

Isolation of pathogenic mycoplasmas from Iranian ostrich farms **Moomivand, H.¹, Pourbakhsh, S.A.^{1*}, Jamshidian, M.¹**

1- Department of Microbiology, Science and Research Branch, Islamic Azad University, Tehran, Iran (pourbakhs@gmail.com)*

In ostriches, mycoplasmas are generally, related with respiratory diseases and causes rhino-tracheitis, airsacculitis and inflammation of the upper respiratory tract. The aim of current study was to isolation of pathogenic mycoplasmas in ostrich farms of Iran using PCR and culture methods. Materials and Methods: In this study, 100 samples were taken from lung, trachea and air sacs of ostriches with respiratory disease at slaughter time. Samples was evaluated by culture, rapid serum test and PCR. Results and conclusions: The PCR tests results indicated 21.05% of samples was positive, which 7.89% and 14% was *M. gallisepticum* and *M. synoviae*, respectively. In culture method, 6.14% of samples was positive in view of *M. gallisepticum* and 7.01% of *M. synoviae*. Also according to clinical evaluation highest rate of positive cases was in lungs, air sacs, and trachea, respectively. According to prevalence of poultry mycoplasmas in ostriches, it is essential to exact evaluation of their pathogenesis in ostriches, to determine the importance of prevention.

Keywords: *Mycoplasma, Ostriches, Culture, PCR, Pathogenesis*

The study of morphogenesis and ascent of Kidneys in SANNEN Goat Morovatisharifabad, M.^{1*}, Salehi, E.²

1- Assistant professor, Department of veterinary, Ardakan University, Ardakan, Iran. (mmorovati@ardakan.ac.ir)*

2- Assistant professor, Department of veterinary, Ardakan University, Ardakan, Iran

Kidneys, like most mammalian body organs, start forming and pass Pronephric, Mesonephric and Metanephric stages along the crest of the urinary tract until final growth. Although kidneys are at first, in close association with gonads in both sexes, ascend and reach their final location, on the contrary of gonads. The aim of present experiment was to reveal developmental stages and sites in which kidney pass during ascent in embryonic and fetal periods in sannen goat. For this purpose, 106 goat fetuses in various sizes where collected from yazd slaughter houses randomly, and due to affection of different factors on fetal growth which makes accurate age estimation difficult, CRL parameter was utilized. Samples were divided into 10 groups from CRL=1cm to CRL=31.5cm. The result showed that in samples with CRL=14.5-16.7cm, cranial part of mesonephrose was degenerated. The latter phenomenon had reached to pick point in CRL=26cm. In this case, primitive metanephrose (definitive kidney), as a cell mass well seen at terminal part of mesonephric duct. In fetuses with CRL=31cm, metanephrose was seen in a developed state under stereomicroscope. so, it could be concluded that final stages of development of metanephrose takes place from CRL=26cm to CRL=30.5cm in sannen goat. In fetuses with CRL=31cm kidney shave gained bean shape, which is normal in goat. In fetuses with CRL=31.5cm (full term), the left kidney was ascended from previous location that's mean, vertebral limit L4-S3 to L2-L5, but in right kidney from L3-S2 to L1-L4. It was also concluded that longitudinal length, transverse, and thickness of kidney correlate with increasing whole body of fetus and also weight increase of kidney correlates with increase of fetus growth itself.

Keywords: *Sannen Goat, Kidney, Morphogenesis, Ascent of kidney, Development*

Calcium channel blockade activity of *Trachyspermum ammi* essential oil on rat thoracic aorta in Ex-vivo

Sargazizadeh, GH.¹, Panahi, N.^{1*}, Eshraghi, HR.¹

*1**- Department of Basic Science, Science and Research Branch, Islamic Azad University, Tehran, Iran
(n.panahi@srbiau.ac.ir)

Several pharmacological activities of the essential oil of *Trachyspermum ammi* seeds (TAEO) have been previously studied. These include antitussive, antihypertensive and antispasmodic effects. However, its action on isolated aorta has not yet been studied. This study was aimed to investigate calcium channel blockade activity of TAEO on rat aorta. Extraction of *T. ammi* seeds was performed using Clevenger-type apparatus with the final content of 4.5% (v/w). To evaluate some probable mechanisms of action of TAEO, the action isometric tension was then measured in the aortic rings from Wistar rats which were precontracted with phenylephrine (1 μ M) or KCl (60 mM). The cumulative concentrations of TAEO (20-100 μ g/ml) reduced precontraction caused by phenylephrine and KCl significantly ($p < 0.05$) which was dose-dependent. Also, the inhibitory effect of TAEO on the aortic rings precontracted with KCl and phenylephrine was considerably reduced by nifedipine ($p < 0.05$). These findings hypothesized that the vasorelaxation caused by TAEO is due to the calcium channel blocker activity and inhibition of extracellular Ca²⁺ influx.

