

# Index Medicus for the WHO Eastern Mediterranean Region

with Abstracts



## IMEMR Current Contents September 2006

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# IMEMR Current Contents

## Rationale

The Index Medicus for the WHO Eastern Mediterranean Region (IMEMR) was previously published as a retrospective indexing service. For the last two years we have applied a policy of indexing of journals as soon as they reach us. This has changed the whole concept of the Index Medicus from an archiving tool to a current awareness information tool. For technical staff of the Regional Office, health care staff and medical professionals they are able now to access health literature published in the Region as soon as it is published. A document delivery service to support the Index has also been activated which will enable any user to acquire a copy of any article listed in the Index.

The cumulative version of the Index Medicus is available now on the Internet as part of EMRO web site. A CD-ROM version of the same is also being considered.

## Scope and Coverage

The **IMEMR Current Contents** is issued on a quarterly basis including articles added to Index Medicus for the Eastern Mediterranean Region (IMEMR) Database<sup>1</sup>.

## Indexing Level

Each article has been indexed and assigned to a "Main Heading", plus added headings according to the Medical Subject Headings (MeSH) list of the National Library of Medicine (NLM). Up to five added headings (including the respective country) have been allowed. Subheadings (or qualifiers) are used in indexing to qualify MeSH headings by pinpointing some specific aspects of the concept represented by the heading, e.g. "**LIVER-Drug Effects**" indicates that the article is not about the liver in general, but about the effect of drugs on the liver.

## Organization of the IMEMR

### The main body of the Index

The Index is organized in alphabetical order, according to the Main Subject Headings (MeSH). In most cases one main subject is assigned to each article. Under the main subject, entries are sorted by Subheading in alphabetical order also. Each entry includes the title of the article, author(s), Journal title, year (date of publication), volume number, issue number, number of pages, number of references, subject descriptors, geographic descriptors and abstract has been added and is searchable on the database on the Internet. (as shown in Figure 1)

### Author Index

The IMEMR includes the author's index which also indicates the subjects covered by each author.

### Computer facilities

The Current Contents has been produced using the **UNESCO WINISIS** package. Countries or journals publisher interested in a subset of the database may be provided with data on WINISIS format upon request.

### Availability of photocopies

Photocopies of articles cited in IMEMR may be obtained from EMRO Library, upon request.

### Availability on the Internet

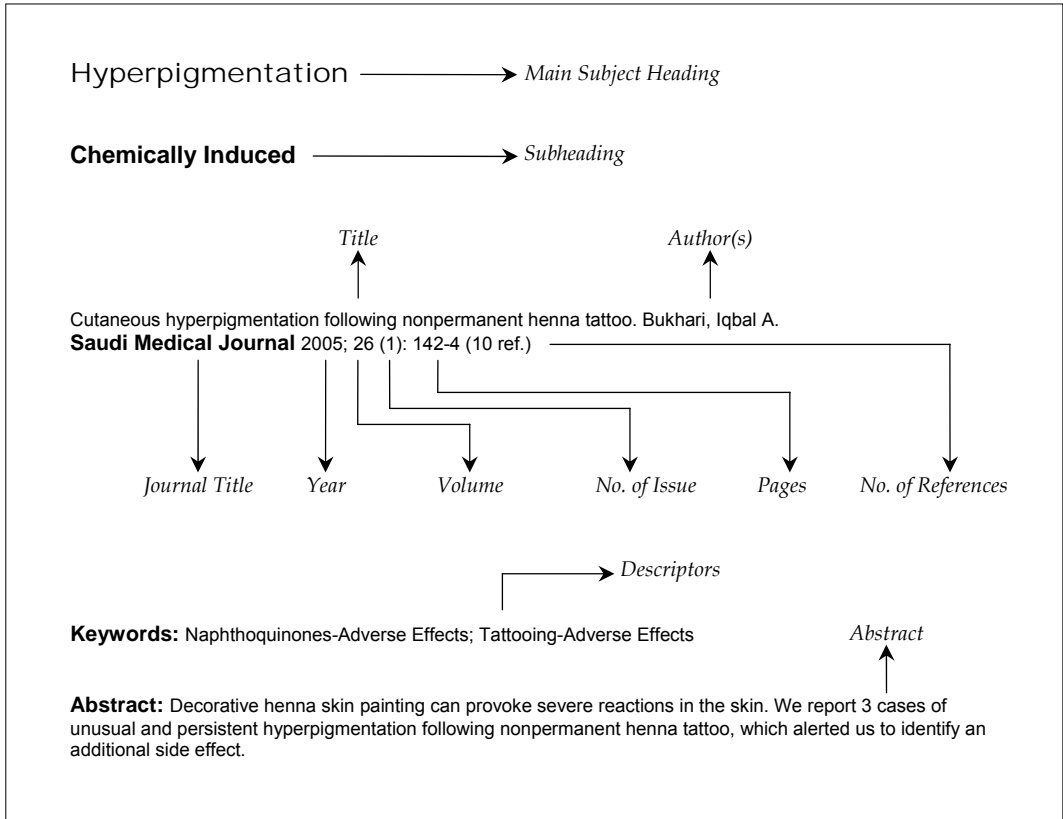
This issue, as well as all forthcoming issues, will appear in WHO/EMRO web site on the Internet, as part of the complete edition of the Index. Internet address is

<http://www.emro.who.int/HIS/VHSL/Imemr.htm>

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<sup>1</sup> Including the countries of Afghanistan, Bahrain, Djibouti, Egypt, Islamic Republic of Iran, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Palestine, Pakistan, Qatar, Saudi Arabia, Somalia, Sudan, Syria Arab Republic, Tunisia, U.A.E., Yemen Arab Republic

**Figure (1) : Sample of entry for one record from the Index Medicus**



# Subjects Index



## Adenoma, Pleomorphic

### Pathology

Pleomorphic adenoma minor salivary gland tumor palatal area. Murad, Samir Muhammed

**PMJ - Palestinian Medical Journal** 2006; 2 (1) (4 ref.)

**Keywords:** Salivary Gland Neoplasms-Pathology; Salivary Gland Neoplasms-Diagnosis; Adenoma, Pleomorphic-Diagnosis; Head and Neck Neoplasms-Diagnosis

**Abstract:** Pleomorphic adenoma can be defined as a benign mixed tumor composed of epithelial and myoepithelial cells arranged with various morphological patterns, demarcated from surrounding tissues by fibrous capsule. Pleomorphic adenoma [mixed benign tumor] is one of the salivary gland tumors affecting both major and minor salivary glands. Parotid gland is the most commonly affected of the major group, and palate is the most common site of the minor salivary glands affected.

### Agriculture

Slope stabilization with *Gleditsia caspica* and *Parrotia persica*. Bibalani, G.H.; Majnonian, B.; Adeli, E.; Sanii, H.

**International Journal of Environmental Science and Technology** 2006; 2 (4): 381-5 (10 ref.)

**Keywords:** Soil; Forestry; Trees

**Abstract:** The stabilization roles of two species, *Gleditsia caspica* and *Parrotia persica*, were studied on slopes in northern part of Iran. Landslides developed in this area because of incorrect land use and clear cutting of forest to change to agriculture land. Spread planting of *Gleditsia caspica* and *Parrotia persica* can help to control instability of soil in this area. Bishop's method was used to calculate the safety factor of slopes. This calculation was studied for the following conditions with vegetation cover of *Gleditsia caspica*, with *Parrotia persica* and without vegetation cover. *Parrotia persica* helped to stabilize slopes with 45-60% grades and *Gleditsia caspica* helped for slopes with 25-40% grades.

### Algorithms

A new variable step size algorithm for solving initial value problems. Kamran, Khurram; Qureshi, M. Shahid; Touheed, Nasir

**Journal of Basic and Applied Sciences** 2006; 2 (1): 37-44 (9 ref.)

**Keywords:** Mathematics; Reference Values; Problems and Exercises; Problem Solving

**Abstract:** Polynomials constructed by usual interpolation methods are less accurate as compared to the tools due to Chebyshev. Hence the use of Chebyshev's nodes to produce the solution of initial value problems promises more accurate results. In this work a new algorithm is developed using nodes generated by Chebyshev's method that are used as points where solution are produced for a number of Linear and Non-Linear Initial Value Problems using classical Runge-Kutta method. The improvement in accuracy is found even when the number of nodes is small, that makes this algorithm better than other valuable step-size methods.

### Amebiasis

Molecular characterization of 70 kDa heat shock protein [HSP70] gene in *Entamoeba dispar*. Rezaie, S.; Birami, A.; Rezaian, M.

**Iranian Journal of Public Health** 2006; 35 (1): 11-6 (22 ref.)

**Keywords:** Entamoeba; Heat-Shock Proteins; HSP70 Heat shock Proteins; Databases, Genetics

**Abstract:** Amebiasis caused by *Entamoeba histolytica* is still mentioned as one of the major health problems in tropical and subtropical areas. *E. histolytica* has recently been redescribed as two distinct species; *E. histolytica* and *E. dispar*. In the present study, we characterized the 70 kDa Heat Shock Protein [HSP70] of *E. dispar* at molecular level and compared it with that of *E. histolytica*. With these findings, we were able to distinguish *E. dispar* from the infectious *E. histolytica*. Pairs of 21 nucleotide primers were designed from highly conserved regions of the same gene in other eukaryotic cells. Mentioned primers were utilized in PCR by using isolated genomic DNA template of *E. dispar* and the PCR fragments were then sequenced. By the time, 1020 nucleotides have been sequenced and characterized within open reading frame of this new gene which encode a polypeptide with 337 amino acids. Nucleotide sequence comparison in gene data banks [NCBI, NIH] for both the partial DNA and its deduced amino acid sequence revealed significant homology with members of the eukaryotic 70 kDa HSP family. Small parts of the mentioned sequences from *E. dispar* were about 100% identical to the sequences of 70 kDa HSP from *E. histolytica* other eukaryotic cells. The new partial gene fragment and its encoded protein have been submitted to the gene data banks [NCBI, NIH] and registered under the accession number of AY763790.

### Anti-Infective Agents

In vitro antimicrobial activity of *Borreria seniensis*. Mohammed, TO.; Almagboul, AZ.; Omer, MAA.; Omer, MAA.; Ahmed, SOM.

**Omdurman Journal of Pharmaceutical Sciences** 2006; 1 (2): 188-99 (17 ref.)

**Keywords:** Plants, Medicinal; Plant Extracts; Rubiaceae

**Abstract:** The antimicrobial activity of the chloroformic, methanolic and aqueous extracts of *Borreria seniensis* were studied in vitro against five standard bacterial species [*Bacillus subtilis*, *Staphylococcus aureus*, *Escherichia coli*, *Proteus vulgaris* and *Pseudomonas aeruginosa*] and two fungal species [*Aspergillus niger* and *Candida albicans*] by the agar diffusion method. The results indicated that the stem chloroformic extract was active against both Gram-positive and Gram-negative organisms. The stem methanolic extract showed high activity against *Bacillus subtilis*, low activity against *Escherichia coli* and no activity against *Staphylococcus aureus*, *Proteus vulgaris* and *Pseudomonas aeruginosa*. The stem aqueous extract showed high activity against

both Gram-positive organisms, two Gram-negative organisms, namely *Escherichia coli* and *Proteus vulgaris*, and was inactive against *Pseudomonas aeruginosa*. All the extracts were inactive against the two standard fungi. *Aspergillus niger* and *Candida albicans*. The active extracts were further tested against a total of sixty clinical isolates, fifteen of each of *Staphylococcus aureus*, *Escherichia coli*, *Proteus vulgaris* and *Pseudomonas aeruginosa*, collected randomly from specimens from Sudanese patients. The stem chloroformic extract of *Borreria seniensis* at 200 mg/ml was more effective than Ampicillin 40 micro g/ml against *Bacillus subtilis* and *Proteus vulgaris*. Compared to Gentamicin at the same 40 micro g/ml concentration, the extract was more effective against *Staphylococcus aureus*, *Escherichia coli* and *Pseudomonas aeruginosa*. The stem methanolic extract of *Borreria seniensis* at 200 mg/ml was almost similar to Gentamicin 15 micro g/ml against *Bacillus subtilis* and Geamicin 5 micro g/ml against *Escherichia coli*. The stem aqueous extract at the same 200 mg/ml concentration was found to be more effective than Ampicillin 40 micro g/ml against *Bacillus subtilis*, *Staphylococcus aureus*, *Escherichia coli* and *Pseudomonas aeruginosa*. This aqueous extract was found to be similar in action to Gentamicin 15 micro g/ml against *Bacillus subtilis* and *Escherichia coli* and to Gentamicin more than 40 micro g/ml against *Staphylococcus aureus* and *Proteus vulgaris*. The clinical isolates exhibited low susceptibility compared to the standard organisms.

## Antibiotic Prophylaxis

Antimicrobial prophylaxis in obstetric surgeries. Wad Medani Teaching Hospital for Obstetric and Gynecology [WMTHOG], Sudan. Yousif, MA.; El-Sanosi, M.S.

**Omdurman Journal of Pharmaceutical Sciences** 2006; 1 (2): 149-58 (12 ref.)

**Keywords:** Anti-Infective Agents-Therapeutic Use; Obstetric Surgical Procedures; Prescriptions, Drug; Cesarean Section; Postoperative Complications

**Abstract:** A study of measuring differential descriptive and correlated drug prescribing core indicators for surgical antimicrobial prophylaxis in obstetrics and gynecology was carried out in WMTHOG. The study included some patients' characteristics indicators that showed [52.7%] of the interviewed ladies were urban residents, [44.0%] had a primary education, and [50%] with average income. The surgical obstetric deliveries were predominant [95.3%]. The majority of the prescribed postoperative therapies [97.3%] were closely supervised by the duty nursing staff that led to high adherence rate [94.7%]. The study revealed that up to [75.3%] had received appropriate prenatal care throughout the course of pregnancy. Recommendations aimed at selection of the appropriate antimicrobial agents for surgical prophylaxis were proposed.

