, *stn* and f*im*H genes in all examined *Salmonella* serotypes. Meanwhile, *sop*E1 and *pef*A genes were detected only between *S.* Virchow and *S.* Typhimurium, respectively.

Laparoscopic study on colopexy in dogs

Saad Lotfy Saad Ibrahim, Mohamed Abd El-Tawab Awad, Mohsen Mohammed Zaghloul, Shimaa Ahmed Mohammed Ezzeldein

Department of Surgery, Anesthesiology and Radiology, Faculty of Veterinary Medicine, Suez Canal University, Ismailia, Egypt.

Abstract:

The current study was carried out on twenty apparently healthy male mongrel dogs divided into two equal groups (open and laparoscopic). The purpose of this study is to compare two techniques for colopexy (open and laparoscopic) concerning laboratory findings (WBCs and CRP), ultrasonographic findings, laparoscopic look, pathological findings (Grossly and microscopically). Open colopexy (OC) was performed through laparotomy in linea alba while laparoscopic colopexy (LC) was performed using two port technique and transabdominal fixation of the colon. LC produced a pexy effect similar to that of OC with minimal surgical trauma and postoperative complications than OC in dogs.

Quality Assessment of the Emulsion Type Poultry Meat Products

Samaa Mahmoud Mohamed El-Ghayati, Hosny A. Abdelrahman, Heba M. Shaheen

Food Hygiene Department, Faculty of veterinary Medicine, Suez Canal University.

Abstract:

Quality of emulsion type poultry meat products is a challenge facing meat industry owing to the absence of Egyptian limits that regulate the usage of mechanically deboned poultry meat in meat industry, in addition to the different types of meat additives added during processing which might have bad health impact on consumers. A total of 48 different commercial poultry emulsion type luncheon samples were collected from Cairo and Ismailia Provinces (Egypt) factories and markets, and examined for their technological criteria, sensory evaluation; proximate chemical analysis and histological examination. For sensory evaluation the mean value of for appearance, color, flavour, juiciness, binding and overall acceptability were 5.4±0.25, 5.8±0.24, 6.6±0.21, 6.5 ±0.14, 5.9±0.19 and 6.1±0.19 respectively. For technological criteria; the discoloration characteristics of examined samples of fading, starchy, green core and shrinkage were 91.6%, 50%, 0% and 8.3% respectively. Good binding and Bad binding were 50% and 50%.Jelly pockets, Air pockets, Fat cap and separated were 20.8%, 100%,0% and 0% respectively. The mean values for chemical Prosperities as moisture % in the examined samples was 66.79 ±0.43, while that for protein, fat, ash, lean meat, nitrogen and calcium content was 12.9±0.22, 17.5±0.46, 3.28±0.29, 61.96±1.8, 2.35±0.04 and 2094.00±240.28 respectively. The histological examination showed great variability between the samples of different origin in the muscle fibre, fat content, cartilage, bone and skin content.

Study on the Prevalence of Postmortem Condemnation of Slaughtered Chicken Broiler in Damietta Governorate

Shimaa Sabry Mohammed Elsadek, Hosny Abdellatief Abdelrahman, Heba Mohamed Ali Shaheen

Department of Food Hygiene, Faculty of Veterinary Medicine, Suez Canal University, Ismailia, Egypt.

Abstract:

The yearly economic losses increasing in poultry meat industry due increasing in the chicken broiler carcasses condemnation, therefore this study was conducted to evaluate the rate of chicken broiler condemnation in a poultry slaughter plant from January 2019 to December 2020.The total slaughtered chicken broiler was 5503016 and the mean values ±SE of Slaughter, Dead on Arrival (DOA) and condemned chicken broiler were 458584.7±10552.7, 3967.3±155.7 and 1427.6±104.5 respectively. The incidence of DOA and condemned chicken broiler carcasses were 77608(086%) and 17132(0.31%) respectively. The frequency percentages of the DOA causes were ; Lung congestion 9860 (20.7%), E.coli infection 9662(20.3%), Septicemia 5860(12.0%), Endocarditis5760(12.0%), Cachexia 4669(9.8%), Fractures 4570(9.6%), Ascitis 2860(6.1%), Hepatitis 2750(5.8%), Arthritis 857(1.8%) and Miscellaneous 760 (1.6%). Meanwhile the frequency percentages of condemnation causes were Cellulitis 1931(11.27), Ascites 1821 (10.63), Septicemia 1700(9.92%), Emaciation 1610(9.39%), Airsaccullitis 1600 (9.34 %), Breast Blister 1510 (8.82%), Trauma 1469 (8.57%), Broken bone 1331 (7.77 %), Odema 1230 (7.18%), Arthritis 1180 (6.89%), Imperfect Bleeding 1000 (5.84%), and Over scalding 750 (4.38 %). The estimated annual economic loss during the two years survey was 1899559.2 EC/P for DOA and 719544 EC/P for the condemned chicken broiler carcasses with total economic loss by 2619103.2 EC/P.

Effect of Heat-Stress on Actual Received Dose of Water-Soluble Tylosin in Broilers

Awatef Abd Elkawi Abd Elhafez Abd Elkawi, Waleed Fathi Khalil, Abdel-Fattah Mohammed Abdel-Fattah

Department of Pharmacology, Faculty of Veterinary Medicine, Suez Canal University, Ismailia, Egypt.

Abstract:

This study was conducted to determine the effects of heat stress on actual received dose of water soluble tylosin in broilers. Forty Hubbard chicks were raised then divided when they reached 30 days in to two equal groups, one of them was kept under a comfortable temperature (24.1± 0.3 °C) as control group while the other was exposed to heat stress (35.6 ± 0.3 °C) for seven days (period of water medication) and till the end of taking samples. All birds received tylosin in a dose 1 gm/2 liter drinking water (equivalent to 15 mg/ kg body weight) for 3 days during heat management. Then 5 birds were slaughtered daily from each group for tylosin residues assaying in serum and tissue samples (breast muscle, liver and kidney). Result showed 238-984% elevation in tylosin concentrations in heat stressed group than non-heat stressed group. Consequently, the tylosin could be detected in heat-stressed broilers at 4 days post last dosing compared with 3 days in non heat-stressed group. This study recommends putting the seasonal changes in climate temperature into consideration when water is used to deliver the medicine (tylosin)in non-heat controlled poultry farms, especially in tropical and sub-tropical countries.

Virological Studies on Adenovirus in Some Broiler Flocks in North Sinai Province

Hasan Mohammad Hasan Abouzied, Mokhtar Mohammed Ali El-Tarabilli, Mohamed Ahmed Mohamed Ali Soliman

Department of Virology, Faculty of Veterinary Medicine, Suez Canal University, Ismailia, Egypt.