Keywords: *Trachyspermum ammi*, Vasorelaxant, Aorta, Rat

The effect of the different concentrations of aqueous extracts of *Origanum vulgare* in subacute damage of oxidative stress caused by cadmium in kidney of rat

Raezadeh, M.^{*1}, Mortazavi, P.², Khademi, N.³, Falah, M.M.⁴

1*- Assistant Professor, Department of Basic Sciences, Sanandaj Branch, Islamic Azad University, Sanandaj, Iran (vet_mr@yahoo.com)

2- Associate Professor, Department of Pathobiology, Sciences and Research Branch, Islamic Azad University, Tehran, Iran

3- Student of veterinary medicine, Sanandaj Branch, Islamic Azad University, Sanandaj, Iran

4- D.V.M, Sanandaj Branch, Islamic Azad University, Sanandaj, Iran

Due to kidney damage cadmium, this study was an attempt to investigate the protective effect of aqueous extracts of marjoram cadmium in kidney. 30 male Wistar rats divided into 5 equal groups randomly: control and treatment groups 1 to 4 (T1-T4), respectively. T1 group was administrated at 2 mg/kg cadmium chloride intraperitoneal and T2, T3 and T4 groups in addition to cadmium aqueous extract of marjoram at a dose of 125, 250, 500 mg/kg, respectively.

On the last day, the animals were weighed and blood samples for serum preparation were isolated. So that the animals were euthanized with overdose of thiopental. The right kidney was used to measure malondialdehyde and the left one was fixed in formalin-buffer 10% to pathologic studies. The results showed that the T1 group had the lowest average body weight. The different weight between the T1 group and control, 250 and 500 mg/kg of extract was significant. The MDA difference between T1 Group, T4, and control group was significant (P=0.041). The TCA concentration in T4 group was the highest of 1198.91 ± 51.45 and in T1 was the lowest average 796.41 ± 40.76 $\mu\text{mol/ml}$ and the difference was significant (P=0.036). The pathological damage was graded with the degeneration of tubules of kidney, necrosis and accumulation of inflammatory cells. The high to low scoring damage was found in Group T1, T2, T3, C and T4 respectively. According to the findings, 500 mg/kg of *O. vulgare* extract can prevent kidney damage caused by cadmium chloride in rats.

Keywords: *Kidney damage, Oxidative Stress, Cadmium, Aqueous extract of marjoram, Rat*

Evaluation of *E. coli* On Testes Tissue study in Rat

Fallah, M.¹, Khaki, A.^{2*}, Jafari, B.¹

1- Department of Microbiology, Ahar Branch, Islamic Azad University, Ahar, Iran

2*- Department of Pathology, Tabriz Branch, Islamic Azad University, Tabriz, Iran(arashkhaki@yahoo.com)

There is more kind of reproductive infectious diseases. Viruses and bacterial agents can cause to presents this disease that occurs by sexual contact. Syphilis and Gonorrhea are the most common old known diseases that affects urogenital tract system, in nowadays HIV and transmitted Antigens by sexual contacts are the others reasons of urinary infectious diseases. The aim of current study was to investigate the effects of *E. coli* on testis tissue, seminiferous tubules and semen parameters. Materials and methods: sixteen mature male Wistar rats with 200-220 grams' weight and 2.5- 3 months' ages, distributed to two of 8 rat's groups and for 60 days of study period the lightning program was 12 hours' light and 12 hours' dark. Entero-toxigenic *E. coli* (O114 serotype) was gained from Tehran Bouali reference laboratory for infect rats. After infection, samples were taken from testis tissue and Hematoxylin-eosin was used for histopathology. The motility, viability and semen count was evaluated. Results: Histopathology studies indicated that in control group all seminiferous tubules were adhere together and all sexual germinal cells was seen. In *E. coli* infected group, seminiferous tubules were inconsecutive and germinal cells was not seen. Semen parameters evaluation showed that total count of sperm, viability and motility was decreased significantly in *E. coli* infected group in comparison to control group. The results indicated that the *E. coli* has undesirable effects on fertility rate and testis tissue and could decrease fertility rate.

