Detection of avian metapneumovirus in commercial chicken flocks in East and West Azarbaijan provinces

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Avian metapneumovirus causes upper respiratory tract infections in chickens and turkeys. Avian metapneumovirus plays an important role in respiratory diseases, it may be involved in multifactorial disease. The aim of this study was the detection and sequencing of the G gene of avian metapneumovirus from chicken flocks in East and West Azarbaijan province. Clinical samples from 50 commercial chicken flocks with respiratory signs such as swollen infraorbital sinuses, nasal discharges, coughing, tracheal rales, and foamy conjunctivitis were collected. Samples included the choenal cleft, trachea and turbinates swabs and brought to the Razi Vaccine and Serum Research Institute for RT-PCR. The G genes of Positive samples were sequenced. Of the 50 chicken flocks, 8 flocks were positive by RT-PCR (16%). Partial sequence analysis of the G gene confirmed that the positive samples belonged to subtype B. Phylogenetic tree demonstrated that These Iranian strains formed one group apart from subtype B vaccine strain used in Iran.

***Key words**: Multifactorial, Phylogenetic Tree, Sequence*

Identification of sarcocystis tenella and sarcocystis arieticanis isolated from slaughtered sheep in Tabriz abattoir using parasitological and PCR-RFLP methods

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The genus sarcocystis is composed about 130 species of Heteroxenous cyst-forming coccidia with differences in life cycle and pathogenicity. *Sarcocystosis* is caused by species of *Sarcocystis*, an intracellular protozoan parasite in the phylum Apicomplexa. In this study, heart and diaphragm muscles of 60 sheep collected from Tabriz abattoir. Microscopic cysts identified by preparation of direct tissue impression smears from samples and staining them by giemsa stain and digestion of samples by pepsin and finally centrifugation and preparation of smear from the sediment and staining them with Giemsa stain and microscopically examined for presence of braddyzoit. DNA extraction carried out by a kit. PCR conditions optimized for 18S rRNA amplification. According to the position of restriction sites, restricted enzymes TAG1 selected. We observed the microscopic cysts in 40 % of impression smears and 100% of tissue digestions. RFLP-PCR analysis showed that microscopic cysts belonged to Sarcocystis arieticanis and *Sarcocystis tenella*. Sarcocystis species can be correctly recognized through PCR-RFLP technique using the designed specific primers and TAG1 enzyme.

Key words: *Sarcocystis, Pepsin Digestion, PCR- RFLP*

Comparison of serum thyroid hormones concentrations in the pregnant Beetal-cross and Iranian native goats

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The aim of the present study was comparison between triiodothyronine, thyroxine and thyroid stimulating hormone in pregnant goats. Twenty–five pregnant Beetal–cross and twenty – five pregnant native goats were used in this study. Blood samples were collected by jugular venipuncture and analyzed for effect of pregnancy. No significant differences were seen for serum T3 and TSH concentrations between Beetal-cross and native does. In the Beetal-cross, T4 serum concentrations was lower ($P \leq 0.05$) than native does. The results of the present study explain the correlation between thyroid activity and pregnancy in the Beetal-cross and Iranian native.

Key words: *Goat Pregnancy, Beetal-Cross, Native, Thyroid Hormone.*

Effect of induction of subclinical pregnancy toxemia on serum ceruloplasmin levels in ewe