Abstract:

Fowl aviadenoviruses (FAdV) have gained increasing attention in Egypt and worldwide nowadays, as they are the primary etiology of many widespread diseases. Among these diseases, inclusion body hepatitis (IBH). Many outbreaks of IBH have been recorded in the last few years across the country, causing significant economic losses to the Egyptian poultry industry. The present study was undertaken to detect FAdV from field outbreaks of IBH in broiler chickens in North Sinai province during the period from May 2016 till December 2017. Affected birds adopt a crouching position with ruffled feathers, depression, reduced feed intake, pale comb and facial skin. On necropsy, the most common postmortem lesions were hydropericardium, yellowish enlarged liver with ecchymotic hemorrhages, pancreatitis, and enteritis. Histopathological examination of liver samples collected at different stages of infection showed multifocal necrosis, extensive congestion with inflammatory cellular infiltration. The presence of intranuclear inclusion bodies (INIB) was variable among samples. FAdV were detected in liver samples from eleven flocks out of the fourteen examined by real-time polymerase chain reaction (real-time PCR) using commercial kits with differences in viral load among samples. DNA samples from four flocks that exhibited the highest fluorescent curve altitudes were further amplified in conventional PCR targeting hexon gene followed by sequencing of the specific PCR products. Phylogenetic analysis based on sequencing of the hexon loop-1 gene showed that the four isolates (Sin-1, Sin-2, Sin-3, and Sin-4) were clustered into serotype-2, FAdV-D species. The strains in this study are sharing 99.82%, 99.63%, 99.60, and 98.2% nucleotide identity with hexon loop-1 gene sequences of FADV-2 (species D) of Israel, Japan, Egypt, and Canada, respectively. This study provides epidemiological information that could be helpful in the formulation of an effective prevention strategy.

Bacteriological Studies on Enterococcus Infection in Fish.

Hewaida Abd El-Khalic Mahmoud, Hamza M. Eid, Ali W. El Kholy, Fatma M. A. Yousef

Department of Bacteriology, Immunology and Mycology, Faculty of Veterinary Medicine, Suez Canal University, Ismailia, Egypt.

Abstract

Enterococcus faecalis, an opportunistic fish pathogen, has been recognized as a causative pathogen of hemorrhagic septicaemic disease as well as its bad effect on public health. The present study aimed to investigate the incidence of Enterococcus faecalis in fish with the characters of resistance and virulence of its. A total number of 200 clinically diseased Nile tilapia (*Oreochromus niloticus*)(112) and red belly tilapia (*Tilapia zilli*) (88) were collected from commercial fishermen from Temsah brakish lake in Ismailia Governorate from March 2020 to October 2020. The isolation and identification of E. faecalis from tilapia were performed as well as the antimicrobial sensitivity testand PCR.The prevalence of E. faecalis in *Oreochromus niloticus* and *Tilapia zilli* were 21.6% and 26.8%, respectively. The isolates were highly sensitive to chloramphenicol(C30) and resistance to Nalidixic acid (NA30), Vancomycin (VA30), streptomycin(S10), Erythromycin(E15) and Ampicillin (AMP10). PCR was used for confirmation of the identified colonies at 310 bp for 16Srna sequence. Molecular detection of some virulence genes showed presence of specific bands of enterococcus faecalis at 566 bp for EF3314 with percentage%87.5, presence of specific bands for gelE and asal at 213 bp &375 bp respectively with percentage 100% and showed no specific bands for esp gene. The obtained results proved that is an emerging pathogen for Tilapia species in Ismailia governorate.

The Existence of *Mycobacterium avium* in Birds.

Esraa Mohamed El-dawody Mohamed, Abdelazeem Mohamed Algammal, Ali Wahdan Ali Ibrahim Elkholy, Eman Mahrous Abdel Ghany

Department of Bacteriology, Immunology and Mycology, Faculty of Veterinary Medicine, Suez Canal University, Ismailia, Egypt.

Abstract

This study aimed to investigate the prevalence of avian tuberculosis within different species of birds;80 fecal samples from different species of birds (chicken and pheasants) from different areas from Ismailia governorate, Egypt. The collected samples were transported to The Animal Health Research Institute, Dokki, Egypt for the bacteriological examination. The collected samples were processed and were decontaminated by using Hexadecylpryridinium chloride, then were cultured on 7H10 Middlebrook agar, and incubated at 37°C, under aerobic condition for two weeks. The identification of the bacteria was carried out according to the characters of colonies, microscopical examination using Ziehl-Neelsen staining, and biochemical tests. Typical cultures were whitish, visible, small, and round colonies. Results revealed that the prevalence was 7.5% (3/40) in the examined pheasants-samples, and was 2.5% (1/40) in the examined chicken samples. By using Ziehl-Neelsen staining, positive isolates were typical acid-fast bacilli. Biochemically, isolates were positive to aryl sulfatase test, while were negative to nitrate reduction, niacin production, oxidase, and catalase tests.

Studies on Bacteria Affecting Some Species of Felidae in Giza Zoo.

Noura Ahmed Tawfik Ali, Gamal Gomaa Medani, Ahmed Mohamed Salah-Eldein, Ali Wahdan El-Kholy

Department of Wildlife and Zoo, Faculty of Veterinary Medicine, Suez Canal University, Ismailia, Egypt.

Abstract

Wild Felidae are strict carnivores and play an important role in the ecological balance. As it occupies higher trophic level, it regulates the size of prey population and have indirect effect on plant propagation and distribution. Felidae are susceptible to bacterial affections such as members of enterobacteriaceae & *Helicobacter spp*. Wild Felidae in zoo and breeding center may be considered as a source of diseases not only for other animals but also for human such as veterinarians, workers, and visitors. Such close contact between wild animals and humans creates opportunities for spreading of zoonotic diseases. The study was performed on 30 animals belong to family Felidae, including (16 lions, 2 tigers, and 2 cheetah) in Giza Zoo and (5 lions and 5 wild cats) in private zoo. All animals were apparent healthy and showing no signs of diseases except eight lions have history of vomition. 75 fecal samples were collected, 65 from Giza Zoo and 10 from private zoo. Samples were subjected to standard bacteriological techniques for bacterial isolation and biochemical, serological, and molecular identification. Four members of family Enterobacteriaceae including *E. coli*, *Salmonella*, *Shigella* and *proteus* were isolated. *E. coli* and *Salmonella* isolates were subjected to serological and molecular identification and antimicrobial sensitivity test. Three serovars of *E. coli* (O126: K71, O78: K80 and O111: K58) and 2 serovars of *Salmonella* (*S.* Southampton and *S.* Bovismorbificans) were recorded. *E. coli* isolates showed high resistance to Cefaclor (100%), Amoxicillin-Clavulanic acid (40%), Cefoxitin (100%), Tobramycin (100%), Cefadroxil (100%). *Salmonella* isolates showed high resistance to Cefaclor (100%), Cefoxitin (100%), Tobramycin (66.7%), Cefadroxil (100%). The detection of antibiotic resistant genes confirmed the presence of *blaTEM* and *blaSHV* in all isolates of *E. coli* and *Salmonella that* showing resistant to Cefaclor, Cefoxitin, and Amoxicillin-Clavulanic acid, and the presence of the *aadA2* in some isolates of *E. Coli* and all Isolates of *Salmonella* showing resistant to tobramycin.