Keywords: *E. coli*, Infertility, Testis tissue, Semen parameters

Sero-prevalence of subclinical paratuberculosis (Johne's disease) in dairy farms of Tehran-Iran using absorbed ELISA assay

Heidarnejhad, O.¹, Safi, Sh.^{2*}, Mosavari, N.³, Keshavarz, R.³

1- Institute of Technical and Vocational Higher Education, Agriculture Jihad, Agricultural Research, Education and Extension Organization (AREEO), Tehran, Iran

2- Department of Pathology and Clinical Pathology, Faculty of Specialized Veterinary Sciences, Science and Research Branch, Islamic Azad University, Tehran, Iran (safishahab@yahoo.com)*

3- Department of Tuberculosis, Razi Vaccine & Serum Research Institute, Tehran, Iran

Mycobacterium avium subspecies paratuberculosis causes Johne's disease in ruminants and have been also isolated from humans. Accurate statistical information about the disease prevalence in different regions of Iran is not available. The objective of the present study was to evaluate the prevalence of subclinical Johne's disease in dairy cattle herds of Tehran province, Iran. Knowing the disease prevalence and its damages could have an important role to manage the disease in the farms involved. In the present study which was conducted in the years 1391 to 1393, 338 serum and fecal samples from cows older than 18 months, were obtained from 14 dairy farms in Tehran province, Iran. Antibodies against Johne's disease were assayed using PARACHEK2 absorbed ELISA kit (ParaCheck, Prionics AG, Zurich, Switzerland). Fecal culture and Nested-PCR assays were performed to confirm the disease. The prevalence of the disease determined by ELISA and culture were 9.5% (95% CI: 6.66 - 13.23) and 3.6% (95% CI: 1.69 - 7.27), respectively. Furthermore, the herd prevalence of the disease was calculated using culture as 28.6% (95% CI: 9.58- 57.99) and ELISA as 57.14% (95% CI: 29.65- 81.19). To evaluate the diagnostic value of the test, ELISA results were compared to bacterial fecal culture as the gold standard test. According to the obtained results, ELISA can be considered as a suitable screening test for the diagnosis of paratuberculosis due to the convenient sampling, high speed and low price. It is suggested that precise control programs to be performed based on the prevalence of the disease in Tehran province.

Keywords: *Prevalence, Johne's disease, ELISA, Mycobacterium avium subspecies paratuberculosis, Cattle*

Effect of dietary inclusion of *Mentha piperita* on histomorphometric parameters of bursa of Fabricius, cecal tonsils and thymus of Broiler chickens

Hamedi, S.^{1*}, Shomali, T.², Zeinali Tajani, R.¹

1*- Department of Basic Sciences, Faculty of Veterinary Medicine, Karaj Branch, Islamic Azad University, Alborz, Iran (sahar_hamedi@yahoo.com)

2- Division of Pharmacology and Toxicology, Department of Basic Sciences, School of Veterinary Medicine, Shiraz University, Shiraz, Iran

To evaluate immunostimulatory effects of *Mentha piperita* on histological characteristics of bursa of Fabricius, cecal tonsils and thymus of broilers 40 male one-day old Ross 308 chickens were randomly allocated into 5 groups of 8 birds in separate cages. Four groups received dried *M. piperita* powder at 10, 20, 40 and 80 g/kg of diet while group 5 birds were kept as control and fed with standard diet. After 6 weeks all birds were slaughtered and samples of bursa, cecal tonsils and thymus were removed. Six-micrometer thick slides were made and stained with H&E for evaluation of histomorphometrical parameters by a linear graticule under light microscope. Data analysis was performed by ANOVA method. Consumption of diet supplemented with *M. piperita* resulted in a dose-dependent significantly increase in number of follicles and height of plicae in bursa. Villi became shorter and wider in cecal tonsils while the density of follicular units significantly increased. Lobular thickness increased in thymus. The results of this study demonstrate that dietary consumption of *M. piperita* during rearing period is associated with expansion and stimulation of histological immune structures of bursa, cecal tonsils and thymus in broiler chickens.

Keywords: Histology, *Mentha piperita*, Broiler, Lymphatic organs