## Antigens, CD

### Analysis

Murine Adherent CD34 [+] cell population expanded by single cell cloning. Eslaminejad, Mohamadreza Baghaban; Fathi, Fardin; Yazdis, Poopak; Asehara, Takoyuki

**Yakhteh Medical Journal** 2006; 7 (4): 222-9 (29 ref.)

**Keywords:** Antigens, CD34; Mice; Cell Adhesion; Cell Survival; Cells, Cultured; Colony-Forming Units Assay; Culture Techniques

**Abstract:** Introduction: While human endothelial progenitor cells [EPCs] have been a subject of somewhat extensive investigation, EPCs from adult mouse hematopoietic system were poorly studied. Present investigation is focused on FVB mouse endothelial progenitor cells in terms of their isolation, purification, and expansion. Material and Methods: Mononuclear cells collected from murine peripheral blood were cultured in fibronectin coated plate for two weeks, at which point, the adherent cell population were lifted and analyzed in terms of some surface markers. Using FACS Vantage equipped with one-cell deposition unit, single CD34 positive cells were plated per well already containing medium optimized for single cell growth. Several clones were then emerged, expanded, and examined in terms of some surface markers. Furthermore, the cells were investigated regarding ability to uptake Dil-ac-LDL and form capillary network on matrigel surfaces. Results: Adherent population of mononuclear cells from mouse peripheral blood was appeared morphologically heterogeneous. About 5% of the adherent cells were CD34 positive. Having optimized their culture condition, several CD34 positive clones were expanded. The clones comprising the clones were Dil-ac-LDL+ and formed capillary-like tube when being seeded on matrigel surfaces. Conclusion: The primary culture of the mononuclear cells from murine peripheral blood contains a very limited number of cells positive for endothelial lineage markers. These cells [adherent CD34 positive] could be expanded by single cell cloning technique.

## Autoantibodies

Traditional islet cell autoantibodies in diabetic patients with and without long-term complications. Elhabiby, Mahmoud I.; Khattab, A. Hafiz; Elmahdi, M.A. Elmahdi; Bottazzo, Gian Franco; Fierabracci, Alessandra; Satti, Gwiria M H.

**PMJ - Palestinian Medical Journal** 2006; 2 (1) (35 ref.)

**Keywords:** Diabetes Mellitus, Type 1-Immunology; Islets of Langerhans-Immunology; Antibody Specificity; Insulin Antibodies; Diabetes Mellitus, Type 2-Immunology; Risk Factors

**Abstract:** The aim of the present work was to demonstrate the presence of the traditional islet cell related autoantibodies in the diabetic patients with and without long term complications and to identify relevant predisposing markers of pre-clinical diabetic complications. There was significant difference [P 0.001] between the percentage of islet cell autoantibodies [ICA], glutamic acid decarboxylase autoantibodies [GAD-Ab], and insulin autoantibodies [IAA] positive subjects in the diabetic groups and their matched control and potential groups. Type-1 diabetic groups had higher percentage [P .0.05] of subjects positive for ICA, GAD-Ab, and IAA than Type-2 diabetic groups. The concentration of ICA in the studied population strongly correlated with the duration of the disease [r=0.705, p 0.05]. There was no significant difference [P 0.05] between the percentage of islet cell antigen-2 autoantibodies [IA2-Ab] positive subjects in the different groups of diabetic population and their control. In conclusion the traditional islet cell antibodies have a role in the detection and development of diabetes especially Type-1 rather than the

long-term complications. Other more specific autoantibodies and immune responses, which were not studied, may have a role in the etiology and pre-clinical appearance of these chronic complications. **KeyWords:** Diabetes, Autoantibodies, Complications.

## Benzodiazepines

Synthesis of condensed dihydro-1, 5-benzodiazepines using Mannich bases exchange reactions. Abdel Karim, M.; Ramli, M.

**Omdurman Journal of Pharmaceutical Sciences** 2006; 1 (2): 170-5 (5 ref.)

**Keywords:** Quinoxalines; Formaldehyde; Ethanol

**Abstract:** The Mannich base exchange reactions of the Mannich bases [7, 9, and 11] with 3,4-diaminotoluene afford condensed dihydro-1, 5-benzodiazepines instead of the expected quinoxalines.

## Biomedical Research

Practical guide for medical researchers. W.H.O.

**YHMRJ - Yemeni Health and Medical Research Journal** 2006; 3 (9): 9-23 (15 ref.)

**Keywords:** Research Design; Cataloging; Periodicals; PubMed; MEDLINE; Information Storage and Retrieval; World Health Organization

Sudanese Journal of Public Health : A New milestone in Health Arena. Badr, Elsheikh

**Sudanese Journal of Public Health** 2006; 1 (1): 5-6 (4 ref.)

**Keywords:** Journalism, Medical; Periodicals; Publishing; World Health Organization; Public Health

## Blood Donors

Palestinian BTS experience in shifting towards voluntary non-remunerated blood donation. Suleinam, Hassan; Elaiwa, Najah M.

**PMJ - Palestinian Medical Journal** 2006; 2 (1) (6 ref.)

**Keywords:** Ethics, Medical; Voluntary Workers; Blood Banks; Voluntary Programs

## Botulism

### Epidemiology

Outbreak of botulism type E associated with eating traditional soup in a family group, Loghman Hakim Hospital, Tehran, Iran. Vahdani, Parviz; Yadegarinia, Davood; Aminzadeh, Zohreh; Dehabadi, Mahmood Zare; Eilami, Owrang

**Iranian Journal of Clinical Infectious Diseases** 2006; 1 (1): 43-6 (11 ref.)

**Keywords:** Botulism-Etiology; Botulism-Diagnosis; Botulinum Toxins; Disease Outbreaks; Food Microbiology; Food Contamination

**Abstract:** Background: Botulism is a neuroparalytic illness caused by clostridium botulinum toxin that is usually transmitted as a foodborne disease. It is manifested by cranial nerve dysfunction and descending flaccid muscle paralysis. Patients: Eleven members of a family developed severe weakness, lethargy and other clinical manifestations compatible with botulism following the ingestion of traditional soup. Stool, gastric fluid and serum samples were submitted for toxicological evaluation with standard mouse bioassay, while, only one patient demonstrated type E toxin. All patients received 3 monovalent antitoxins A, B and E, whilst most of their symptoms improved within 12 hours. Conclusion: This study confirmed that prompt administration of antitoxin could prevent progression of the disease and may be a life-saving approach. **Keywords:** Botulism, Antitoxin, Outbreak.

## Breast Neoplasms

### Blood

Plasma level of antioxidant vitamins and lipid peroxidation in breast cancer patients. Aghvami, T.; Djalali, M.; Keshavarz, A.; Sadeghi, MR.; Zeraati, H.; Yeganeh, H. Sadrzadeh; Negahdar, M.

**Iranian Journal of Public Health** 2006; 35 (1): 42-7 (31 ref.)

**Keywords:** Breast Neoplasms-Metabolism; Oxidative Stress; Lipid Peroxidation; Vitamin E; Ascorbic Acid; Malondialdehyde

**Abstract:** Oxidative stress arises when there is an imbalance between reactive oxygen species [ROS] and scavenging capacity of antioxidants, and it can induce and progress many diseases such as breast cancer. The present study was conducted to investigate the status of plasma antioxidant vitamins [E and C] and lipid peroxidation on 50 untreated breast cancer patients and 50 healthy age-matched women. The results revealed that plasma vitamin E and vitamin E adjusted for the sum of cholesterol and triglycerides decreased significantly in patients group [P<0.05]. We could also observe that vitamin E adjusted for lipid was significantly different in various stages of breast cancer. On the other hand, the level of malondialdehyde increased significantly in patients as compared to the controls [P<0.05]. There were no significant changes in plasma vitamin C between two groups. According to the findings, attention to the level of plasma antioxidant vitamins and lipid peroxidation is of great importance to promote the level of health in women suffering from breast cancer.

## Pathology

Histochemical study of N-acetylgalactosamine containing glycoconjugate in intraductal carcinoma of the breast by HPA lectin. Arab, Mohammad Reza; Sepehri, Zahira; Eimani, Hossein; Karimi, Mehrbod; Aval, Fereydoon

**Yakhteh Medical Journal** 2006; 7 (4): 216-21 (21 ref.)

**Keywords:** Carcinoma, Intraductal, Noninfiltrating-Pathology; Glycoconjugates; Lectins; Histochemistry

**Abstract:** Introduction: Glycoconjugates are a class of glycoproteins or glycolipids, their terminal sugars are responsible for cell-cell and/or cell-extracellular matrix interactions. Aberrant glycosylation of these compounds are one of the most important aspects of cellular transformation, metastasis and escape of tumoral cells from immune system and resistance to antineoplastic drugs. Recent studies showed that patients with HPA [helix pomatia agglutinin] positive intraductal carcinoma cells have worse prognosis compared to patients with HPA negative cells. The aim of the present study was to define the presence of GalNac terminal sugar in glycoconjugate of different grades of intraductal breast carcinoma and to compare the degree and the pattern of reactivity of tumoral cells to HPA lectin. Material and Methods: The paraffin blocks belonging to 20 patients of intraductal carcinoma was chosen from pathology archive of Khatam-Al-Anbia hospital in Zahedan and 5-7 micrometer sections were prepared. Two expert pathologists determined histopathological grading independently. The lectin histochemistry was performed using HPA. These same observers determined histochemical grading. Data were analyzed by NPAR [non-parametric] test of Mann Whitney. Results: Results of this study revealed that the pattern and the degree of histochemical reactivity of neoplastic cells differ in all grades of intraductal carcinoma. Histochemical staining showed significant difference between grades of intraductal carcinoma of the breast [p<0.003]. The lowest reactivity was seen in grade I and the highest in grade III. Furthermore, the reaction of tumoral cells was primarily confined to apical surfaces of cells in grade I, to the Golgi zone in grade II, and to a diffuse cytoplasmic distribution in grade III. Conclusion: Our data suggest that the HPA reactivity of tumoral cells were different in all grades of intraductal carcinoma. The tumor cells showed aberrant glycosylation, which occurred in the course of anaplastic changes. It seems that our data suggest a potential and clinically important role of HPA reactivity to predict the invasive nature of malignant tumoral cells of intraductal carcinoma of the breast.

## Breast Self-Examination

Self examination of the breast for early detection of breast cancer : The role of medical students in the Faculty of Medicine - University of Gezira - Sudan. AbdElrahman, Samira Hamid; Yousif, Magda Alhadi Ahmed

**Sudanese Journal of Public Health** 2006; 1 (1): 36-42 (12 ref.)

**Keywords:** Breast Neoplasms-Diagnosis; Students, Medical; Faculty, Medical; Evaluation Studies

**Abstract:** Background: In Sudan, breast cancer is the most common type of cancer accounting for 34.5% of all female cancers. Optimal chances for surviving breast cancer in its early stages is by detecting it early, either by breast self examination [BSE], clinical breast examination by health staff or by mammography. BSE has an important role in the early detection of disease and hence its management as it enables women to detect breast lumps of less than 1.0 cm in diameter. Methods: The existing knowledge, attitude and practices [KAP] of 200 students and 340 women about BSE were assessed. Students were trained as part of their undergraduate training on how to perform BSE and how to teach women. They conducted training of women in their assigned families. KAP of students and women was again assessed at the end of the study. Results: In the pre-test, 66.5% of students have heard about BSE, 8.0% rated BSE as very important and only 7.2% used to practice it. After the intervention, the last figures rose to 100% and 73.9% successively. Prior to study, only 12.0% of women have heard about BSE. By the end of the students' intervention 60.5% of the women adhered to regular monthly BSE. No lump was detected by a student, while 4 women were referred by students for self-detected breast lumps. All received care at Wad Medani Teaching Hospital. Conclusion: The study revealed that medical students, through relevant curricula had a significant effect on the knowledge, practices and attitudes of women in the community regarding early detection of breast cancer by regular BSE.

## Candida albicans

Performance of five phenotypical methods for identification of Candida isolates from clinical materials. Zaini, F.; Shoar, M Gerami; Kordbacheh, P.; Khedmati, E.; Safara, M.; Gharaeian, N.

**Iranian Journal of Public Health** 2006; 35 (1): 25-32 (32 ref.)

**Keywords:** Candida; Candidiasis; Phenotype

**Abstract:** Although Candida albicans is the most common etiologic agent of candidiasis, C. dubliniensis, has been emerged, as another pathogen resembles C. albicans in many phenotypic aspects and noted for its in vitro potential for fluconazole resistance. Since there was no evidence of any report about detection of this organism in Iran, this study was designed to use of five different tests for identification of Candida species with special reference to C. dubliniensis among 313 suspected Candida isolates in Tehran, capital of Iran. Overall, 199 [63.6%] C. albicans and 114 [36.6%] Candida spp. were identified. All 199 C. albicans isolates were found germ tube and chlamydo-spore positive. Different shades of green color colonies were yielded on CHROMagar Candida of which 23 [11.6%] showed dark green color indicative of C. dubliniensis. All but four C. albicans isolates grew well at 45 °C. These 4 isolates beyond to 23 dark green colony producers were suspected of being C. dubliniensis, later examined by API 20C AUX system. The results indicated that all 27 isolates were able to assimilate both xylose and alpha-methyl-D-glucoside, therefore these isolates were identified as C. albicans. Overall, C. dubliniensis had not been found in present study. It must be concluded that no single phenotypic test has proven to be highly effective, and the use of several tests may be necessary of these two closely related Candida species for definitive identification.



## Cardiomyopathies

### Etiology

The effect of different levels of sodium chloride on round heart disease in the Turkey. Jahantigh, M.