Epizootiological Studies on Diseases Caused by Monogenea in Some Marine Fishes.

Alyaa Ali Ibrahim Ibrahim, Maather M.M. El-Lamie, Hassnaa Mahmoud Elsheshtawy

Department of Fish Diseases and Management, Faculty of Veterinary Medicine, Suez Canal University, Ismailia, Egypt.

Abstract

This study has been carried out on 300 marine fish *(100 Siganus revulatus,100 Planiliza macrolepis, and 100 Scomberomorus commerson*). They were collected randomly and seasonally from Suez canal marine water at Suez Governorate. Examined fish showed no pathognomonic clinical signs. Some infested cases with monogeneasis showed excessive mucus secretion and sticking of gill filaments or marbling of gills in *Siganus revulatus*, *Planiliza macrolepis* and *Scomberomorus commerson*. The post- mortem findings revealed pale liver in some cases of *Siganus revulatus* and *Planiliza macrolepis*. The isolated parasites were *Pricea multae*, *Pricea fotedari*, *Gotocotyla secundus* and *Cemocotyle carangis*. The total prevalence of monogenetic infestation was 53.3%. The highest percentage was in *Scomberomorus commerson* (82%) followed by *Siganus revulatus* (59%), then Planiliza *macrolepis* (10%). The seasonal prevalence among the examined fishes was the highest in summer (65.3%) followed by spring (60%), then winter (45.3%) and the lowest prevalence seen in autumn (30.6%). The highest monogenetic infestation occured in larger fish than in smaller ones. PCR was used as a tool in confirmation of the morphologically identified *Gotocotyla secundus* using the 28S rDNA sequence gene which gave positive band at 300bp. The histopathological alterations were also recorded.

Quantitative Studies on Aflatoxin M1 Residues in Milk and its Products

Amany Hamed Ali Eldomiaty, Ahmed Hassan Saad, Ehab Mohmmed Salama

Department of Food Hygiene and Control, Faculty of Veterinary Medicine, Suez Canal University, Ismailia, Egypt.

Abstract

This study investigates the incidence of aflatoxin M1 (AFM1) contamination in raw milk, UHT milk, cheese, yoghurt and butter samples. For this purpose, A total of 140 raw milk and dairy product samples were collected from different markets. during the period from October 2020 to March 2021. ELISA technique was applied in aflatoxin analysis. AFM1 in raw milk ranged from 17.70 to 32.48 with mean value 25.09 ng/L. The mean level of AFM1 in UHT milk was 14.70 ng/L. The mean concentration of AFM1 residues in set yoghurt produced at small scale samples and set yoghurt produced at large scale samples were 21.57 and 17.70 ng/Kg, respectively. Average AFM1 in traditional Damietta cheese samples was 18.80 ng/Kg, and for white soft cheese was 19.06 ng/Kg. Mean concentration of AFM1 in butter samples was 16.69 ng/Kg. It is clear from the obtained results that all examined samples of raw milk and dairy products were contaminated with AFM1 within the regulatory limits. The public health significance of AFM1 in milk and some of its products was discussed.

Some Genetic and Environmental Factors Affecting Milk Composition in Dairy Animals

Samar Mohamed Shabaan Ahmed, Mohamed Mansour Osman, Adel Ahmed Sabry El Nabtiti, Rania Ahmed Hassan

Department of Animal Wealth Development, Faculty of Veterinary Medicine, Suez Canal University, Ismailia, Egypt.

Abstract

Milk contains high-quality nutrients, energy supplements, and minerals essentials for human nutritional requirements. Nutritionally the fat is considered to be the primary source of energy. Milk protein contains a relatively high level of essential amino acids and a strong digestible quality. Milk synthesis and secretion in the mammary gland are regulated by several genes. thus, advanced research in the transcription of milk constituent-related genes could improve the effectiveness of the synthesis of milk components. Furthermore, the ABCG2 gene (ATP binding cassette subfamily G member 2) that produces ABCG2 protein occurs on chromosome 6 inside a linkage zone with Quantitative Trait Locus (QTL) for quantity and composition of milk. So, it is a practical candidate gene for milk production traits in dairy cattle and situated on chromosome 7 in buffalo. The ABCG2 protein present in the alveolar epithelial cell membrane of the mammary gland is among the most active transport proteins, involved in the transmission of different cytostatic, xenobiotics drugs, in addition to cholesterol to milk through the cell membrane. So, the purpose of the research was a study the effect of lactation stage and animal species/breed on relative expression of the Lipoprotein lipase (LPL), K-Casein (CSN3), and glucose transporter 1(GLUT1) genes via RT-PCR and milk components. Via 72 milk samples were collected from 36 multiparous black-white and red-white HF cows and 22 milk samples from 11 Egyptian buffalo at the early and peak lactation stages using a non-invasive RNA isolation process. As well as ABCG2 gene polymorphism and its correlation with milk production traits using DNA sequencing. Through DNA extracted from blood samples from these animals. The results revealed that the expression of the LPL and CSN3 genes at an early stage was observed to be greater than the peak stage. But GLUT1 gene was noted at early lactation lower than the peak stage. This is associated with a rise in milk fat and protein percentages at an early stage and then decreased at the peak lactation stage. In contrast, lactose offers a low level at an early stage then elevated in the peak stage. Besides this, ABCG2

polymorphism, where (A/G) replacement at base NO 48 of intron 13 in red-white HF cow related to declining in milk quantity and rising in fat and protein %. C deletion at nucleotide NO 32 of intron 6, A/C replacement, and C deletion at nucleotide NO 290 and 358, respectively of intron 7 in black-white HF cow were found to be linked to a rise in milk quantity and reduction in fat and protein levels. As well G and A deletion at nucleotide NO 32 and 33 of intron 6, G/A, C/A, C/T, and G/T replacement at nucleotide NO 182, 191, 200, and 224 of exon 7, and A/T, C/G, A/G, and C/T at base NO 239, 316, 317, and 360 of intron 7 in Egyptian buffalo significantly linked to milk quantity, milk fat, and protein% compared to HF cow. Based on these findings, the LPL, CSN3, and GLUT1 gene expression profiles were identical to the differences in the percentage of milk fat, protein, and lactose, suggesting that the LPL and GLUT1 genes have a functional role in fatty acid and glucose absorption for fat and lactose synthesis, respectively in bovine mammary epithelial cells during lactation. It also helped to explain the pattern of LPL, CSN3, and GLUT1 gene expression in various stages of lactation in separate Holstein-Friesian strains of cattle and Egyptian buffalo. Moreover, the observed polymorphisms may be a possible genetic marker for improving the present population of Holstein-Friesian cow and Egyptian buffalo production.