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Pregnancy toxemia in ewes is a metabolic disease initiated by negative energy balance and result in excessive lipid metabolism, ketosis and subsequent hepatic lipidosis. On the other hand," Ceruloplasmin" is a major protein that circulate in the blood and functions as the copper transporter that is able to transport 95% of copper in serum. Ceruloplasmin is an acute phase protein with antioxidant activity. It is synthesized by liver in response to the tissue damage, inflammation and stress. This study has accomplished due to evaluate the effect of induction of subclinical pregnancy toxemia in ewes on serum ceruloplasmin concentrations. The experiment was performed on five pregnant Fashandi crossbred ewes aged 3-4 years. The body condition score (BCS) of the selected animals were between 3.5-4 and the pregnancy of these ewes were confirmed with ultrasound examination. Blood samples were taken from the jugular vein into the tubes before the induction of subclinical pregnancy toxemia by food deprivation and after that. Feed cessation with access to water started and continued until serum β-hydroxybutyrate concentration reached levels greater than 0.8mmol/L). Serum ceruloplasmin concentrations of ewes after the induction of subclinical pregnancy toxemia were significantly higher than before the induction time ($P<0.01$). Therefore, it can be concluded from the results of this study that although evaluation of serum ceruloplasmin concentrations in pregnant ewes is a routine procedure for estimation of copper status, but because of the effects of other circumstances such as pregnancy, negative energy balance, oxidative stress and hormonal changes on serum ceruloplasmin concentrations; measurement of serum ceruloplasmin by veterinarians may not provide the accurate estimation for copper status especially in pregnant ewes.

Key words: *Subclinical Pregnancy Toxemia, Ceruloplasmin, Ewe.*

Effect of *Raffinose* and *Trehalose* on sperm parameters in buffalo bulls after thawing

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The study was designed to investigate the effect of Raffinose and Trehalose on sperm parameters in buffalo bulls after thawing. For this purpose, 20 ejaculates were collected from four buffalo bulls in Northwest Buffalo Research Center. Samples with excellent quality and more than 70% visual sperm motility were diluted at 37◦C in Bioxcell extender with addition of (0, 25 and 75 mM) of Raffinose and (0, 25 and 75 mM) Trehalose. The diluted semen was equilibrated at 4◦C within 4 hours. Then, filled in 0.5 ml French straws and were subjected to cooling condition before being plunged into liquid nitrogen. Semen was thawed at 37◦C for 40 seconds after two weeks of storage inside liquid nitrogen. Sperm motility and some quality parameters of each frozen semen sample were assessed after thawing by warm plate phase contrast microscope and by CASA evaluation. In general, the results showed that the addition of 0, 25 and 75 mM raffinose and trehalose and interaction of raffinose in trehalose into the Bioxcell extender for freezing buffalo semen did not improved the motility of spermatozoa and some quality parameters after thawing (P>0.05).

Key words: *Buffalo, Raffinose, Spermatozoa, Trehalose.*

Survey of microbiological contamination of edible clover, mung bean and wheat sprouts in Tehran, Iran

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Fresh vegetables have a important role in human nutrition and health. Sprouts are an important class of vegetables with high levels of C, B and E vitamins. Considering that the sprouts are consumed cold, the consumption of contaminated ones could cause food poisoning. Sprouts provide a good environment for The survival and proliferation of microbes. Numerous epidemic outbreaks in different countries, increasing consumption of sprouts in Iran, The importance of food safety are important reasons for studying microbiological contamination of sprouts. This study was performed on 27 mung beans, clover and wheat sprouts. After preparing first dilution, serial dilutions were prepared and surface plating was done on ECC chromagar, plate count agar and sabouraud dextrose agar containing chloramphenicol plates. The Highest and the lowest levels of total count was observed in clover and wheat respectively. 4 samples were contaminated with E.coli and 6 samples had mycelial mold contamination. Contamination with Salmonella or E.coli O157:H7 was not detected. It seems that the use of different techniques disinfection solutions at home and radiation techniques at farms, can have an important role in reducing the contamination of sprouts.