**Iranian Journal of Veterinary Research** 2006; 7 (1): 38-43 (22 ref.)

**Keywords:** Cardiomyopathies-Chemically Induced; Poultry; Poultry Diseases; Sodium Chloride-Adverse Effects

**Abstract:** Round heart disease is a disease of unknown etiology in turkey. The objective of this study was to examine the effect of different amounts of sodium chloride in inducing cardiomyopathy in turkey poult. There are some reports that hypoxia and furazolidone can induce cardiomyopathy in turkey. Two hundred 2-day-old turkey poults were wing-banded and placed randomly into 6 groups and 24 replicates [4 replicates for each group]. The 6 groups received commercial turkey starter diet contain 0.12, 0.17, 0.22, 0.27, 0.32 and 0.37% of sodium, respectively. They had access to food and water ad libitum. Suffering and dead birds were weighed and examined for post-mortem study. Live body weight of turkey poults measured individually on days 1, 2, 5 and 19. To study the hearts for presence of cardiomyopathy, on the day 19, all the poults were weighed and killed by cervical dislocation. The pieces of the hearts were replaced into numbered tubes, flash frozen by liquid nitrogen and stored at -70°C for myoglobin and hemoglobin microassay. The assay was based on spectrophotometry and separated myoglobin and hemoglobin by ammonium sulphate extraction. For determination of cardiomyopathy the ratio of the inner cavity of left ventricle to the total diameter of the left ventricle [IC [IV]/TD [IV]] was calculated. Myopathic ratio for groups 1, 2, 3, 4, 5 and 6 were 0.1, 0.29, 0.3, 0.34, 0.35 and 0.36, respectively. Turkey poults which received excessive salts drank more water which produced volume overload, more cardiac muscle activity, needed more oxygen and were more likely to develop myopathy. Cardiac muscle myoglobin and hemoglobin microassay showed that there was no significant relationship between the amount of myoglobin and hemoglobin with the amount of diet sodium.

## Cholestasis

Neonatal cholestasis Syndrome : An experience at Army medical college and Military Hospital Rawalpindi. Ahmad, Mumtaz; Afzal, Saeed; Mubarak, Azhar; Roshan, Emran; Saleem, Nasir; Khan, Dilshad Ahmad; Ali, Salman; Aziz, Shahid

**Pakistan Journal of Pathology** 2006; 17 (1): 16-20 (25 ref.)

**Keywords:** Bile Duct Diseases; Liver-Pathology; Biliary Atresia; Liver Cirrhosis; Hepatitis; Jaundice, Obstructive; Splenomegaly; Hospitals, Military

**Abstract:** Objective: To find the causes of neonatal cholestasis in our set up and to see the role of liver biopsy in differentiating neonatal hepatitis from biliary atresia. Design: A cross sectional survey. Place and duration of study: Histopathology department of Army Medical College and Military Hospital Rawalpindi from January 2000 to December 2004. Patients and Methods: A total of 62 cases were studied with age range of 1.5 months to 5 years. The subjects selected for biopsy were children with persistent jaundice and hepatosplenomegaly. The biopsy was taken with the help of Surecut needle under the cover of diluted intravenous Ketamine. The fixed tissues were processed under standard conditions. Result: Majority of the patients [62.90%] were of biliary atresia followed by neonatal hepatitis [27.42%]. Paucity of bile ductules was seen in 3 cases while three patients were of indeterminate etiology. Cirrhosis of liver was noted in 10 patients; six because of biliary atresia and two cases each of alpha-1 antitrypsin deficiency and galactosemia. Amongst neonatal hepatitis cases most of the patients were idiopathic in nature [58.82%]. Conclusion: In our set up, biliary atresia is an important and main cause of neonatal cholestasis and liver biopsy is a valuable diagnostic tool in differentiating biliary atresia from neonatal hepatitis.

## Cholestasis, Intrahepatic

### Congenital

Byler disease progressive familial intrahepatic cholestasis [PFIC]. Khalil, Anwar

**PMJ - Palestinian Medical Journal** 2006; 2 (1) (10 ref.)

**Keywords:** Cholestasis, Intrahepatic-Complications; Gallbladder-Pathology; Biopsy; Jaundice-Etiology

**Abstract:** A 20-month old boy delivered to a consanguineous parents presented early in the infantile period with deep jaundice, his investigations showed progressive cholestatic jaundice, high liver enzymes and high GGT. Hepatitis and metabolic errors were excluded. The liver biopsy showed a prominent parenchymal bile stasis without features of bile obstruction or an evidence of paucity of bile ducts. These findings are going with the diagnosis of Byler Disease or progressive familial intrahepatic cholestasis [PFIC3] which is a chronic cholestasis syndrome that begins in infancy and usually progresses to cirrhosis and hepatic failure in the first few years of life. Few patients have survived into the third decade of life without treatment. Liver transplantation is the only effective treatment for this type of the disease.

## Cobalt

### Deficiency

The status of cobalt in soil, plants and sheep in Shahrekord district, Iran. Kojouri, Gh. A.

**Iranian Journal of Veterinary Research** 2006; 7 (1): 66-9 (18 ref.)

**Keywords:** Sheep; Minerals-Deficiency; Soil-Analysis

**Abstract:** Cobalt [Co] deficiency occurs in many parts of world especially in tropical and subtropical countries. Primary Co deficiency occurs only in places where the soil is deficient in Co. The type of soil and the presence of other substances like manganese and lime influence the absorption of Co [secondary Co deficiency]. To determine the Co status in Shahrekord district, Iran, several important farms were selected and the Co concentration of 80 different soils [before cultivation] under cultivation of alfalfa, clover, barley and wheat and their cultivated plants [after full vegetative growing] were measured by atomic absorption spectroscopy. Moreover, blood samples were taken from 100 sheep fed the grown plants on those areas. The mean  $\pm$  SD Co concentration in the soil of alfalfa, clover, barley and wheat farms were 0.14  $\pm$  0.04, 0.16  $\pm$  0.06, 0.10  $\pm$  0.03 and 0.11  $\pm$  0.05 mg/kg, respectively and the corresponding concentrations in plants were 1.32  $\pm$  1.01, 2.2  $\pm$  0.08, 1.2  $\pm$  0.76 and 1.37  $\pm$  0.88 mg/kg dry matter [DM], respectively. The mean [SI] Co concentration in sheep serum was 1.45  $\pm$  0.41 micro g/dl at various physiological conditions. Results indicated that in all studied areas, Co concentration in soil was lower than the normal range and primary Co deficiency was noticeable. On the other hand, Co concentration in different plants and rations was higher than animal demands, but serum Co was at marginal level and probably interfered with animal health. This study showed that the soils of lands under cultivation of clover and alfalfa and its related plants contained more Co than that determined for barley [P 0.05]. Furthermore, clover soil had higher amount of Co than wheat soil [P 0.05]. There was a negative correlation between the amount of lead in soil of lands under cultivation of alfalfa and the concentration of Co in plants. Such a negative correlation was also detected between the amount of molybdenum and lead in soil and the concentration of Co in plants [P 0.05]. Presence of some interfering factors in ration such as nitrogen [1.24  $\pm$  0.3%], phosphorus [0.47  $\pm$  0.18%], lead [2.87  $\pm$  1.58 mg/kg DM] and molybdenum [0.1  $\pm$  0.14 mg/kg DM] were negatively affected the uptake of Co and decreased serum Co concentration via secondary Co deficiency.

## Conservation of Natural Resources

Destroying hills in the northeastern part of Bangladesh : A qualitative assessment of extent of the problem and its probable impact. Islam, Md. Sirajul; Hasan, G.M. Jahid; Choudhury, Md. Aktarul Islam

**International Journal of Environmental Science and Technology** 2006; 2 (4): 301-8 (10 ref.)

**Keywords:** Geology; Desert Climate; Risk Assessment

**Abstract:** Indiscriminate cutting of hills in the Sylhet region has become a major environmental issue. The nature and life style of Sylhet intimately related with the hills are thus under the threat of a drastic imbalance in its ecosystem. Due to such hill cutting the mostly affected sectors of this region will be its weather and climate, geomorphology and hydrology, and the indigenous flora and fauna. As a result the frequency of natural calamities like earthquake, flash flooding etc may increase considerably. Deforestation and resulting increased soil erosion, decreased ground water recharge and deteriorated water quality might also be as consequences of such hill cutting. This paper investigates the cause and extent of the problem along with its probable impact and finally suggests actions for conservation of hills for ecological balance of the region.

## Crystallins

Comparison of optic lens proteins among animals at different stages of development. Aminlari, M.; Gholami, S.; Parhizgari, Gh.; Ranjbar, S.

**Iranian Journal of Veterinary Research** 2006; 7 (1): 1-7 (33 ref.)

**Keywords:** Lens, Crystalline-Embryology; Embryology; Growth and Development

**Abstract:** The purpose of this investigation was to study and compare the electrophoretic patterns of optic lens proteins of different species of domestic animals at pre- and post-natal ages. Optic lenses were removed from the embryo or adult sheep, cattle, goat, camel and chicken at the slaughter-house then homogenized and subjected to sodium dodecyl sulfate polyacrylamide gel electrophoresis [SDS-PAGE]. In all animals, except chicken, majority of proteins had molecular weights of less than 33 kDa and their concentrations were not affected by the age of animals at pre- or post-natal stages. A 9 kDa protein which was present in adult sheep optic lens was absent in sheep fetal lenses at different age groups. Prominent differences were observed in camel and chicken. In camel, proteins with molecular weights of 30 and 38 kDa were present, the concentration of which was much lower in other animals. A protein of 57 kDa which constituted the major protein of chicken optic lens was absent in other species of animals. The concentration of proteins in the range of 25-30 kDa increased with the age of chicken embryos. These proteins were remarkably different from those of adult chicken lens proteins except the 57 kDa protein which was also the predominant protein in the embryo. The 38 kDa protein disappeared and a 20 kDa protein appeared in the chicken embryo lens as compared with adult chicken lens. These data indicate extensive differences in the lens proteins of animals and suggest different physiological functions of lens proteins in different animals at different stages of development.

## Death, Sudden, Cardiac

Sudden cardiac death - Morphological changes in myocardium and coronaries. Mushtaq, Sajid; Shafiq, Hamid; Sharif, Muhammad Ashraf; Mamoon, Nadira; Khadim, Tahir

**Pakistan Journal of Pathology** 2006; 17 (1): 38-41 (19 ref.)

**Keywords:** Heart Diseases-Pathology; Heart Diseases-Mortality; Atherosclerosis; Myocardium-Pathology

**Abstract:** Objective: To determine the changes in coronary arteries in patients of sudden cardiac death. Materials and Methods: Observational descriptive study was carried out at Armed Forces Institute of Pathology, Rawalpindi, in year 2000 on autopsy of 58 cases with sudden cardiac death. Results: Coronary arteries of 56 out of 58 cases revealed varying degree of atherosclerosis. 38 [65%] cases showed severe atherosclerosis. The percentage of cases below 40 years was 67% which is higher than the previous series on this subject. Left coronary artery remains the commonest artery showing significant atherosclerosis [84%] and left anterior descending coronary artery is the most frequent artery to be occluded by a thrombus. Conclusion: Coronary atherosclerosis was the major cause of sudden cardiac death. Decreasing age in incidence of sudden cardiac death is a worrisome cause and should be addressed with public health awareness.

## Delayed-Action Preparations

In vitro diclofenac sodium release profiles from different controlled-release matrices. Gargar, AAA.;Abdulkarim, AM.

**Omdurman Journal of Pharmaceutical Sciences** 2006; 1 (2): 125-34 (13 ref.)

**Keywords:** Tablets, Enteric-Coated; Diclofenac-Pharmacology; Diclofenac-Pharmacokinetics;Pharmaceutical Preparations; Drug Implants

**Abstract:** In vitro release profiles were studied for the controlled- release Diclofenac sodiummatrix tablets [MT20. MT33. MT34], in comparison with Voltaren Retard r [V.R.], a well-knownDiclofenac sodium enteric-coated tablet from Novartis. The percentage release of Diclofenacsodium was studied in gradient pHs [1.2, 2.1, 4.2, 5.5, 6.5, 6.7, and 7.2] in accordance withgastro-intestinal tract [git] pHs, which are varying from pH 1 to pH 8. Drug release kinetics of theseformulations was also evaluated.

## Diabetes, Gestational

### Diagnosis

Evaluation of post challenge Glucose Estimation For Diagnosis of Gestational Diabetes Mellitus[W.H.O. - Criteria 1999]. Shaheen, Sajida; Ijaz, Aamir; Khan, Farooq Ahmed; Dilawar, Muhammad; Khan,Muhammad Nadeem; Anwar, Masood

**Pakistan Journal of Pathology** 2006; 17 (1): 21-4 (14 ref.)

**Keywords:** Pregnancy; Cross-Sectional Studies; Glucose Tolerance Test; World HealthOrganization; Specificity and Sensitivity

**Abstract:** Objective: To compare sensitivity, specificity and Positive Predictive Value [PPV] andNegative Predictive Value [NPV] of 75g Oral Glucose Tolerance Test [OGTT] i.e. WHO criteria1999 with 100g OGTT of National Diabetes Data Group [NDDG criteria]. Study Design:Comparative cross sectional. Material & Methods:The study was conducted at Department ofChemical Pathology & Endocrinology, Armed Forces Institute of Pathology [AFIP], Rawalpindi.Duration of study: 1st January 2004 to 31st August 2004. Sample size: Approx one hundredpregnant ladies between 24 to 28 gestational weeks. Sampling technique: Non-probabilityconvenience. Data collection procedure: Patients consent for participation in the study was takenwith explanation of test procedure. Patient's characteristics such as age, obesity, family history ofdiabetes, pregnancy induced hypertension, previous bad obstetric history [of still birth,macrosomia, recurrence abortion] was recorded on a predesigned proforma. Patients were firstcalled for 75g OGTT and then after a gap of 1-2 days for OGTT 100g. Both tests were performedaccording to standard protocols. Results: OGTT 75g was found to have 87.5% sensitivity, 97.8%specificity, and 77.7% positive predictive value and 98.8% negative predictive value, whencompared with 100g OGTT.

## Diptera

The biological effect of Sepedon [Diptera : Sciomyzidae]fly larvae living on Lymnea snails.Motamedi, Gh.R.; Dalimi Asl, A.H.; Akhavizadegan, M.A.; Langroodi, Pilehchian R.; Abdigoudarzi, M.,Mohammadi, M.

**Iranian Journal of Veterinary Research** 2006; 7 (1): 62-5 (13 ref.)

**Keywords:** Lymnaea; Snails; Pest Control, Biological

**Abstract:** The present work was carried out to investigate first, the ecology of the Sepedon flies aswell as species of Lymnea snails and secondly, the biological effects of Sepedon fly larvae livingon Lymnea. In this regard the life cycle, death rate and compatibility of Lymnea species, as well asthe life cycle of Sepedon flies in breeding cage and the activity of the new larvae in breeding cageand the activity of the new larvae in the same ecological condition were investigated. The resultsshowed that Lymnea truncatula needs more sophisticated ecological and feeding conditions thanother species of the snails. Lymnea stagnalis was found sensitive to temperature variation and thismay lead to gradual or sudden death, Lymnea pregra and Lymnea palustris could well adapt withlaboratory conditions. The killing effect [P<0.001] of the third stage larvae on snails [3 to 4 weeks]was more than the effect of first and second stages larvae. This effect was more in a containerwith 2 cm water depth than a container with 5 cm depth.