A Panoramic View on Bacteria Isolated from Fish in Suez Canal Area

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Department of Bacteriology, Immunology and Mycology, Faculty of Veterinary Medicine, Suez Canal University, Ismailia, Egypt.

Abstract

A total of 300 marine fish of two different species represented as (150 tilapia zilli and 150 mugil capito) were freshly collected randomly from different markets in Ismailia governorate during different seasons, and subjected to full clinical, postmortem and bacteriological studies. The common clinical signs were darkness in skin, hemorrhage in base of fins, eyes & different parts on the body, abdominal distention, congestion in gills and increase in mucous secretion. The postmortem findings were white serous fluid in abdominal cavity and sometimes tinged with blood, pale or congested liver, kidney and spleen. This study indicated that the prevalence of bacterial pathogens among naturally infected marine fish were *Aeromonas hydrophila* 91 isolates (39.39%), *Vibrio alginolyticus* 67 isolates (29%), *Pseudomoas fluorescens* 42 isolates (18.18%),*Vibrio fluvialis* 17 isolates (7.4%), *Pseudomonas aeruginosa* 14 (6.06%). Ampicillin and kanamycin were found to be the most effective antimicrobials against *A. hydrophila* while ciprofloxacin and rifampicine were more effective against *P. fluorescens*, also ciprofloxacin and amikacin were more effective against *P. aeruginosa*, while *V. alginolyticus* was highly sensitive to ciprofloxacin. Ciprofloxacin and nalidixic acid were more effective against *V. fluvialis*. Based on morphological and biochemical characteristics, a number of colonies representing all recovered Aeromonas were chosen for identification by conventional PCR and multiplex PCR. 16S rRNA gene, virulence genes *(alt, ast, aer*) and MDR genes *(tet*A, *sul1*, *pse1*) were found in 100% of the isolates, and *act* gene was not detected in any of the isolates. Results of this study indicated that polymerase chain reaction is very reliable method for identification of *A. hydrophila* isolates.

Ph.D. Thesis Abstracts

Chemical and Microbiological Contaminants in Table Eggs

Zeinab Nabil Qandeel Soliman, Omar Hassan Refaat El-Kosi, Takwa Hessien Ismail

Department of Food Hygiene and Control

Abstract:

A total of 366 table egg samples (pooled samples) including farm, native and organic table egg were collected from Ismailia governorate, Egypt for analysis.153 for microbiological analysis (egg shell and egg content), 153 for chemical analysis and 60 for experiment. The collected samples were transferred immediately without delay to laboratory under complete aseptic conditions in clean vessels. All samples were evaluated microbiologically and chemically. 1. Microbiological examination: 1. Total aerobic count: The mean values of total aerobic count in examined farm, native and organic egg shell were 2.5×105, 1.4×105 and 2.9×103 CFU/ml respectively. While the mean values of total aerobic count in examined farm, native and organic egg content were 6.5×103, 5.4×103 and 1.0×103 CFU/ml respectively. 2.Total coliform count: The mean values of total coliform count in examined farm, native and organic egg shell were 1.9×102, 2.4×102 and 1.0×102 CFU/ml respectively. While the mean values of total coliform count in examined farm, native and organic egg content were 2.9×101, 3.1×101 and 1.1×101 CFU/ml respectively. 3.Total Staphylococcus count: The mean values of total Staphylococcus count in examined farm, native and organic egg shell were 2.4×103 , 2.2×103 and 1.9×102 CFU/ml respectively. While the mean values of total Staphylococcus count in examined farm, native and organic egg content were 1.9×101 , 2.5×101 and 1.4×101 CFU/ml respectively. 4.Total yeast and mould count: The mean values of total yeast and mould count in examined farm, native and organic egg shell were 6.9×101 , 5.7×101 and 1.1×102 CFU/ml respectively. While Summary 120 the mean values of total yeast and mould count in examined farm, native and organic egg content were 1.3×101 , 2.0×101 and 1.9×101 CFU/ml respectively. Detection of Salmonella: The incidence of Salmonella were 2(11.67%) in farm egg shell samples which serotyped to S.Typhimurium 1,4,(5) ,12:i:1,2 and S.Kentucky 8,20:i:z. and 2(11.67%) in native egg shell samples which serotyped to S.Enteritidis 1,9,12:g,m:- and S.Typhimurium 1,4,(5) ,12:i:1,2 and 0(0.0%) in organic egg shell samples. Salmonella couldn't be detected in farm, native and organic egg content samples. Detection of E.coli: The incidence of E.coli were 5(29.41%) in farm egg shell samples which serotyped to

O25:K11 , O44:K74 and O128:K67. and 5(29.41%) in native egg shell samples which serotyped to O119:K67 , O44:K74 , O119:K69 and O158:K . and 2(11.67%) in organic egg shell samples which serotyped to O128:K67 and O126:K71. The incidence of E.coli were 2(11.67%) in farm egg content samples which serotyped to O25:K11 and O44:K74. and 1(5.88%) in native egg content samples which serotyped to O128:K67 . and 0(0%) in organic egg content samples. 2. Chemical examination: 1. Heavy metal residues: The mean levels of lead content of farm, native and organic table hen's egg samples are 0.010 ± 0.002, 0.019 ± 0.003 and 0.036 ± 0.004 ppm respectively. All of the examined table hen's egg samples are within the permissible limits. The mean levels of cadmium content of farm, native and organic table hen's egg samples are 0.004 ± 0.001, 0.012 ± 0.001 and 0.016 ± 0.002 ppm respectively. All of the examined table hen's egg samples are within the permissible limits. Summary 121 2. Antibiotic residues: Tetracyclines and Erythromycin cannot be detected from any of the examined table hen's egg samples. All of the examined table hen's egg samples are within the permissible limits. 3. Experimental study (the effect of spray egg shell by acetic acid spray on total aerobic count and total Staphylococcus count): The mean aerobic count in control group: 1.7×103 , 7×103 , 5×104 , 1×105 and 2×106 CFU / ml. at Zero day, 1 st wk, 2 nd wk, 3 rd wk and 4th wk, respectively. While the mean aerobic count in acetic acid group: 1.2 ×103 , 3×103 , 4×103 , 5×104 and 3×105 CFU / ml. at Zero day, 1st wk, 2nd wk, 3rd wk and 4th wk, respectively. The mean Staphylococcus count in control group: 2×102 , 2×102 , 3×103 ,4×103 and 3×104 CFU / ml. at Zero day, 1st wk, 2nd wk, 3rd wk and 4th wk, respectively. While the mean Staphylococcus count in acetic acid group: 1×102 , 1×102 , 3×102 , 2×103 and 1×104 CFU / ml. at Zero day, 1st wk, 2nd wk, 3rd wk and 4th wk, respectively