Key words: *Clover Sprouts, Mung Bean Sprouts, Wheat Sprouts, Microbiological Contamination, Food Poisoning.*

Genotyping of Clinical isolates of coagulase-negative Staphylococcus species by PCR-Sequencing of *tuf* gene

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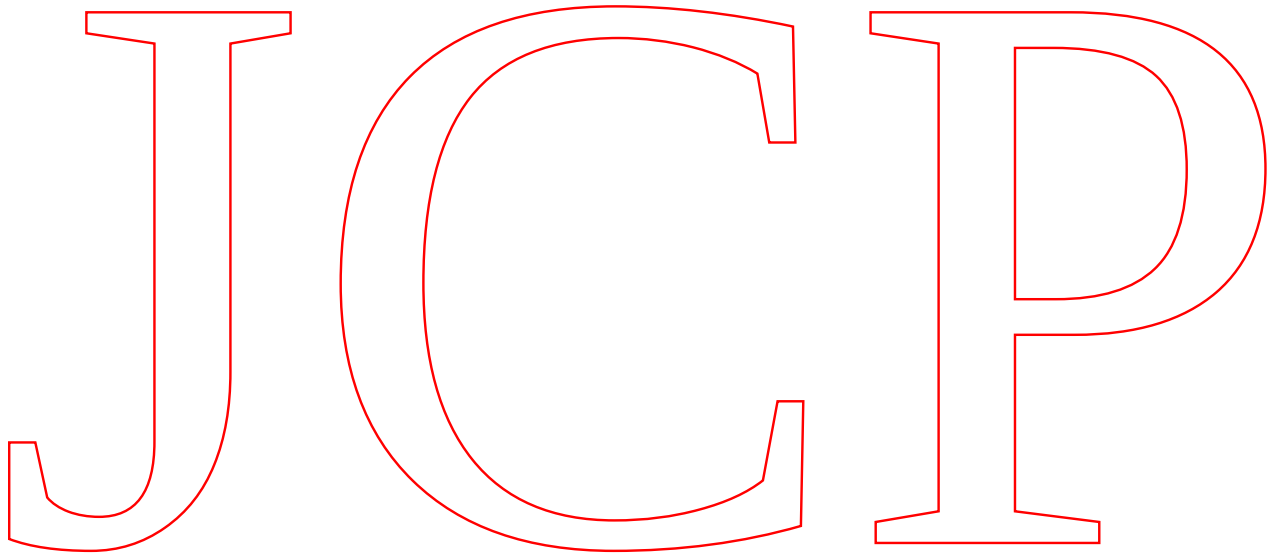
Background**:** Over the last two decades CONs have emerged as opportunistic pathogens, especially among immune compromised hosts and patients with implanted biomaterials. The increasing incidence of these micro-organisms in hospital- acquired infections necessitates the need for an accurate identification of *staphylococcus* isolates at the species level. Since tuf gene is known as the most accurate for specifying CONs, we aimed to identify species of 50 consecutive clinical CONs isolates by phenotypic characteristics and tuf gene sequencing.
Materials and Methods: A total of 50 CONs was isolated from various clinical specimens of hospitalized patients in Shahid Mohammadi hospital, Bandar-Abbass. Phenotyping was carried out by differential - biochemical tests. Genotyping was performed by sequencing of tuf gene, followed by blast and construction of phylogenetic tree.
Results: The clinical isolates consisted of 25(50%) *S. epidermidis*, 22(44%) *S. saprophyticus* and 3(6%) *S. hemolyticus*. *S. epidermidis* and *S. saprophyticus* strains were mostly isolated from blood and urine cultures, respectively. Vancomycin was found to be the most effective antibiotic followed by cefalexin and ofloxacin. Blast searches and phylogenetic tree inferred from the neighbor-joining method of 8 isolates revealed that 5 isolates had a *tuf* sequence 100 % identical to *tuf* gene of *Staphylococcus epidermidis* strain SeMCV45 , and 3 isolates was 99% similar to that of *Staphylococcus haemolyticus* strain ShlMCV14 isolated from media cultures .
Conclusions: CONS are involved in a wide range of nosocomial infections. PCR and sequencing of the tuf gene is a reliable and valuable approach for the genotyping and identification of CONS species in epidemiological studies.

Key words: *Coagulase Negative Staphylococci, Tuf Gene, Clinical Samples.*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