## Disinfection

Control of disinfection by products formation potential by enhanced coagulation. Mesdaghinia, A.;Rafiee, M.T.; Vaezi, F.; Mahvi, A.; Torabian, A.; Ghasni, A.

**International Journal of Environmental Science and Technology** 2006; 2 (4): 335-42 (17 ref.)

**Keywords:** Water Purification; Water Pollution; Humic Substances; Benzopyrans

**Abstract:** Jar-test experiments were conducted to study enhanced coagulation effectiveness inremoval of disinfection by products [DBPs] from Zayandehrud River at Isfahan Province-the centerpart of Iran- in 2004. In this study, the removal of suspended and colloidal particles and naturalorganic matter [NOM] at various coagulant doses and coagulation pHs was assessed through rawand treated water measurements of turbidity, UV254 absorbance, TOC, and dissolved organiccarbon [DOC]. The trihalomethane formation potential [THMFP] was also determined by amathematical relationship with TOC. Results indicated that NOM removal was a function ofcoagulant type, coagulant dose, and pH of coagulation. In general, TOC, DOC, and UV254absorbance removal enhanced with increasing coagulant dose. However, further increases incoagulant dosage had little effect on disinfection by-products precursors removal. Ferric chloridewas consistently more effective than alum in removing NOM. Coagulation pH was appeared to bea determining factor for maximum NOM removal and the removal of DBPs precursors by enhancedcoagulation was significantly enhanced at pH 5.5 in comparison with initial pH of water.Furthermore, it is specified that preadjustment of pH with sulfuric acid reduced the coagulantdosage and thus, production of sludge. The reduction in THMFP was consistent with the trendsobserved for DBPs precursors removal data [i.e. UV254 and TOC data].

## Drug Therapy

### Adverse Effects

A study of incidence of adverse drug reactions among tuberculosis patients, Omdurman, Sudan. Mohamed, Al.; Yousif, MA.; Otoa, P.

**Omdurman Journal of Pharmaceutical Sciences** 2006; 1 (2): 159-69 (9 ref.)

**Keywords:** Antitubercular Agents-Adverse Effects; Cross-Sectional Studies; Incidence; Tuberculosis-Drug Therapy; Sex Factors

**Abstract:** A cross sectional study was conducted in Omdurman 'Alkobra' Province with the objective of identifying the occurrence of side effects among tuberculosis [TB] patients, treated with first line anti-TB drugs. Nine hundred forty one patients were selected randomly. Of the interviewees, about 71.2% reported the occurrence of one or more adverse drug effects. The occurrence of dizziness [33.3%], nausea [26.5%], joint pain [23.4%], burning sensation [15.0%] and numbness in hands/feet [16.0%] were observed. Certain groups of respondents complained from these effects more than others, e.g. females [78.7%], and alcoholics [75.0%]; [71.8%] of respondents had other disease/s together with TB. and those who used other medication/s with anti-TB drugs [73.7%]. The principal factor responsible for the increased incidence- of these effects seems to be the observed over-doses of anti TB drugs. A set of recommendations was proposed including revision of prescriptions to correct or modify doses, continuous training of health care providers especially in counseling the TB patients about adverse drug reactions, and teaching them to recognize these effects and education of the public to recognize the anti-TB drugs' adverse effects are needed.

## Echinococcosis

### Epidemiology

Survey of echinococcosis and hydatidosis in Kashan region, Central Iran. Arbabi, M.; Hooshyar, H.

**Iranian Journal of Public Health** 2006; 35 (1): 75-81 (26 ref.)

**Keywords:** Echinococcus granulosus; Prevalence; Carnivora; Sheep; Retrospective Studies; Seroepidemiologic Studies; Health Surveys

**Abstract:** Hydatidosis is one of the major zoonotic diseases that cause considerable economic losses and public health problems worldwide. The present study was conducted to determine the prevalence of *E. granulosus* in domestic and wild carnivores and the infection rate of hydatid cyst in slaughtered animals and people in Kashan area, central Iran. A total of 142 carnivores including 70 stray dogs, 40 jackals, 22 red foxes, and 10 wolves were examined for the presence of *E. granulosus*, as well as, 170510 slaughtered sheep, 162665 goats and 13059 cattle for hydatid cyst infection. In addition, 500 inhabitants in rural areas were examined for antibodies to hydatid cyst. Results indicated that 43.7% of carnivores were infected with *E. granulosus*. Infection rate in slaughtered animals was 2.7%. Overall, the seroprevalence rate in human cases was 2.4%. Eighty-five patients including 47 females and 38 males were hospitalized. The mean annual incidence rate of hydatidosis in human was three cases per 100 000 populations. In general, the situation of the hydatidosis in the livestock and human and echinococcosis in the carnivores of the Kashan is similar to the other zones in Iran.

## Electrocoagulation

Treatment of dye containing colored index acid yellow 36 by electrocoagulation using iron electrodes. Kashefialasl, M.; Khosravi, M.; Marandi, R.; Seyyedi, K.

**International Journal of Environmental Science and Technology** 2006; 2 (4): 365-71 (21 ref.)

**Keywords:** Water Pollution; Water Purification; Coloring Agents

**Abstract:** The removal of pollutants from effluents by electrocoagulation has become an attractive method in recent years. This paper deals with the batch removal of the reactive textile dye Colored Index [C. I.]. Acid yellow 36 from an aqueous medium by the electrocoagulation method using iron electrodes. The effects of electrolyte concentration, initial pH, current density, electrode area, interelectrode distance, dye concentration, and treatment time on the decolorization efficiency have been investigated. Iron hydroxypolymeric species formed during an earlier stage of the operation efficiently remove dye molecules by adsorption and precipitation, and in a subsequent stage,  $\text{Fe}(\text{OH})_3$  flocs trap colloidal precipitates and make solid liquid separation easier during the flotation stage. These stages of electrocoagulation must be optimized to design an economically feasible electrocoagulation process. The increase of current density up to 127.8 A/m<sup>2</sup> enhanced the color removal efficiency. Our results showed that the optimum electrolysis time was 6 min. The optimum pH was determined 8. It was also found that the color removal percent [R.P.%] with increasing of dye concentration, decrease. The optimum amount of electrolyte [NaCl] was found to be 8 g/l when the dye concentration was 50 mg/l.

## Enterobiasis

### Complications

Lymphadenopathy following enterobiasis. Salah, Muntasir TM; Elmardi, Khalid A.

**Sudanese Journal of Public Health** 2006; 1 (1): 59-60 (8 ref.)

**Keywords:** Enterobiasis-Diagnosis; Lymphatic Diseases; Lymph Nodes-Pathology; Mebendazole-Therapeutic Uses

**Abstract:** Human enterobiasis in the majority of cases in asymptomatic. Enterobiasis in this case who presented with generalized lymphadenopathy was diagnosed by exclusion of other causes and based on mother noticing worms in her child stool. Mebendazole treatment was prescribed and this was followed by returning of lymph nodes to normal size.

## Esophageal Neoplasms

### Diagnosis

Transhiatal versus transthoracic resection for oesophageal carcinoma in Yemen. Alkuhati, SM.; Homesh, NA.; Alsabahi, AA.; Al-Agmar, MH.; Aiwashaly, AA.; Valenzuela, RE.; Alhadid, MA.

**YHMRJ - Yemeni Health and Medical Research Journal** 2006; 3 (9): 35-48 (28 ref.)

**Keywords:** Esophageal Neoplasms-Surgery; Prospective Studies; Postoperative Complications; Recurrence; Intensive Care Units; Length of Stay

**Abstract:** Introduction: Cancer of the oesophagus is a major problem in Yemen, where most of the patients present with advanced disease. Curative oesophageal resection for carcinoma may be carried out by either the transhiatal or transthoracic technique. The aims of this study were to compare the morbidity, mortality, short term outcome and long term survival of the two techniques in the treatment of oesophageal carcinoma. Methods:- From March 1998 to July 2004, 118 patients with cancer of the oesophagus were studied. The tumours in 84 patients were resected by transhiatal oesophagectomy [43] and transthoracic oesophagectomy [41]. Results:- The two groups were comparable in terms of age, sex, location of the tumours, risk factors and stage of the disease. There was no significant difference in the mean intensive care unit stay, blood transfusion and mean hospital stay. Anastomotic leak was higher in the transhiatal oesophagectomy group than transthoracic group [21 percent versus 12 percent, p-value is equal to 0.001]. Recurrent laryngeal nerve lesion was present in 18.6 percent of the transhiatal group and absent in the transthoracic group. The overall hospital mortality was 8.3 percent with no significant difference between the two groups [transhiatal 9.3 percent versus transthoracic 7.3 percent, p-value is equal to 0.742]. Conclusion:- Transhiatal oesophagectomy was associated with a higher incidence of anastomotic complications and recurrent laryngeal nerve lesions, but there was no significant difference in the mortality between the two groups.

## Facial Bones

### Injuries

Peculiarities of Nickel-Titanium mini-plates osteosynthesis in facial bones fractures. El-Majdalawi, Emad

**PMJ - Palestinian Medical Journal** 2006; 2 (1) (11 ref.)

**Keywords:** Skull Fractures-Surgery; Mandibular Fractures-Surgery; Fracture Fixation, Internal; Bone Plates; Bone Wires; Jaw Fractures-Surgery; Zygomatic Fractures-Surgery

**Abstract:** Retrospective analysis of 360 maxillo-facial trauma patients have seen a medical assistance to the "Dar-Al Shifa" Hospital, Gaza-Palestine, has revealed they meet more frequently [in 74.7%] in male persons, in children and teenagers [in 71.8%]. Between maxillofacial trauma teeth [in 32.2%] and soft tissues [in 38.6%] trauma prevailed, and between facial bones the mandible fracture was [23.4%]. In the number of cases, maxillo-facial traumatizing were a fallings, including falling from height [in 53.9%] and road traffic accidents [in 15%]. Connected with the particular regional situation the bullet wounds of maxillofacial area were met in 11.7% cases. The peculiarities of facial bones fractures have been studied, including combined maxillo-facial and cranial traumas were observed in 5.7%. Bullet wounds are meriting especial attention, including soft tissue's injuries [in 83.7%], and facial bones' injuries [in 16.7%] were observed. Has been revealed a different clinic of the bullet wounds depending on the injury localization, wounded arms, and possible contaminations in patients. Peculiarities of clinical cause of maxillofacial injuries have influenced the choice of treating method of patient with trauma of such localization.

## Fasciitis, Necrotizing

### Etiology

Necrotizing fasciitis : study of 20 cases in Shifa hospital. Kandil, Ahmed

**PMJ - Palestinian Medical Journal** 2006; 2 (1) (19 ref.)

**Keywords:** Fasciitis, Necrotizing-Diagnosis; Fasciitis, Necrotizing-Therapy; Fasciitis, Necrotizing-Mortality; Debridement; Anti-Bacterial Agents-Therapeutic Use; Fatal Outcome; Soft Tissue Infections; Disease Progression

**Abstract:** Necrotizing Fasciitis (NF), although uncommon soft tissue infection but it is a diagnostic and therapeutic challenge to the surgeons due to their higher associated morbidity and mortality. This aggressive infection caused by aerobic and anaerobic infections mainly affects the subcutaneous fat and fascia, and later on the overlying skin, while the underlying muscles are almost always spared. Our objective is to put a plan for optimal care of such patients. The current study reviews our experience with 20 patients of NF admitted and treated at Surgery Department in Shifa Hospital in Gaza during the period from February 1995 to February 2003. They were 12 males and 8 females with a mean of age 53.5 years. After establishment of the diagnosis of NF by clinical examination and intra-operative findings, all the necrotic tissues were debrided under general anesthesia followed by minor debridement as frequent as needed under analgesia, while reconstructive procedures e.g. skin grafting and secondary suturing performed according to the condition. The mean time between the beginning of the disease and the operation was 4.4 days. Among the 20 patients with NF, 13 patients [65%] had diabetes mellitus [D.M.]; the mortality rate between the diabetics was 61.5%. The perineum was the most frequent site for primary infection, eight cases [40%] followed by the valvar region, four

cases [20%]. Seven patients died out of the twenty giving a mortality rate of 35% in this study. In Conclusion: Recognition of the need for early diagnosis and surgical treatment of this rapidly progressive surgical infection [NF] is necessary for successful management, especially for patients with perianal or valvar infections.

## Fasciola

In vitro anthelmintic activity of *Peganum harmala* L. against *Fasciola gigantica*. Koko, WS.; Osman, EA.; Mohamed, A.

**Omdurman Journal of Pharmaceutical Sciences** 2006; 1 (2): 209-15 (13 ref.)

**Keywords:** Peganum; Plants, Medicinal; Seeds; Anthelmintics; Plant Extracts

**Abstract:** In the present work, the seeds of the medicinal plant *Peganum harmala* L. were extracted by both water and methanol to evaluate their in vitro anthelmintic activity against *fasciola gigantica*. RPMI 1640 medium was used for maintenance of the parasite in culture. The highest concentrations of the seeds aqueous extract of *Peganum harmala* of 15000 and 5000 ppm gave 100% mortality one hour after the parasite exposure to the extract. The lower concentrations had revealed no effect against the parasite, except the concentration 1000 ppm which gave 25% mortality in the second hour and reached 100% mortality after the 6th. hour of exposure. The seed methanolic extract of *Peganum harmala* was significantly [P<0.001] potent and revealed mortality at both 1000 and 500 ppm as follows: 17, 17, 83, 100 and 100% and 0, 0, 17, 66, 83% respectively, at the exposure times of 1, 2, 3, 6 and 24 hours.