Molecular analysis of virulence factors of *pseudomonas* species infecting fish at portsaid

Eman Mahmoud Awad Zaghloul, Hamza Mohamed Ibrahim Eid, Hanan Abbas Elghayaty

Department of Bacteriology, Immunology and Mycology

Abstract:

Two hundred fish (100 Mugil cephalus, 100 Nile tilapia) collected randomly from (Manzala Lake and Sea water, respectively) for Pseudomonas species isolation. (70%) Mugil and (87%) Tilapia were positive for Pseudomonas presence. Bacteriological examination of 535 Pseudomonas isolates; Pseudomonas fluorescens (25.42%), Pseudomonas aeruginosa (32.52%), Pseudomonas putida (15.89%), Pseudomonas cepacia (10.1%), Pseudomonas stutzeri (6.91%), Pseudomonas anguilliseptica (4.11%), Pseudomonas alcaligenes (3.55%) and Pseudomonas acidovorans (1.5%). prevalence of Pseudomonas in Oreochromis niloticus was isolated from intestine, muscle, liver, kidneys and surface with the following percentage 26.7, 23.31, 20.55 ,16.87 and 13.2% respectively. prevalence of Pseudomonas in Nile tilapia was isolated from intestine, surface, kidney, liver and muscle with the following percentage (32.05, 28.23, 22.01, 11.01 and 6.7 %respectively). All 32 isolates were sensitive to Ciprofloxacin, Gentamycin and Chloramphenicol and resistant to Penicillin, Amoxicillin and Ampicillin/sulbactam. PCR revealed that 32 tested isolates were Pseudomonas aeruginosa. 5 virulence genes detected of P. aeruginosa isolates (16SrDNA); outer membrane lipoprotein L (oprL); exotoxin S gene (exoS); exotoxin A gene (toxA); flagellin C gene (fliC) and biofilming gene (pelA). as well as the antibiotic-resistance genes: blaTEM and blaCTX genes.

Spectroscopy as a recent technique in diagnosis of multi drug resistant E. coli causing endometritis in cattle in comparison of other traditional methods

Ahmed Samir Mohamed El-Sherpiny, Mohamed El Sayed Enany, Sahar Roshdi Mohamed

Department of Bacteriology, Immunology and Mycology

Abstract:

Objective: The objectives of this study were to determine the presence of some virulence and antibiotic resistant genes of Escherichia coli isolated from vaginal discharge samples from cattle with clinical endometritis. Also, to evaluate the performance of MALDI-TOF-MS analysis under real routine laboratory conditions.

Materials and Methods: A total of 138 vaginal discharge samples were collected from Holstein cows suffered from post-partum endometritis for bacteriological examination and serotyping identification. The antibiotic sensitivity test was carried out for E. coli strains by using VITEK 2 automated system. All different E. coli strains were chosen for genotyping characterization of some virulence and antibiotic resistant resistance genes by using PCR. Finally, MALDI-TOF-MS technique was applied for all variant E. coli strains to confirm its identification.

Results: A total of 93(67.4%) E. coli isolates were obtained by examination of 138 samples. E. coli serotypes which obtained were O126, O55, O26, O86a, O63, O119, O111, O15, O114 and O142. The results of antibiotic sensitivity test revealed that, Ampicillin / Sulbactam, Piperacillin / Tazobactam, Ceftazidime, Ceftriaxone, Cefepime, Meropenem, Ciprofloxacin, Levofloxacin and Nitrofurantoin were the most effective antibiotics against all E. coli strains (100%). On the other hand, E. coli isolates resisted the action of Ampicillin, Amoxicillin / clavulanic acid, Tetracycline and Streptomycin (100%). The genotyping characterization of E. coli resistance and virulence genes by using PCR proved that, all strains harbored phoA, fimH, blaTEM & aadA1. And only O55, O86a, O111, O114 & O142 harbored eaeA. On the other hand, kpsMII & ibeA genes didn't detected within any strains. MALDI-TOF-MS technique confirmed the isolates of E. coli with interpretation high confidence and

performed the dendrogram for all E. coli strains according to the similarities of peaks which observed within each E. coli spectrum.

Molecular Analysis of *Pseudomonas* Species Isolated from Different Sources

Amal Mohamed Ahmed Emam, Mahmoud Ezzat El-Sayed, Mohamed El-Sayed Ibrahim Abou El-Atta, Ali Wahdan Ibrahim Elkoly

Department of Bacteriology, Immunology and Mycology

Abstract:

A total 150 fish, 50 Oreochromis niloticus and 50 Tilapia zilli were collected randomly from El-Temsah Lake and 50 clarias gariepinus from fish farms in Ismailia Governorate were showing signs of septicemia and others apparently healthy and Moreove, 60 human samples from patients in Suez canal university Hospital in Ismailia Governorate and 23 water samples from El-Temsah Lake in Ismailia Governorate were collected for isolation of P.aeruginosa.The bacteriological examination revealed that, 33.4% of all investigated samples were positive for P. aeruginosa. Among different sources, the prevalence of P. aeruginosa was 34.33%, 28.3% and 21.7% in examined fish, human and water samples, respectively. The most predominant fish species for P. aeruginosa was Clarias gariepinus (42.5%), followed by Oreochromis niloticus (34.5%) then Tilapia zilli (26%). In fish, the highest prevalence was recorded in liver (38.35%) followed by kidney (30.58%) then spleen (19.9%) and the lowest was in gills (11.17%). In human, the high isolation rate was obtained from pus of infected wound and burns (45%), followed by sputum (25%) then urine samples (15%). The results of antibiogram revealed that P. aeruginosa were highly sensitive to colistin (100%). PCR assay of 15 representatives biochemically confirmed P. aeruginosa, isolates were confirmed genetically based on amplification of 16S rDNA gene with a specific band at 956 base pair. Significant 4 virulence genes were amplified in 15 examined P.aeurginosa isolates to confirm their pathogenicity. The distributions of virulence genes were as following: oprL (100%), toxA (100%) and lasB (46.67%). However, exoS gene could not be detected in any of examined P.aeurginosa isolates.The distributions of resistant genes were as following: tetA(A)(100%), both sul1 and blaTEM (93.33%), while blaSHV was detected in (86.67%) of isolates. Sequencing of blaSHV gene of P.aeurginosa isolated from human was applied with accession number MZ700496 at GeneBank, which was 99.5% identical to sequence of blaSHV-1 gene of K. pneumonia. While Sequencing of blaSHV gene of P.aeurginosa isolated from fish with accession number (MZ700497) and that isolated from water with accession number (MZ700498) both were 100% identical to the sequence of blaSHV-204 gene of K. pneumonia at

GeneBank. blaSHV gene derived from fish and water samples being more related to each other than to that derived from human isolates.