## Fever

### Etiology

A 40 years old woman with fever and pancytopenia. Jahromi, Maryam Keshtkar; Javadzadeh, Tofigh; Jodayri, Davood Salimi; Talaie, Ramin; Kazemi, Ali

**Iranian Journal of Clinical Infectious Diseases** 2006; 1 (1): 39-41 (15 ref.)

**Keywords:** Fever-Diagnosis; Pancytopenia-Etiology; Pancytopenia-Diagnosis; Bone Marrow Examination; World Health Organization; Doxycycline-Therapeutic Use; Streptomycin-Therapeutic Use; Brucellosis

## Fishes

Comparative study of body composition of four fish species in relation to pond depth. Ali, M.; Iqbal, F.; Salam, A.; Athar, M.; Sial, F.

**International Journal of Environmental Science and Technology** 2006; 2 (4): 359-64 (19 ref.)

**Keywords:** Water; Body Composition

**Abstract:** Fish specimen of *Labeo rohita*, *Cirrhinus mrigala*, *Hypophthalmichthys molitrix* and *Catla catla* were sampled from three ponds of different depths [152 cm, 122 cm and 76 cm] to compare the body composition of these species in relation to pond depth. There was significant [P<0.001] effect of pond depth on water, ash, organic, fat and protein contents [all % wet and dry bodyweight]. It was observed that pond depth has significant effect [P<0.01] on condition factor in pond B [122 cm depth] and no effect in pond A and C. Maximum mean values of body composition were observed in *Labeo rohita* in all the three ponds. Present study demonstrates that fish cultured in ponds of different depths have different values of protein which can help guide the farmers to select best pond depths to produce protein rich fish.

## Flavanones

6-Acetyl-3-O-acetyl-7, 4'-dimethoxy-5-hydroxy-3', 5'-dimethoxyflavanone from the Bark of *Khaya senegalensis*. Karim, M.; Abdalla, AA.; El-Mubarak, A.

**Omdurman Journal of Pharmaceutical Sciences** 2006; 1 (2): 176-8 (7 ref.)

**Keywords:** Aglaia; Trees; Ultraviolet Rays; Spectrum Analysis

**Abstract:** The flavanone: 6-acetyl-3-O-acetyl-7, 4'-diethoxy-5-hydroxy-3', 5'-dimethoxyflavanone is reported for the first time from the bark of *Khaya senegalensis* growing in the Sudan its structure was deduced from UV, MS, and NMR spectral analysis.

## Fluorides

### Adverse Effects

Effect of fluorides on the respiratory system of rats. El-Agamy, Dina S.; El-Labban, Nasra H.; El-Kashef, Hassan A.

**Journal of Basic and Applied Sciences** 2006; 2 (1): 11-22 (71 ref.)

**Keywords:** Fluoride Poisoning; Lung-Pathology; Lung-Drug Effects; Trachea-Pathology; Trachea-Drug Effects; Rats, Sprague-Dawley

**Abstract:** The effects of sodium fluoride [NaF] on the isolated pulmonary arterial rings and the isolated tracheal strips of rats as well as the effect of long-term oral administration of NaF on the response of pulmonary arterial rings and tracheal strips to biogenic amines were investigated. NaF concentrations of 3, 5 and 10 mM produced a concentration dependent contraction in isolated pulmonary arterial rings and in tracheal strips of rats. NaF-induced contractions were reduced after pretreatment with nifedipine or melatonin. Aminophylline produced significant decline in NaF-induced contraction of isolated pulmonary arterial rings. Phentolamine, atropine, chlorpheniramine, indomethacin, NDGA or L-NAME did not produce any alteration in the NaF-

induced contractions. Chronic oral NaF administration produced significant decline in the response of the isolated pulmonary arterial ring and isolated tracheal strips to serotonin [5-HT] and acetylcholine [ACh], respectively. Histopathological examination of isolated trachea and lung of treated rats showed marked damage. In conclusion, the results of the present study suggest that calcium channel and/or release of free radicals may mediate the contractile effects of fluoride in isolated pulmonary arterial rings and in tracheal strips. Furthermore, chronic oral fluoride administration causes damage to tracheal and pulmonary tissues and thus, care should be taken to avoid ingestion of large amount of fluoride especially in children.

## Foreign Body Reaction

### Pathology

Intraosseous foreign body creating osteolytic bone lesion mimicking malignancy. Shaik, Eyad; Hamada, Hosam

**PMJ - Palestinian Medical Journal** 2006; 2 (1) (13 ref.)

**Keywords:** Osteolysis-Etiology; Osteolysis-Radiography; Bone Resorption; Foreign Bodies-Complications; Foreign Bodies-Diagnosis; Bone Neoplasms-Diagnosis; Tomography, X-Ray Computed

**Abstract:** Necrotizing Fasciitis (NF), although uncommon soft tissue infection but it is a diagnostic and therapeutic challenge to the surgeons due to their higher associated morbidity and mortality. This aggressive infection caused by aerobic and anaerobic infections mainly affects the subcutaneous fat and fascia, and later on the overlying skin, while the underlying muscles are almost always spared. Our objective is to put a plan for optimal care of such patients. The current study reviews our experience with 20 patients of NF admitted and treated at Surgery Department in Shifa Hospital in Gaza during the period from February 1995 to February 2003. They were 12 males and 8 females with a mean of age 53.5 years. After establishment of the diagnosis of NF by clinical examination and intra-operative findings, all the necrotic tissues were debrided under general anesthesia followed by minor debridement as frequent as needed under analgesia, while reconstructive procedures e.g. skin grafting and secondary suturing performed according to the condition. The mean time between the beginning of the disease and the operation was 4.4 days. Among the 20 patients with NF, 13 patients [65%] had diabetes mellitus [D.M.]; the mortality rate between the diabetics was 61.5%. The perineum was the most frequent site for primary infection, eight cases [40%] followed by the valvar region, four cases [20%]. Seven patients died out of the twenty giving a mortality rate of 35% in this study. In Conclusion: Recognition of the need for early diagnosis and surgical treatment of this rapidly progressive surgical infection [NF] is necessary for successful management, especially for patients with perianal or valvar infections.

## Genitalia, Female

### Abnormalities

Acquired reproductive tract abnormalities of ewes in northwest of Iran : an abattoir survey. Saberivand, A.; Haghighi, M.

**Iranian Journal of Veterinary Research** 2006; 7 (1): 44-8 (13 ref.)

**Keywords:** Sheep; Sheep Diseases; Abnormalities; Infertility, Female

**Abstract:** Reproductive abnormalities cause major losses of sheep production. Abattoir materials were used to determine the extent of reproductive wastage. Reproductive tracts were collected from 524 ewes slaughtered at Urmia slaughter-house in Urmia, northwest of Iran, during a period of 12 months. Overall, 30.10% of the ewes examined were pregnant. A total of 149 [28.44%] tracts developed acquired reproductive tract abnormalities. Based on the observation of the tracts, abnormalities of the ovaries, ovarian bursa and uterine tubes and uterine lesions accounted for 11.41%, 21.48% and 67.11% of the lesions, respectively. The most common ovarian lesion was ovario-bursal adhesions [47.06%]. Uterine tube obstruction was the most common uterine tube abnormality [8.07%]. Pyometra [8.07%], uterine hemorrhage [6.73%] and endometritis [4.04%] were the most common abnormalities observed in the uterus. Two tracts [0.9%] contained macerated fetal remnants. A large number of tracts [16%] had melanin pigment in the uterine wall. It is concluded that, firstly, the large number of pregnant ewes slaughtered highlights significant economic losses. Secondly, lesions such as hydrosalpinx, pyometra and metritis were likely to affect female sheep reproduction. The acquired abnormalities were therefore more significant in terms of individual animal infertility than as a major cause of infertility in flocks.

## Glutarates

### Urine

Glutaric aciduria type II multiple acyl-CoA dehydrogenation deficiencies. Barqouni, Nabil

**PMJ - Palestinian Medical Journal** 2006; 2 (1) (6 ref.)

**Keywords:** Acyl Coenzyme A-Metabolism; Acyl-CoA Dehydrogenase-Metabolism; Adipic Acids-Urine; Fatty Acids-Metabolism; Lipid Metabolism

## Gossypium

Evaluation of twenty four new *Gossypium hirsutum* strains for growth, yield, fibre quality and ClCuV resistance under environment of Punjab, Pakistan. Hassan, M.; Haq, M.A.; Aslam, M.; Alam, S. Sorwar; Akhtar, K.P.; Saleem, M.

**International Journal of Environmental Science and Technology** 2006; 2 (4): 319-25 (17 ref.)

**Keywords:** Cotton Fiber; Quality Control; Evaluation Studies

**Abstract:** Twenty four new strains were tested for their yield, quality and Leaf Curl Virus [CiCuV]resistance. NIAB-111/S, NIAB-98 and NIAB-999 were significantly high fruit bearing varieties at 90days completing 59.54, 48.26 and 46.00% fruiting respectively. Seed cotton yield of VH-142 washighest with 5417 kg ha-1 and 52 per plant boll bearing, DNH-57 and NIAB-999 remained second and third with 5234 and 5095 kg ha-1 seed cotton yield, respectively. BH-160 and CRIS-467 were found to be second and third highest boll bearing varieties with 50.97 and 40.20 per plant average bolls respectively. Plant height in CRIS-467, MNH-642 and SLH-224 was significantly higher in comparison to other varieties. NIAB-98, CIM-499 and CIM-506 were found short stature varieties in comparison with other but out of these NIAB-98 and CIM-506 were in high yielding position and CIM-499 was found medium yielder variety. GOT% of MNH-642 remained highest having value of 45.00%. While GOT% of NIBGE-1, CRIS-168 and CRIS-467 was at lowest position with 35.73, 35.89 and 36.62% respectively. NIAB-111, CIM-499 and BH-160 were at first position in terms of fibre fineness with micronaire values 3.98, 4.00 and 4.07 micro g/inch having fibre length 28.53, 31.38 and 30.23 mm respectively. Out of 26 varieties, 16 varieties resulted maturity index in the range of 85.03% and 90.30% with highest maturity index in case of NIBGE-1 [i.e. 90.30%] followed by NIAB-999 and MNH-642 with 89.55 and 85.5% respectively. CRIS-168, CRIS-468 and CRIS-467 were found viral susceptible.

## Growth Disorders

### Genetics

Sanjad Sakati syndrome [HRD syndrome]. Abu Draz, Samir

**PMJ - Palestinian Medical Journal** 2006; 2 (1) (6 ref.)

**Keywords:** Fetal Growth Retardation-Genetics; Hypoparathyroidism-Genetics; Hypoparathyroidism-Congenital; Syndrome; Phenotype; Microcephaly

**Abstract:** We are reporting two cases with HRD or Sanjad Sakati syndrome from European Gaza Hospital in southern region of Gaza strip - Palestine. They are one boy and one girl from two different families and their parents are consanguineous giving evidence of autosomal recessive inheritance pattern. Both cases are presented with severe hypocalcemic seizures, severe growth retardation and dysmorphic features. Both of them have low parathyroid hormone and renal nephrocalcinosis. None of them has significant cardiac lesion or medullary stenosis in the long bones. Genetic test was not done in both of them because of lack of facilities.

## Health Policy

Internal market reform : Policy options for federal hospitals in Sudan. Mustafa, Salih Mustafa

**Sudanese Journal of Public Health** 2006; 1 (1): 43-8 (15 ref.)

**Keywords:** Hospitals, Federal; Health Care Sector; Marketing; Health Care Reform

**Abstract:** This study discusses and focuses on the applicability of internal market reform within the context of Federal hospitals in Sudan. The objective of the study is to test the effect of internal market reform in remedying the widely acknowledged inefficiencies, while maintaining cost and accessibility. The study is a prescriptive study; it critically analyzed the context of federal hospitals against a wide range of international experiences from developed and developing countries. The countries' experiences showed that there was no single right model for reform; the reform has to be considered with respect to the country specific context. The study concluded the internal market reform mechanisms on the supply side could be applied. A model was designed in which a governing body of the federal hospitals could be entrusted as a purchaser of hospital services and federal hospitals are to take trust status. The model adopted the concept of separation of finance from provision, and patient choice of providers. Theoretical evidences showed that the model could have a positive effect on efficiency and accessibility to hospital care. Budget ceiling was proposed as an important factor to safeguard against cost escalation. The study excluded internal market reforms on the finance side.

## Hearing Loss

### Genetics

Autosomal recessive and sporadic non syndromic hearing loss and the incidence of Cx26 mutations in a Province of Iran. Chaleshtori, M. Hashemzadeh; Zohour, M. Montazer; Rad, L. Hoghooghi; Pour-Jafari, H.; Farhud, D.D.; Dolati, M.; Chaleshtori, K. Safa; Sasanfar, R.; Hosseinipour, A.; Andonian, L.; Tolouei, A.; Ghadami, M.; Patton, MA.

**Iranian Journal of Public Health** 2006; 35 (1): 88-91 (13 ref.)

**Keywords:** Hearing Loss-Etiology; Deafness; Connexins; Mutation

**Abstract:** Despite the enormous heterogeneity of genetic hearing loss, mutations in the GJB2 [connexin 26] gene located on the *\_DFNB1\_ locus [13q12]* account for up to 50% of cases of autosomal recessive non-syndromic hearing loss [ARNSHL] in some populations. This study describes the analysis of 100 autosomal recessive and sporadic nonsyndromic hearing loss individuals from 79 families each having at least one deaf child in Chehar Mahal va Bakhtiari province in west of Iran. We have investigated the prevalence of the connexin 26 gene mutations using nested PCR strategy to screen the predominant 35delG mutation and subsequent direct sequencing to detect other Cx26 mutations. Seven different genetic variants were detected from which one novel variant was including 363delC. The 35delG was the most common mutation found in 5 of 79 families [6.3%]. Cx26 related deafness mutations [35delG, [V27I; E114G]] and R127H] were found in 12 of 158 chromosomes studied [7.8%]. We conclude that the association of Cx26 mutations with deafness in Chehar Mahal va Bakhtiari province is low and looks like most other populations of Iran.