Quality and Safety Improvement of Poultry Meat

Rana Mohammed Elsaid Ali Omar, Hosny A. Abdelrahman, Mohammed Saad Alharouny, Heba Mohamed Ali Shaheen

Department of Food Hygiene and control

Abstract:

First part of the study, 80 random samples of broiler carcasses including; freshly slaughtered and chilled broiler carcasses (40 of each) were collected from small manual poultry processing shops and local retailers in Port Said province. All samples were subjected to bacteriological examination. The obtained results revealed that aerobic colony and E. coli counts in the examined freshly slaughtered carcasses samples were 3.2 × 105± 4.2 × 104 and 8.5×102 ± 1.1 ×102 CFU/cm2, respectively, while the incidence rates of E. coli, Salmonella spp. and Campylobacter spp. in these samples were 65%, 50%, and 55 %, respectively. While, aerobic colony and E. coli counts in the examined chilled samples were 4.1 × 107± 1 × 107 and 2×103 ± 4.5 ×102 CFU/cm2, respectively, while the incidence rates of E. coli, Salmonella spp. and Campylobacter spp. in these samples were 75%, 35%, and 40 %, respectively. Second part, assessed the effect of 2% DSE on the sensory, chemical and bacteriological characters of whole broiler carcasses. The results revealed that pH, TVN and TBA values were significantly decreased ($P<0.05$) in treated samples during chilling. Also, counts of aerobic colony and E. coli in treated samples were lower than control ones. Absence of Salmonella and Campylobacter spp. in all samples after one hour from treatment. The extract

enhances the sensory characters during the chilling storage period up to 9 days.

Field evaluation of sheep pox vaccine in cattle, sheep and goat

Rania Hosni Ahmed El-senosy, Mohamed Saied Mohamed El-Shahidy, Sayed Ahmed Hassan Salem, Mohamed Fawzy Ibrahem Mandour, Eman kamal El Sayed El Sayed

Department of Virology

Abstract:

Capri pox viruses (CaPVs) is comprised of lumpy skin disease virus (LSDV), sheep poxvirus (SPV) and goat pox virus (GPV); which are responsible for the most economically significant diseases of domestic ruminants. CaPVs are immunologically indistinguishable from each other and able to induce heterologous cross protection. In this study, heterologous attenuated sheep pox vaccine was evaluated in cattle and goat, also, homologous Neethling vaccine and sheep pox vaccine were evaluated in cattle and sheep, respectively. All tested vaccines were evaluated for humoral and cellular immunity using ELISA, IFN-γ, lysozymes, and nitric oxide production in serum at the field condition. To achieve this goal, a total of four farms were selected for vaccination and evaluation (2 cattle farms, one sheep farm and one goat farm). Animals in each farm contain vaccinated and non-vaccinated groups. All tested farms proved negative for sheep pox, goat pox, and lumpy skin disease virus.

Resident wild birds as a bio-indicator of environmental health at EL-Salam Canal area- North Sinai

Noha Mohamed ELShafey ELShabrawy Mohamed, Atef Mohamed Kamel, Azza Said Ahmed Gouda, Gehad Rashad Ahmed Donia, Ahmed Mohamed Salah El dein

Department of Wildlife and Zoo

Abstract:

Some heavy metals (Pb, Cd, Cu, Zn, Fe and Mn) concentrations were determined in water samples from El-Salam Canal and in tissues (pectoral muscle, heart, liver and kidney) and feathers of some resident wild birds (n=107) belonging to 8 different species (Laughing dove, Egyptian barn swallow, House sparrow, Great white egret, Spur-winged plover, Striated heron, Squacco heron and Collared dove) from El-Salam Canal area. The best bird species and tissue can be used as a bio-indicator for heavy metal contamination was determined. Biochemical (ALT, AST, ALP, Total protein, Urea and Creatinine) analysis and histo-pathological examination were done to evaluate the toxic impact of the elevated heavy metal levels recorded in the examined birds.

Advanced Studies on Treatment Trials in Prevailing Diseases Caused by Crustacean in Some Marine Fishes

Dawlat Ali Hassanen Mohamden, Amal Mokhtar Mohamed El-Nahla, Maather Mohamed Monier El-Lamie

Department of Fish Diseases and Management

Abstract:

The present study was conducted on a total of 540 marine fishes of 3 species represented as (180 Dicentrarchus labrax, 180 Sparus aurata" and 180 Mugil cephalus) of different body weights and lengths which were randomly collected from aquacultured ponds from a private fish farm in Portsaid Governorate to investigate the presence of crustacean diseases. Affected fishes showed distress, surface swimming, rubbing the body against hard objects, excessive mucous secretion andemaciation. Postmortem lesions revealed destroyed gill filaments, marbling of gills, hemorrhages all over the body, abdominal distension and congested liver, spleen andstomach. The detected crustaceans were (Caligus sp, Lernanthropus kroyeri and Livoneca redmanii). The total infestation rate was (46.48%). The total prevalence of infestations was (61.67%, 45.56% and 32.22%) in D. labrax, S. aurata and M. cephalus, respectively. Autumn was the highest season of total infestation (77.78%). A treatment trial during autumn using Aloe emodin and Zooaromaor'ego powders at a dose of 2g/Kg diet/10 days on 315 naturally crustacean-infested fishes (123 D.labrax, 117 S.aurata and 75 M.cephalus) revealed high efficacy of Aloe emodin than Zooaromaor'ego in treating Caligus sp. and Livoneca redmanii-infested fishes.

Bacteriological and Molecular Studies on Clostridium perfringens Isolated from Chicken

Sawsan Mohamed Harb Bedir, Hamza Mohamed Ibrahim Eid, Fatma Mohamed Ahmed Yousseff

Department of Bacteriology, Immunology and Mycology

Abstract:

C. perfringens is a gram-positive anaerobe which produces toxins in broiler which causing necrotic enteritis that resulting in severe economic losses in poultry industry. This study aimed to determine the prevalence of C. perfringens and their toxins as well as the antimicrobial sensitivity of C. perfringens species. A total of 480 intestinal and liver samples were collected from 240 diseased broiler chickens from commercial farms and different village of Ismailia Governorate at different ages was examined clinically and bacteriologically. The total incidence of C. perfringens was (33.33% - 25%) from intestine (n=80) and liver (n=60) samples respectively, recovered from (33.33%) diseased chickens (n=80), as the higher rate occur at 5th and 6th weeks of age. Six (6/12) tested isolates harbored the alpha toxin gene (type A) and netB. Moreover, the cpe gene was detected only in three strains. C. perfringens type A is the major cause of necrotic enteritis in chicken. PCR is a rapid specific diagnostic tool used for detection and genotyping of C. perfringens. The alpha toxin gene is the major toxin that incriminated in the occurrence of necrotic enteritis in poultry, followed by netB toxin gene. The antimicrobial sensitivity test was carried out using disc diffusion method where the isolated strains were highly sensitive to Norofloxacin, Metronidazole and Amikacin.