## Hematologic Neoplasms

### Diagnosis

Significance of bone marrow Trephine biopsy in the diagnosis of haematological and non-haematological disorders. Afzal, Saeed; Ahmad, Mumtaz; Mubarak, Azhar; Khan, Saleem Ahmad; Zafar, Lubna; Khan, Dilshad Ahmad

**Pakistan Journal of Pathology** 2006; 17 (1): 10-5 (25 ref.)

**Keywords:** Hematologic Neoplasms-Pathology; Retrospective Studies; Cross-Sectional Studies; Biopsy, Fine-Needle; Bone Marrow Examination

**Abstract:** Objective: To evaluate the frequency and document the histological pattern of various haematologic and non-haematologic malignancies and infections, which can be diagnosed by Bone marrow trephine biopsy. Methods: A retrospective, cross sectional study was carried out at Histopathology department of Army Medical College Rawalpindi from January 2000 to December 2004. The bone marrow trephine biopsies were taken with Jamshidi's - type needle. The tissues were fixed in 10 % formal- saline and then decalcified in 5 % nitric acid. These were processed under standard conditions. Results: A total of 789 cases with age range of 9 years to 75 years were studied during a period of five years. Majority of the cases showed male preponderance [69.83%] as compared to females [30.16%]. The most common histological findings in order of frequency were reactive changes [22.43%], unremarkable marrow [16.09%], inadequate biopsy [9.63%], megaloblastic anaemia [7.73%], acute leukaemia [6.21%], erythroid hyperplasia [5.95%]. The less common lesions were multiple myeloma [3.92%], lymphoproliferative disorders [3.80%], hypoplastic marrow [3.54%], chronic granulomatous inflammation [2.53%] and myelofibrosis [2.40%]. The miscellaneous group [5.70%] comprises rare diseases. Conclusion: Bone marrow trephine biopsy is a valuable diagnostic tool in the diagnosis of various types of infections and haematologic and non-haematologic malignancies. Majority of our patients showed reactive changes followed by acute leukaemia and erythroid hyperplasia. It has also been proved useful in detecting micrometastases when primary is not known with the other available diagnostic modalities.

## Hemorrhagic Fever, Crimean

### Epidemiology

Seroepidemiology of Crimean-Congo hemorrhagic fever in the local and imported sheep in Isfahan province, Iran, 2002. Ataei, Behrooz; Touluei, Hamid Reza; Chinikar, Sadegh; Darvishi, Mohammad; Jalali, Navid; Izadi, Morteza; Eilami, Owrang; Mirkhani, Mehdi; Mardani, Masoud

**Iranian Journal of Clinical Infectious Diseases** 2006; 1 (1): 19-23 (22 ref.)

**Keywords:** Hemorrhagic Fever, Crimean-Diagnosis; Hemorrhagic Fever, Crimean-Immunology; Hemorrhagic Fever, Crimean-Veterinary; Cross-Sectional Studies; Hemorrhagic Fever Virus, Crimean-Congo; Sheep; Seroepidemiologic Studies

**Abstract:** Background: Crimean-Congo hemorrhagic fever [CCHF] is an arboviral zoonotic infection with several reported cases in Iran. The present study was conducted with the aim of establishing effective ways to reduce exposure to the infectious agent and to organize appropriate policies for importing animals. Materials and methods: For this cross sectional study, 372 local and 372 imported sheep were randomly selected and the presence of CCHF-related IgG antibody and tick on their body were investigated. Results: Totally, 286 [76.9%] of local and 223 [57.8%] of imported sheep were seropositive, however, their difference did not reach a statistical significant level. Ticks were found on the body surface of 115 [31%] local sheep, but imported sheep lacked any tick on their body. Conclusion: Our results revealed the endemic spreading of CCHF in sheep in Isfahan province. Further studies in other parts of Iran may pave the way for better understanding of the CCHF epidemiology in Iran. **Keywords:** Crimean-Congo hemorrhagic fever, sheep, Iran.

## Hemorrhagic Fevers, Viral

Overview of Sudan's Experience with Ebola Haemorrhagic Fever [1976]. Idris, Ali A.; Idris, Nadir

**Sudanese Journal of Public Health** 2006; 1 (1): 49-55 (10 ref.)

**Keywords:** Hemorrhagic Fever, Ebola-Mortality; Hemorrhagic Fever, Ebola-Epidemiology; Disease Outbreaks; Ebola-like Viruses; Ebola Vaccines

**Abstract:** A large outbreak of haemorrhagic fever [subsequently named Ebola Haemorrhagic Fever] occurred in the Southern Sudan between June and November 1976. There were a total of 284 cases with 151 deaths: the overall case fatality rate was 53%. The outbreak appears to have originated in the workers of a cotton manufacturing factory in Nzara. Although the link was not well established, it appears that Nzara could have been the source of infection for a similar outbreak in the Bumba zone of Zaire or vice versa. This paper presents information on the history of Ebola haemorrhagic fever outbreak in Sudan and the experience learned from it as well as the future expectations based on the personal experience of one of the authors of this paper who was the Director of Epidemiology Department in the Central Ministry of Health Sudan [1976] and the head of the team from the Central Ministry of Health to investigate the outbreak. Literature review, of documents published there also made and assisted in writing this paper. There are so many challenges to answer the question that still remains as to the nature and origin of the responsible virus. With local and international collaboration a coordinated response will lead to successful containment of the disease.

## Hepatitis B Vaccines

### Immunology

Comparison of immune response to hepatitis B vaccine between term and preterm infants at birth. Rostami, Nahid; Ghaffari, Vajih; Samaie, Hadi

**Iranian Journal of Clinical Infectious Diseases** 2006; 1 (1): 11-4 (13 ref.)

**Keywords:** Antibodies; Case-Control Studies; Infant, Newborn; Hepatitis B Antibodies-Blood; Hepatitis B-Prevention and control; Hepatitis B Surface Antigens

**Abstract:** Background: Hepatitis B vaccination of the newborn prevents prenatal transmission of hepatitis B virus. American Academy of Pediatrics [AAP] recommends that preterm infants weighing less than 2000 grams at birth who born to HBS-Ag negative mothers should receive their first dose of hepatitis B vaccine as early as one month of age. The aim of the present study was to assess and compare the immune response of preterm and term infants to hepatitis B vaccine. Materials and methods: Forty-eight preterm and 49 term neonates were enrolled for this case-control study. The vaccine was administered at birth, 1.5 and 9 months of age. Antibodies against hepatitis B surface antigen [Anti-HBS] were measured in all infants at 15 months of age. Results: The study population included 24 boys and 24 girls with the mean birth weight of 1595.7 +/- 388.3 g. The mean gestational age of preterm infants was 32.4 +/- 2.1 weeks. Immune response to HB vaccine was protective and similar in both preterm and term infants [85.4 vs 85.7%, NS]. There was no significant association between the type of response and the infant's birth weight or sex. However, there were significant associations between antibody titer and use of mechanical ventilation and sepsis [p 0.01 for both]. Conclusion: Preterm and term infants have similar and effective response to hepatitis B vaccine when given immediately after birth. **Keywords:** Hepatitis B vaccine, Preterm infants, Immune response.

## Hepatitis C

Evaluation of a native preparation of HCV core protein [2-122] for potential applications in immunization, diagnosis and mAb production. Ashasadeghi, MR; Sadat, SM; Budkowska, A.; Khabiri, AR.; Amini, S.; Bahramali, G.; Naddaf, SR.; Roohvand, F.

**Iranian Journal of Public Health** 2006; 35 (1): 1-10 (50 ref.)

**Keywords:** Hepatitis C Antibodies; Hepatitis C Antigens; Hepacivirus; Antibodies, Monoclonal

**Abstract:** Infection with hepatitis C virus [HCV] is a worldwide problem. Among HCV proteins, core antigen [Ag], besides its importance for diagnostic application is a prime candidate for component of a vaccine. Herein, we report results of studies on production of the hydrophilic domain of core Ag [2-122] in native conformation by an arabinose induction system in *E. coli* and the primary characterization of this recombinant protein for applications in diagnosis, immunization and mAb production. Recombinant core [r-Core] was able to detect anti-core antibodies in HCV positive serum samples in a dilution rate of 1/3200. It was also capable to elicit a potent anti-HCV humoral immune response in BALB/c mice. Finally, we established two stable clones of hybridoma which shown to produce specific and sensitive mAbs against the core protein. HCV core was able to elicit a broad range of antibody specificities depending on the immunogen conformation. Therefore, it may be possible to get new mAbs with higher affinities towards native conformation of core Ag.

## Hepatitis C, Chronic

### Immunology

The frequency of non-organ-specific autoantibodies in patients with chronic hepatitis C and its relation with disease severity and response to therapy. Daryani, Naser Ebrahimi; Bahrami, Hossein; Haghpanah, Babak; Jalili, Mehdi; Hashtroudi, Aliassad; Bashashati, Mohammad; Sayyah, Alireza

**Iranian Journal of Clinical Infectious Diseases** 2006; 1 (1): 5-10 (35 ref.)

**Keywords:** Hepatitis C, Chronic-Therapy; Autoantibodies-Blood; Autoantibodies-Immunology; Interferons-Therapeutic Use; Ribavirin-Therapeutic Use; Treatment Outcome; Transaminases-Metabolism; Antibody Specificity

**Abstract:** Background: Increased levels of non-organ-specific autoantibodies are frequently seen in patients suffering from chronic hepatitis C [CHC]; however, the etiology and its effects on the course of the disease and response to therapy are largely undetermined. Particularly, it seems of utmost importance to define whether this increase is solely an insignificant coincidence or a major finding which have an impact on the course of the disease. Materials and methods: Fifty-two patients with CHC [case group] and 52 age- and sex-matched IBS patients [controls] were enrolled. The sera of all subjects were checked for non-organ-specific autoantibodies, including antinuclear antibody [ANA], anti-smooth muscle antibody [ASMA], anti-mitochondrial antibody [AMA], and anti-liver/kidney microsomal antibody [ALKM]. All cases underwent a liver biopsy and treated with a 12-month course of combination therapy with interferon and ribavirin. Results: The mean age of cases and controls was 32.8 +/- 12.7 and 31.6 +/- 14.1 years, respectively. The overall frequency of non-organ-specific antibodies was significantly higher in anti-HCV positive patients in comparison with controls [36.5% vs 7.7%, p 0.001]. Seropositivity of ANA and ASMA was significantly higher in patients with CHC than in controls [11.5% vs. 1.9%, p 0.05 and 13.5% vs. 1.9%, p 0.027, respectively]. There was no significant relationship between seropositivity of different autoantibodies and patients' age and sex, duration of disease and serum aminotransferases levels. Nor this seropositivity had significant relationship with grade and stage of the liver disease and response to treatment, while serum globulin level was significantly higher in ANA positive patients. Conclusion: Seroprevalence of ANA and ASMA seems to be higher in patients with CHC but its impact on the severity of disease and response to therapy is the subject for further investigations. **Keywords:** Hepatitis C, Autoantibody, Response to treatment, Aminotransferases.

## HIV Infections

### Epidemiology

Sudan National HIV/AIDS and STIs Control Programme [SNAP] The Role of SNAP in the national response to HIV Infection "We started late we need to compensate". Abdelgadir, Mohammed Sidig

**Sudanese Journal of Public Health** 2006; 1 (1): 65-7 (3 ref.)

**Keywords:** HIV Infections-Prevention and Control; Acquired Immunodeficiency Syndrome; Sexually Transmitted Diseases; National Health Programs

## HLA Antigens

HLA and Disease. Ahmed, Tahir Aziz

**Pakistan Journal of Pathology** 2006; 17 (1): 1 (5 ref.)

**Keywords:** Histocompatibility Antigens; Autoimmune Diseases

HLA Frequencies in Pakistani Population in comparison with Caucasian, oriental and Negroid population. Anwar, Masood; Iqbal, Muhammad; Ahmad, Tahir Aziz; Bashir, Mukarram; Ayyub, Muhammad; Naeem, Muhammad

**Pakistan Journal of Pathology** 2006; 17 (1): 29-33 (18 ref.)

**Keywords:** Prospective Studies; Bone Marrow Transplantation; Kidney Transplantation; Ethnology; Anthropology; Population Groups; Ethnic Groups; Arabs

**Abstract:** Objective: The main objective of the study was to determine HLA-A, B, and DR frequencies in Pakistani population and their comparison with HLA frequencies reported for caucasian, oriental and negroid population. Material and methods: Five thousand prospective donors/recipients of renal/bone marrow transplant who had undergone HLA typing were included in the study. All subjects were of pure Pakistani origin. They included 1245 recipients [996 males, 249 females] and 3755 donors [2740 males, 1015 females]. The HLA antigens were tested with two stage NIH micro-lymphocytotoxicity assay by using Terasaki plates. Separated T and B lymphocytes were used for class I and Class II antigens detection. Relative antigen frequencies were determined and used to calculate the gene frequencies. Results: The HLA class I antigens A2, A11, A24[9], A1, A26[10], A3, A28, A33[19], B51[5], B35, B8, B57[17], B60[40], B44[12], B7, B61[40] were the most commonly detected antigens for the HLA class I A and B subclasses. In case of HLA-DR, DR3, DR11[5], DR7, DR15[2] were the most frequently found antigens. These antigen frequencies were compared with the antigen frequencies reported for the Caucasians, Orientals and Negroid population. Conclusion: Comparison of common frequencies with other populations indicates that Pakistani population is nearer to Caucasians and Orientals.

## HLA-DR2 Antigen

Frequency of HLA DR2 in patients with severe and very severe Aplastic anaemia. Anwar, Masood; Iqbal, Hamid; Ahmed, Tahir Aziz; Bashir, Mukarram; Ayyub, Muhammad; Ahmed, Pervias; Hashmi, Khalilullah

**Pakistan Journal of Pathology** 2006; 17 (1): 34-7 (24 ref.)

**Keywords:** Anemia, Aplastic; Bone Marrow Examination; Biopsy, Fine-Needle

**Abstract:** Objective: To determine the frequency of HLA DR2 in Pakistani patients with severe and very severe aplastic anaemia. Introduction: In many cases aplastic anaemia is mediated by the immune mechanisms. Increased frequency of certain HLA haplotypes in patients with autoimmune diseases have led to the investigation of HLA subtypes in aplastic anaemia. HLA DR2 was found to be the most frequently encountered allele in aplastic anaemia. It has been reported that patients of aplastic anaemia, who possess HLA DR2 show a good response to immunosuppressive treatment. This study has been designed to establish frequency of HLA DR2 in patients of aplastic anaemia in our population. Setting: Armed Forces Institute of Pathology and Armed Forces Bone Marrow Transplant Centre, Rawalpindi-Pakistan. Materials and Methods: Fifty two cases of aplastic anaemia diagnosed at AFIP/AFBMTCC during last 03 years [March 2001 to December 2003] were included in the study. Laboratory investigations to establish the diagnosis included blood complete picture, reticulocyte count, bone marrow aspiration and bone marrow trephine biopsy. Cytogenetic studies were carried out in selected cases to exclude possibility of hypoplastic myelodysplastic syndrome/Fanconi's anaemia. LAP score, ham's test, sucrose lysis test, urine for haemosiderin and CD59 analysis were carried out in suspected cases to exclude paroxysmal nocturnal haemoglobinuria. All cases were tested for HLA DR2 by standard National Institute of Health two stage microlymphocytotoxicity assay. Results: Out of 52 patients, 35 were males and 17 were females [M: F 2:1]. Median age of the patients was 17 years [3-35 years]. Twenty eight [54%] of the patients were of severe aplastic anaemia and 24 [46%] were of very severe aplastic anaemia. HLA DR2 was positive in 31 [60%] patients compared to 4.1% in healthy population [p.0.007]. Conclusion: An increased frequency of HLA DR2 is also seen in Pakistani patients of aplastic anaemia which is associated with a good response to immunosuppressive therapy.