Evaluation of the Harmful Polycyclic Aromatic Hydrocarbon Residues and their Risk Assessment in Grilled and Smoked Meat and Fish

Enas Ibrahim Abdelaziz El-Tantawy, Hosny A. Abdelrahman, Salwa Mahmoud Abdo Salem

Department of Food Hygiene and Control

Abstract:

A total of 24 samples each weighted from 250 to 500 gm packages four sample each of charcoal-grilled kofta, gas chicken Shawerma, gas grilled chicken, charcoal grilled chicken broiler samples, smoked and grilled fish were collected from different restaurants and grille meat and fish places in Ismailia Governorate, Egypt, The assessment of PAH4 and PAH8 were determined. 50 gm from grilled Kofta, gas chicken Shawerma, whole leg quarters with skin of charcoal grilled chicken broiler, gas grilled chicken broiler, grilled fish and smoked herring. Charcoal grilled Kofta: PAH4 and PAH8 were 3.43 ± 0.77 and 8.12±1.89ug/kg -1 respectively. Gas Grilled Shawerma: PAH4 and PAH8 were, 3.28± 0.27 and 10.06± 2.49 ug/kg -1 , respectively. Charcoal Grilled Chicken: The mean concentration levels of PAH4 andPAH8 were 3.45± 0.53 and 9.44± 2.89ug/kg -1 , respectively. Gas Grilled Chicken: The mean concentration levels of, PAH4 and PAH8 were 0.09± 0.02 and 0.65± 0.16ug/kg -1 , respectively. Charcoal Grilled Fish: The mean concentration levels PAH4 and PAH8 were, 1.43± 0.26 and 4.22±1.43ug/kg -1 , respectively. Cold Smoked Herring: The mean concentration levels PAH4 and PAH8 were, 0.09± 0.03 and 0.18± 0.03ug/kg -1 , respectively. The estimated MOE values in charcoal grilled kofta, charcoal grilled chicken, gas grilled chicken, and charcoal grilled fish samples for estimated PAH4 values were ranged in the examined heat treated meat and fish samples from 174.359 to 16999.97, respectively. The estimated cancer risk among Egyptian adult population related to dietary exposure in the survey part ranged from 1.1×10-7 to 3.2×10-9in heat treated meat and fish samples and this values not constitute a public health hazards. The estimated cancer risk among Egyptian adult population related to dietary exposure in the experimental parts the values ranged from 2.6×10-8 to 6.4×10-10in heat treated meat and fish samples. ILCR in all examined samples in the presented study was > 10-6 and not constitute a public health hazard. The treatment of the samples by different treatment laid to reduction in the possibility of occurring hazard cancer risk by nearly 1-2 Log value.

Bacteriological studies and molecular characterization of Pseudomonas species isolated from chicken in Suez Canal area

Soha Sami Hamed El-Sadda, Ahmed Ahmed R. Khafagy, Abo Elkheir Mohamed Ibrahim Esawy

Department of Bacteriology, Immunology and Mycology

Abstract:

In this study, P. aeruginosa was isolated from (28) out of (200) broiler chickens from Suez Canal area (14%). The yolk sac and cloacal swabs samples gave the highest recovery rates with an incidence of 15.5% and 12.6%, respectively. Moreover, the recovery rate of P. aeruginosa from internal organs was higher from liver followed by intestine with percentages of 4.5% and 2.5%, respectively, but it wasn′t isolated from neither gall bladder nor kidney samples. Colistin sulphate, ciprofloxacin, gentamicin and norfloxacin were found to be the most effective antimicrobial drugs while ampicillin, lincomycin, nalidixic acid, streptomycin and tetracycline were the most resistant antibiotics against the isolates. PCR assay inveterated the existence of P. aeruginosa DNA in ten isolates by using 16S rRNA. Also, PCR assay was carried out to detect the presence of virulence genes as oprL, toxA and aprA as well as quorum sensing genes (lasI, lasR, rhlI, rhlR). oprL gene was present with a percentage of 100%, also, toxA, lasI, lasR, rhlI and rhlR were present with a percentage of 80% for each of them, and aprA gene with a percentage of 40%. Moreover, PCR detected the presence of higBA, pprA and pprB genes with percentages of 100%, 90% and 100%, respectively. plasmid profiling of 10 P. aeruginosa isolates revealed one common plasmid profile with characteristic bands at 13000 bp in eight isolates with a percentage of 80%. PCR technique detected some antibiotics resistance genes as mexA, mexR, oprJ, oprM, nfxB and ampC with percentages of 62.5%, 75%, 87.5%, 75%, 62.5% and 75%, respectively. Sequencing of 16S rRNA and oprL genes was applied.

Experimental trials evaluating mutation evolution of local H5N1 avian influenza classical strain propagated in different avian host

Mohammed Ali Zien El Abideen, Mokhtar Mohamed Ali El-Tarabili, Abdullah Abd Elzahir Selim

Department of Virology

Abstract:

Current study was tried to evaluate genetic mutation and evolution for eight segment genes of Egyptian H5N1 avian influenza classical strain clade 2.2.1.2 experimentally propagated in 10th passages at different avian host such SPF chicken and different duck species (Pekin and Muscovy), In the current study, results were found Pekin ducks show neither clinical signs, mortality nor virus shedding. In a deep genetic analysis of segment 1 (PB2). on the other hand, sequencings result of segment 2 (PB1) genes were found in the 10th passage in Muscovy ducks' substitution from K (lysine) polar basic amino acid to G (glycine) neutral nonpolar at position 57, also at position 215 substitution from K (lysine) polar basic to R (arginine) polar basic, also at position 363 substitution from K (lysine) polar basic to R (arginine) polar basic. from Genetic analysis of (HA) revealed that point and silent mutations at nucleotide sequence of 10th passage in SPF chicken.in NP analysis of 10th passage from Muscovy duck a significant substitution amino acid at position 210 from R (arginine) polar basic amino acid to Q (glutamine) polar neutral. In deep analysis sequencing of segment 6 (NA) in the Current study shows amino acids substitution at residues position 41 from (R) arginine to (G) glycine in the 10th SPF chicken passage, substitution at 228's position from serine (S) to asparagine (N), substitution from asparagine (N) to aspartate (D) at position 46, substitution from isoleucine (I) aliphatic AA to valine (V) aliphatic AA at position 235. NS1 genetic Analysis revealed mutation in the 10th passage from SPF chicken substitutions in C-terminal 'effector' domain at position 107 from alanine (A) is an aliphatic amino acid to threonine (T) is sulfur-containing or have amide group and at 148 position from glutamate (E) to aspartate (D). So, we concluded from this study that serial passaging of HPAI (H5N1) virus in chicken host Led to mutations in NA protein

that may play a role in facilitating viral entry and release, alter replication, transmissibility, and susceptibility to antiviral especially to oseltamivir resistance. Also, mutations in NS1 protein may play a role in antagonize the induction of interferon alpha and beta produced by host cells and important role in host range and virulence in chicken, alter viral replication, transmissibility, and susceptibility to antiviral inhibitors. On the other hand, the conclusion from serial passaging of HPAI (H5N1) virus in Muscovy duck led to mutations in NP protein may affecting viral transmissibility, polymerase activity in mammalian cells, and affect replication especially at low temperatures. Also, mutations in PB1 may play role in increasing pathogenicity, virulence, and cell apoptosis.