## Housing, Animal

Investigating the relationship between wind erosion and value of animal habitats in desert areas. Azarkar, S.M.; Ahmadi, H.; Khorosani, N.; Karami, M.

**International Journal of Environmental Science and Technology** 2006; 2 (4): 387-93 (10 ref.)

**Keywords:** Desert Climate; Animals; Soil; Petroleum

**Abstract:** Animal species in desert habitats are taken into consideration because of their uniqueness and inherent value.

However the added pressures from climate and human have made living conditions difficult and acute for them. Wind erosion is one of the common phenomena in desert areas; this phenomenon can affect the biotic value of those areas. Climatic constraints along with human development in such areas result in enhancing the effect of wind erosion, and as a result, affect the value of animal habitats. Therefore, by estimating the rate of wind erosion in such areas, the capability of environment for providing appropriate conditions for animal species subsistence can also be estimated. The objective of this research is to find the relation between the rate of wind erosion and value of animal habitat in Sarakhs as a representative of Razavi-Khorasan Province. This research has been carried out in four steps: a) Approximate identification of each animal habitat in the area. b) Estimating the wind erosion based on IRIFR model. c) Estimating the approximate value of each of the animal habitats in the area. d) Determining the correlation between the value of each animal habitat with the average rate of wind erosion in that habitat. Investigating the relation between the average rate of wind erosion and the value of animal habitats which indicates that there is a significant correlation between them, that is to say, effective factors in increasing the rate of wind erosion have affected the quality of animal habitats, and proportional to their intensity, decreased the value of habitat.

## Hypothermia

Hypothermia at birth and its associated complications in newborns : a follow up study. Nayeri, F.; Nili, F.

**Iranian Journal of Public Health** 2006; 35 (1): 48-52 (10 ref.)

**Keywords:** Infant Mortality; Prospective Studies; Questionnaires; Disseminated Intravascular Coagulation

**Abstract:** Hypothermia is one of the main causes of neonatal mortality in developing countries. The aim of this prospective study was to determine the relationship between hypothermia at birth and the risk of mortality or morbidity among neonates born in Imam Hospital in Tehran, Iran. During a one-year period, body temperature was taken from all newborns using a low-reading rectal thermometer, immediately after their admission into the Neonatal ward of the above hospital. A temperature less than 36.5 C was considered as hypothermia. A questionnaire was filled for each subject. Using logistic regression the risk of development of respiratory distress in the first six hours of birth, hypoglycemia, metabolic acidosis, hyperbilirubinemia, scleroderma, pulmonary hemorrhage, Disseminated Intravascular Coagulopathy [DIC] in the first three days of birth were assessed and compared with the hypothermic and normothermic newborn infants. Nine hundred and forty neonates were enrolled into the study. A significant relationship was found between hypothermia and respiratory distress in the first six hours of birth and death, as well as with jaundice, hypoglycemia and metabolic acidosis in the first three days of birth [P=0.0001]. Logistic regression showed that, regardless of weight and gestational age, hypothermia at birth alone could increase the risk of neonatal death [OR=3.64, CI=1.85-7.18], Respiratory distress [OR=2.12, CI=1.53-2.93], metabolic acidosis [OR=2.83, CI=1.74-4.59] and jaundice [OR=2.01, CI=1.45-2.79]. Neonatal hypothermia at birth increases mortality as well as significant morbidity and hospitalization period.

## Hypothyroidism

### Physiopathology

Effect of thyroid hypofunction on the masseter motor innervation pattern in developing rats. Ganji, Farzaneh; Behzadi, Gila

**Yakhteh Medical Journal** 2006; 7 (4): 230-5 (43 ref.)

**Keywords:** Hypothyroidism-Complications; Masseter Muscle-Innervation; Rats, Sprague-Dawley; Rats

**Abstract:** Introduction: The thyroid hormones have profound effects on the development of neuromuscular system. These hormones exert their influence on both muscle fibers and related motoneurons during development. The masseter is one of the most important muscles for mastication in mammals. We attempted to evaluate the effect of thyroid hormone deficiency on the morphological characteristics of masseteric motoneurons in the period of alteration from sucking to biting and chewing in the rat. Material and Methods: To induce hypothyroidism, timed pregnant dams received 50 ppm antithyroid drug propylthiouracil [PTU] in their drinking water and PTU was administered to the pups during suckling period. Horseradish peroxidase [HRP] was injected into the masseter [0.5-5 micro lit, 40%] of normal and prenatal hypothyroid pups on postnatal days of 1, 5, 13, and 21 [n=24]. 24 to 48 hours later, following transcardial perfusion and fixation the brainstem blocks were cut to 50 micro m thick sections. After TMB histochemical reaction the morphological characteristics of HRP labeled motoneurons and their HRP labeling intensity were evaluated. Student's t-test and two-way analysis of variance [ANOVA] were used for statistical analysis. Results: No significant morphological differences were observed at the end of first week of life. On day 15, hypothyroid labeled masseteric motoneurons consisted of 70% small and 30% medium neurons versus 40% and 60% in normal pups respectively [p<0.05]. At the time of weaning, the number of large motoneurons dropped to 30% of normal value [p<0.001] with few, short, and disoriented dendrites. Conclusion: The alteration in particular patterns of masseteric motoneuron morphology and a severe delay in size transition could affect the development and plasticity of oral motor behavior under congenital hypothyroidism.

## Immunization

Immunization and BCG. Inam, S.N. Bazmi

**PMJ - Palestinian Medical Journal** 2006; 2 (1) (17 ref.)

**Keywords:** Vaccination; BCG Vaccine; Tuberculin Test; Tuberculosis-Prevention and Control; Immunization Programs

## Influenza in Birds

Economic impact of avian flu pandemic of Asia. Mardani, Masoud

**Iranian Journal of Clinical Infectious Diseases** 2006; 1 (1): 1-3 (8 ref.)

**Keywords:** Influenza, Human; Influenza A virus, H5N1 Subtype; Birds; Developing Countries; Disease Outbreaks; Poultry

## Iron

### Administration and Dosage

Effects of oral iron supplementation on haematocrit, live weight gain and health in neonatal dairy calves. Mohri, M.; Sarrafzadeh, F.; Seifi, H. A.

**Iranian Journal of Veterinary Research** 2006; 7 (1): 34-7 (25 ref.)

**Keywords:** Iron-Therapeutic Uses; Hematocrit; Weight Gain; Cattle

**Abstract:** Forty neonate calves were used in this study. The animals were divided into two treatment [n 20] and control [n = 20] groups. In the treatment group, oral iron as ferrous sulphate was supplemented to each calf at the dose of 150 mg/day for 28 days, from the birthday. Blood sampling was taken from jugular vein immediately after birth and on days 7, 14, 21 and 28 after birth. Significant differences in haematocrit [PCV] levels were found between two groups on days 14, 21 and 28 [P 0.05]. Total gain, mean daily gain and weight gain during 4th week of life was significantly higher in the treatment group than control group [P /.

## Leukemia, Myelocytic, Acute

Frequency of cytogenetic abnormalities in patients of Acute Myeloid Leukaemia. Anwar, Masood; Ayyub, Muhammad; Iqbal, Hamid

**Pakistan Journal of Pathology** 2006; 17 (1): 25-8 (20 ref.)

**Keywords:** Chromosome Aberrations; Cytogenetic Analysis; Bone Marrow Examination; Bone Marrow-Pathology

**Abstract:** Introduction: Cytogenetic analysis performed at diagnosis is considered to be the most valuable prognostic factor in acute myeloid leukaemia [AML]. Cytogenetic abnormalities which indicate a good prognosis include t[8; 21], inv[16] and t[15; 17]. Normal cytogenetics carries average risk in AML. Patients with AML that is characterized by deletions of the long arms or monosomies of chromosome 5 or 7 or by abnormalities of 11q23 have particularly poor prognosis. Objective: To determine the frequency and type of cytogenetic abnormalities in Pakistani patients of AML. Design: Descriptive study. Subjects and Methods: Thirty six patients of acute myeloid leukaemia were referred to the department of Hematology, Armed Forces Institute of Pathology, Rawalpindi for cytogenetic studies during the period from March 2001 to September 2004. Five ml of venous blood was collected by venesection in vacutainer containing sodium heparin as anticoagulant. Blood was cultured on RPMI-1640 medium enriched with L-glutamine and foetal bovine serum. Phytohaemagglutinin was used as T-cell mitogen. The cultures were incubated for 72 hours at 37°C. Mitoses were arrested in metaphases by colchicine. The cells were harvested and slides were made. Slides were aged and trypsin digestion was done. Slides were stained with Giemsa stain. Twenty metaphases were analysed under the microscope and the observations were recorded. Results: In 10 patients' culture failed to yield evaluable metaphases. Out of 26 evaluated patients, cytogenetic abnormalities carrying good prognosis were seen in 6 [23%] patients [t[8; 21] in 3 cases, t[15; 17] in 2 and inv[16] in one patient. Normal karyotype carrying standard risk was seen in 17 [65.4%] patients. Whereas abnormalities carrying poor prognosis were seen in only 3 [11.6%] patients. These comprised 2 cases of trisomy 8 and one of dup [3][q21; q26]. Conclusion: This study reveals that majority of Pakistani patients with AML belong to good [23%] or standard [65.4%] risk groups. Only 11.6% patients belong to poor risk group.

## Lung Diseases

### Radiography

Imaging of lung disease. Daoud, Walid

**PMJ - Palestinian Medical Journal** 2006; 2 (1) (10 ref.)

**Keywords:** Radiography, Thoracic; Diagnostic Imaging; Lung Diseases-Diagnosis; Tomography, X-Ray Computed; Image Processing, Computer-Assisted; Magnetic Resonance Imaging; Tomography, Emission-Computed; Bronchoscopy

## Malaria, Falciparum

### Drug Therapy

Antimalarials During Pregnancy : A Review Article. Zaki, Zaki M.; Adam, Ishag

**Sudanese Journal of Public Health** 2006; 1 (1): 7-12 (54 ref.)

**Keywords:** Plasmodium falciparum-Drug Effects; Pregnancy; Chloroquines-Therapeutic Use; Sulfonamides-Therapeutic Use; Quinine-Therapeutic Use; Mefloquine-Therapeutic Use; Chloroguanidine-Therapeutic Use; Drug Combinations

**Abstract:** Plasmodium falciparum malaria in pregnancy poses substantial risk to pregnant women and their neonates. The WHO recommended that pregnant women with demonstrable malaria illness should be treated with effective and safe antimalarial drugs. Safety to the pregnant woman and her unborn child might be hampered by the spread of multidrug resistant falciparum malaria and limited literature concern their usage during pregnancy. Chloroquine is generally considered safe in all trimesters of pregnancy; sulfadoxine- pyrimethamine appears safe in the second and third trimesters of pregnancy. Quinine is

the drug of choice for severe malaria and has been reported to be safe even in the first trimester of pregnancy. Few reports are available concerning artemisinin usage during pregnancy although the World Health Organization recommended their usage during pregnancy. While tetracyclines and primaquine are absolutely contraindicated during pregnancy, halofantrine, amodiaquine, mefloquine are of questionable safety during pregnancy. The first trimester of pregnancy [the period of organogenesis] is the critical period: only chloroquine and quinine were reported recently to have safely profile in this period. However, due to chloroquine resistance, quinine remains the drug of choice.

## Mandibular Fractures

### Etiology

Explosive facial injury comminuted crushed fracture of the mandible. Shaath, Osama

**PMJ - Palestinian Medical Journal** 2006; 2 (1) (5 ref.)

**Keywords:** Mandibular Fractures-Surgery; Fracture Fixation; Bone Screws; Bone Wires; Jaw Fixation Techniques; Multiple Trauma; Explosions-Adverse Effects

## Mangifera

Pharmacological activities of Mangifera indica fruit seed methanolic extract. Ahmed, AEE.; Eltyeb, IB.; Mohamed, AH.

**Omdurman Journal of Pharmaceutical Sciences** 2006; 1 (2): 216-31 (14 ref.)

**Keywords:** Plant Extracts; Pharmacologic Actions; Anesthesia, Local; Muscle Relaxation; Plants, Medicinal; Seeds

**Abstract:** The present study is an attempt to investigate the pharmacological activities of Mangifera indica fruit seed as a Sudanese medicinal plant that showed significant antimicrobial properties, with the hope that it will be a useful therapeutic agent. In this study, the methanolic extract of Mangifera indica fruit seed was investigated for its effects on many isolated tissue preparations, including jejunum, heart and aortic strip of the rabbit, uterus, fundus and vas deferens muscle of the rat, guinea-pig tracheal chain, and rectus abdominis muscle and foot withdrawal reflex of the frog. The methanolic extract of mangifera indica fruit seed showed a potent relaxant activity on isolated rabbit jejunum that was refractory to the adrenergic blockers propranolol and tolazoline. Furthermore, the extract inhibited the spontaneous activity of the uterine muscle and effectively antagonized the stimulant activity of acetylcholine on the muscle. Prior administration of the extract physiologically blocked the stimulant effect of histamine on rat fundus strip. The extract lacked any activity when tested on isolated rabbit aortic strip, isolated guinea-pig tracheal chain and toad rectus abdominis muscle, but showed significant local anesthetic activity when studied on frog's foot withdrawal reflex. In addition, the extract, in a large dose, inhibited significantly the isolated perfused rabbit heart.