Studies on Multidrug Resistant Bacteria Causing Hemorrhagic Enteritis in Dogs and Cats

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Abstract:

202 rectal swabs were collected from Dogs and Cats suffering from hemorrhagic enteritis manifested by bloody diarrhea from Damietta and El-Dakahlia Governorates in order to make studies on multidrug resistant bacteria causing hemorrhagic enteritis. Total bacterial isolates were 104. Out of the 104 bacterial isolates, E. coli was the most prevalent isolate (44.23%), followed by Proteus vulgaris (11.53%), Proteus mirabilis (9.62%), Klebsiella species (8.65%), C. perfringens (4.81%), Pseudomonas aeruginosa (3.85%), Enterobacter species (3.85%), Salmonella species (2.88%), Shigella species (2.88%), and Providencia rettgeri (1.92%). The antimicrobial resistance of E. coli isolated were reported to Amoxicillin/Clavulanic acid, Cephalexin, Ceftriaxone, Trimethoprim/sulphamethoxazole, Tetracycline and Erythromycin. Multiplex Polymerase Chain Reaction demonstrated that 4 serotypes were positive for (stx1), 3 serotypes were positive for (stx2), while all isolates were negative for (eaeA) virulence genes. Some resistant genes of E. coli were detected by Multiplex Polymerase Chain Reaction, where all E. coli isolates were negative for blaOXA gene. Only E. coli isolate O91:H21 was positive for blaCTX-M1 gene, representing 20% of the tested isolates. The blaTEMgene was detected in three E. coli isolates O55:H7, O91:H21 and O128:H2, by a percentage of 60%.

Molecular and Immunological studies for Evaluation of Aeromonas veronii Vaccine in Fish farms in Suez Governorate

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Abstract:

This study aimed to isolation of Aeromonas species from tilapia and Mugil fishes with emphasis to detection of pathogenic strains moreover, developing a live attenuated bacterial vaccine against pathogenic A. veronii isolated strain, which can be applied safely in aquaculture as a future preventative method for the disease outbreak. Out of 150 fish samples (70 Oreochromis niloticus and 80 Mugil sehelii) collected from private farm in Shandora, Suez Governorate. 108 isolates (64.3%) isolates were detected positive by cultural method. The isolates of fish samples were biochemically identified as A. veronii which was the most dominant species with total prevalence 56.25% followed by A. hydrophila with 44.44%. according to the antibiotic resistance pattern, 48.3% of examined isolates exhibited multi drug resistance (MDR) to five or more antimicrobial classes and 48.3% of examined isolates exhibited extensive drug resistance (XDR) to eleven or more antimicrobial classes. PCR assay of 29 representatives, biochemically confirmed Aeromonas spp. isolates were genetically confirmed belonging to genus Aeromonas based on 16S rRNA gene sequence. Virulence gene properties showed that of aer A was detected in 51.7% of isolates, hly A was detected in 6.89%, ser was detected in 31.03%, ahp was detected in 31.03%, alt and act were detected in 13.8% and 10.34%, nuc was detected in 20.69% and omp II was detected in 11.11% with a specific band at 431bp, 592 bp, 211 bp, 911 bp, 442bp, 232 bp, 504 bp and 1001 bp respectively. The result also revealed that Lip, Epr (CAI), GCAT and Laf B couldn't be detected in any isolates. While antibiotic resistance genes which encoded as (blaTEM, blaSHV, ampC, sul1, and aadA1) were detected in 16.50% at 516 bp, 83.33% at 392 bp., 27.78% at 550 bp. 61.11% at 433bp and 33.33% at 484 bp. The challenge experiment revealed that all isolates caused mortality in Nile tilapia, range from 73.33% to 100% mortality. Mass vaccination of tilapia by immersion using MAV1 S+R vaccine has increased the resistance against both A. veronii and A. hydrophila infection and provided the required protection levels (RPS 100%).

Antifungal Effect of Nanoparticles on Some Pathogenic Fungi Isolated from Human and Pet Animals in EGYPT

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Abstract:

This study aimed to investigate the antifungal effect of (Fe2O3 NPs, Ag NPs and ZNO NPs) against a conventionally used wide spectrum azole (Itraconazole) on (10) fungal isolates from a total of (60) specimens collected from superficial mycosis. Fifty cases from human and (10) cases from pet animals. Human cases were obtained from private laboratory for mycological examination in (Cairo) while pet animals' samples were collected from veterinary private clinics in Zagazig , Damietta and Cairo in the period of 2019-2021. Fifty human clinical cases were: (5) cases Tinea Capitis, (10) cases Tinea corporis, (5) cases Tinea pedis and (30) cases Onychomycosis. while pet animals' superficial mycosis cases were represented as ringworm and dermatitis in both cats and dogs. All samples were subjected to mycological examination including KOH and Direct Microscopy. A total of (55) isolates from both human and pet animals were identified and only (10) isolates of fungi (C. albicans. parapsilosis, C. tropicalis, C. krusei, T. Mentagrophytes, T. violaceum. M. canis, F. solani, A. flavus, A. niger) were used to test the effect of different serial dilutions of 3 types of nanoparticles; Fe2O3 NPs, Ag NPs and ZNO NPs (after been characterized by Zetasizer and TEM) in comparison with Itraconazole (ITR 10 µg disk). The antifungal effects of the three Nps were examined at various serial dilutions in vitro against the (10) pathogenic fungi by agar well diffusion technique. Itraconazole Disk (10 µg) used as a positive control. This study revealed that: Fe2O3 NPs showed noticeable clear wide inhibition zones in most of tested isolates with its four serial dilutions (27,13.5,6.75,3.75 µg/ml) except in F. solani the least dilution gave no inhibition zone. While ZNO Nps showed mild to moderate inhibition zones ranged from 12 to 18 mm with its higher two dilution (500,400 µg/ml) in A. flavus and A. niger only. while non defined inhibition zones in most of isolates with its four serial dilutions. Ag NPs showed very compromised inhibitory effect on F. solani ranged from 10:14 mm diameter of inhibition zone with its serial dilutions (500,250,125 µg/ml) and no defined inhibition zones for the rest of fungal isolates the antifungal sensitivity medium. This leads to a conclusion that: Fe2O3 NPs is a potential broad spectrum antifungal material and it worth to be further investigated for medical applications as antifungal drug used for both human and pet animals.