## Marek Disease

Polymerase chain reaction for the detection and differentiation of Marek's disease virus strains MDV-1 and HVT. Sadeghi, M. R.; Ghorashi, S. A.; Moakhar, Kargar R.; Morshedi, D.; Tabar, Salehi R.; Ghaemmaghami, S. S.

**Iranian Journal of Veterinary Research** 2006; 7 (1): 17-21 (23 ref.)

**Keywords:** Marek's Disease-like Viruses; Polymerase Chain Reaction; Diagnosis, Differential

**Abstract:** Marek's disease [MD] is a lymphoproliferative disease of chickens characterized by lymphocytic infiltration of various organs. The present study was an attempt to use polymerase chain reaction [PCR] to optimize a rapid and reliable assay for detection of MDV genome. Detection of serotype I of MDV [MDV-I] was confirmed by presence of a 200 bp DNA fragment as a PCR product. Differentiation of MDV- I and herpesvirus of turkeys [HVT] was also conducted using specific primers from the glycoprotein A [gA] gene and a 388 bp DNA fragment was amplified from HVT genome. The specificity of the test was confirmed by sequencing of PCR products. Results indicate that MDV-I can be diagnosed in clinical samples and inoculated cell cultures which is used for virus isolation. In addition, differentiation between MDV- I and HVT viruses was confirmed based on the size of PCR products. The test proved to be rapid and reliable and be performed as a robust diagnostic test in veterinary diagnostic laboratories.

## Maternal Mortality

Maternal and childhood mortality in the Nuba mountains, Sudan : A pilot study. Bayoumi, Ahmed

**Sudanese Journal of Public Health** 2006; 1 (1): 21-6 (13 ref.)

**Keywords:** Child Mortality; Retrospective Studies; Prospective Studies; Mortality; Cause of Death

**Abstract:** Background: The aim of the pilot study was to establish baseline levels for maternal mortality ratio [MMR] and childhood mortality rates measured prospectively in the Nuba Mountains, an underprivileged area of the Sudan, and compare them to previous national retrospective surveys. Methods: A communal vital registration system was established as a pilot study in a defined community in the Nuba Mountains area, Sedan, including two strata, Dilling and Um Ruwaba Provinces. Live events were registered for 6-months Results: 1,913 live births, 268 childhood [0-4 years] deaths and 13 maternal deaths were registered during the period of study, July 2001-June 2002. Childhood mortality rates per 1,000 live births were: Infant [IMR] 85, child [CMR] 55, and under-five [U5MR] 140. There was no significant difference between Dilling stratum and Um Ruwaba stratum in IMR [ $\chi^2 = 1.56$ ;  $P > 0.05$ ]. CMR and U5MR were significantly higher in Um Ruwaba stratum [ $\chi^2 = 6.619$ ;  $P < 0.05$  and  $\chi^2 = 0.05$ ]. All rates were much higher than those quoted for the country by previous retrospective survey estimates. Conclusions: Prospectively determined childhood and maternal mortality rates using a communal vital registration system appear to be higher but more realistic for a disadvantaged area compared to retrospective estimates. The wide discrepancy indicates the need for

debating the limitations and relevance of the latter.

## Mathematics

Some analytic solutions of the unsteady Navier-stokes Equations. Naeem, Rana Khalid; Khan, Waseem Ahmed; Ahsan, SM. Shad

**Journal of Basic and Applied Sciences** 2006; 2 (1): 23-32 (4 ref.)

**Keywords:** Solutions; Algorithms; Nonlinear Dynamics; Models, Theoretical; Rheology

**Abstract:** The unsteady Navier-Stokes equations are transformed into steady state equations using Lie group theory. The solutions of the steady state equations are determined for the flows for which the vorticity is proportional to  $\psi$  perturbed by a uniform flow  $U y$  and or the flows characterized by  $y = R[x] + v[\psi]$  and  $y = Q[x] v[\psi]$ . For some flows streamline patterns are also presented.

## Meat-Packing Industry

Study on the frequency of pregnant ewes slaughtered in Khorram Abad abattoir, Iran. Kheradmand, A.; Batavani, R. A.; Babaei, H.

**Iranian Journal of Veterinary Research** 2006; 7 (1): 55-8 (18 ref.)

**Keywords:** Meat-Economics; Sheep; Pregnancy; Abattoirs

**Abstract:** The aim of this survey was to evaluate the frequency of pregnant ewes slaughtered in Khorram Abad abattoir and estimation of their gestational age. Over a period of five months in fall and winter, a total number of 3046 uterine tracts were collected. Pregnancy was detected in 56.50% of ewes, 52.36% and 4.13% of which carried singleton and twins, respectively. The highest frequency of pregnancy was detected in January [65.63%] and the lowest frequency was detected in March [35.02%]. Among a total number of 1721 pregnant ewes, the most frequency of gestational age [34.68%] was recorded to be between 2 and 3 months of gestation, while 5.05% was detected to be above 121 days. Overall, the number of pregnant ewes with a gestational age over two months was considerable [59.83%]. It was concluded that reproductive waste resulting from slaughtering of pregnant animals is important in ewes in Khorram Abad and could be prevented by an improved ante-mortem examination.

## Meckel Diverticulum

### Anatomy and Histology

Morphological studies on Meckel's diverticulum in the duck [*Ansa ansa domesticus*]. Mohammadpour, A. A.

**Iranian Journal of Veterinary Research** 2006; 7 (1): 14-6 (11 ref.)

**Keywords:** Meckel Diverticulum-Pathology; Ducks

**Abstract:** This research was carried out to define the morphological features of Meckel's diverticulum [MD] in duck and to investigate whether the MD resides in a constant position along the intestinal tract. For this purpose, a total of 30 adult healthy ducks of both sexes, 50-52 weeks of age were used. After dissecting, some morphological factors such as: total intestine length as well as the lengths of the intestine from the gizzard to MD [GMD], from gizzard to cloaca [GC] and from MD to the caecal opening [MDC] were measured. The weight, thickness and length of MD were then recorded. By using t-test and analysing factors between two sexes we concluded that the location of MD in total specimens was  $91.52 \pm 8.09$  cm far away from the gizzard. There was no significant difference between morphological factors of MD [eight, thickness and length] in both sexes [P 0.05]. There was significant difference [P 0.05] between GMD, GC in both sexes. In histological studies of MD, aggregated lymphatic follicles and thin muscularis mucosa were observed in tunica mucosa.

## Meningitis

### Epidemiology

Epidemic meningitis in Khartoum State, Sudan : An epidemiological study of the 1999 epidemic. Mailk, Elfatih M.; Eltayeb, Elsadig M.; Elmusaad, Yousif; Elfadil, Tilal; Manoncout, Serge; Shears, Paul

**Sudanese Journal of Public Health** 2006; 1 (1): 13-20 (26 ref.)

**Keywords:** Meningitis-Diagnosis; Meningitis-Mortality; Vaccination; Mass Immunization; Statistics and Numerical Data

**Abstract:** Background: Sudan is part of the sub-Saharan meningitis belt with major epidemics expected to occur every 8-10 years cycles. This paper aims to throw some light on the 1999 epidemic in Khartoum state with discussion of vaccination strategy. Methods: Active reporting of all suspected cases of meningitis in Khartoum state was established early during the course of epidemic. For each case demographic information and data of disease onset was collected. Lumbar puncture was performed in a proportion of patients. Case reports from localities and provinces were compiled and data was collated and analysed using Excel and Epi-Info software. Results: A total of 3232 cases were reported in Khartoum State from week 7 [February 13th 19th] to week 25 [June 26th - July 2nd] of the year 1999. The overall attack rate was 65.7/100 000 population. The highest numbers of cases were reported from Umbada and Jabal Awlia provinces. Most of cases [81.1%] were from 2 to 29 years old and the most at risk group was 15-29 year's old with an attack rate of 105.2/100 000 population. A total of 282 deaths were reported, giving an overall case fatality rate of 8.7%. The epidemic was caused by *N. meningitidis* serogroup A, clonal III-I. Over 3 millions "A+C" vaccination doses were administered with an estimated coverage of 73.9%. Conclusions: The 1999 epidemic in Khartoum demonstrated the typical pattern of meningococcal outbreaks in the African meningitis belt. The analysis

of data presented in this study emphasizes the need for effective surveillance, improved laboratory facilities and the determination of the most appropriate thresholds to initiate mass vaccination. Close microbiological surveillance is of utmost importance especially with increasing threat of *N. meningitidis* serogroup W-135.

## Mercaptoethanol

Effect of Beta Mercaptoethanol with and without BSO [DL-Buthionine Sulfoximine] on Resumption of Meiosis, in vitro maturation and Embryo development of immature mouse oocytes. Eimani, Hossein; Hassani, Fateneh; Haeri-Rohani, Seyed; Esfahani, Mohammad; Dalman, Azam; Valojerdi, Mojtaba; Ashtiani, Saeed; Baharvand, Hossein; Shahverdi, Abdol Hossein; Yazdi, Poopak; Samani, Reza Omani

**Yakhteh Medical Journal** 2006; 7 (4): 236-41 (38 ref.)

**Keywords:** Buthionine Sulfoximine; Mice; Embryonic Development; Oxidative Stress; Apoptosis; Oocytes

**Abstract:** Introduction: The purpose of this study was to evaluate the effect of beta-mercaptoethanol on resumption of meiosis, in vitro maturation of immature mouse oocytes and resulting embryo development with and without BSO [DL-Buthionine sulfoximine] Material and Methods: Germinal vesicle [GV] were recovered from 6-8 weeks old NMRI ovaries and cultured in maturation medium in MEM alpha supplemented with 7.5 IU/ml hCG, 100 mIU/ml rhFSH, 5% FCS [control group] and adding 100 micro m beta-mercaptoethanol [group 1] or with 5mM BSO + 100 micro m beta-mercaptoethanol [group 2] for 24h. The matured oocytes then were fertilized and cultured for 5 days. Fertilization and development were accomplished in T6 medium. Results: The percentage of GV oocytes reaching to metaphase I [or undergo GVBD] were 78.5%, 85%, 86% in control group, group 1 and group 2 respectively, that no significant difference was detected between groups. The proportion of oocytes that progressed to the metaphase II [MII] stage was minimum within 5mM BSO group [group 2] and maximum within beta-mercaptoethanol group [group 1] with significant difference comparing with control and each other [P=0.05]. The percentage of embryos reaching to morula stage within beta-mercaptoethanol group was significantly higher than the control group [5% and 12.2% respectively]. None of oocytes treated with BSO could pass the 8 cell stage. Conclusion: beta-mercaptoethanol enhances IVM and improves embryo development. While adding BSO into the maturation medium even with beta-mercaptoethanol decreases maturation and declines the embryo development.

## Multiple Myeloma

Arsenic trioxide compound modulates multiple myeloma phenotypes : Assessment on cell line models. Khorramizadeh, MR.; Saadat, F.; Allahyari, H.; Pezeshki, M.; Sarrafnejad, A.; Mirshafiey, A.; Safarifar, F.; Alimoghadam, K.; Ghavamzadeh, A.; Sadeghian, S.

**Iranian Journal of Public Health** 2006; 35 (1): 17-24 (22 ref.)

**Keywords:** Apoptosis; Angiogenesis Inducing Agents; Cytotoxicity; Immunologic; Arsenicals

**Abstract:** Recent evidences suggest that multiple myeloma phenotypes [MMPs] are involved in the infiltration of multiple myeloma-affected marrow foci. In this study, the effects of arsenic trioxide on the invasive and angiogenic phenotypes of multiple myeloma [MM] cell line were assessed on a dose-response and time-course basis. Multiple myeloma cell line, Karpas 707, was treated with step-wise elevated concentrations of arsenic trioxide compound at 24, 48, and 72 h intervals. Cytotoxicity was assessed with a colorimetric assay. Potential anti-invasive phenotype was analyzed with MMP-2 zymography. To verify directly the anti-angiogenic effect, F1 endothelial cell line was also treated with arsenic and the dose-dependent cytotoxicity was assessed with a colorimetric assay. Apoptotic properties of arsenic trioxide compound were investigated using TUNEL assay. The significant dose-dependent inhibitory effects of arsenic trioxide on MMP-2 were seen at given concentrations. Cytotoxicity analysis revealed much higher cell death than untreated cells [P 0.01], both in Karpas 707 and F1 endothelial cell lines. Collectively, this study showed that arsenic trioxide might potentially elicit anti-invasive anti-angiogenesis properties in the treatment of myeloma dissemination process. In addition, the concurrent inhibition of MMPs activity and endothelial cell proliferation could compose the scenario of neoangiogenesis inhibition in the marrow-infiltrated foci.

## Musculoskeletal Diseases

Assessment of risk factors of upper extremity musculoskeletal disorders [UEMSD] by OCRA method in repetitive tasks. Najarkola, SA Moussavi

**Iranian Journal of Public Health** 2006; 35 (1): 68-74 (12 ref.)

**Keywords:** Upper Extremity; Risk Factors; Questionnaires; Data Collection; Occupational Diseases; Evaluation Studies

**Abstract:** The high occurrence of upper extremity musculoskeletal disorders [UEMSDs] in Iranian ironwork industries indicates a need to assess the risk factors of the disorders at such workplaces. In order to prevent such disorders, the Occupational Repetitive Actions [OCRA] method was carried out to obtain an integrated assessment of the various risk factors, classify different jobs and suggest ergonomic designing solutions. Four data gathering methods including Observational, Interview, Nordic Musculoskeletal Questionnaire [NMQ], and OCRA were utilized. All 385 male workers occupying in five various jobs [72 tasks] in Qaemshahre ironwork industry located in the north of Iran were studied. The percent of work tasks in low, moderate, and high-risk level were 6.14%, 69.27%, and 24.59%, respectively. Mean of exposure indices between five jobs including administrative [0.69], lathing [2.87], welding [3.43], melting [3.58] and foundry [5.96] jobs showed significant difference [F= 4.881, P= 0.003]. In addition, the foundry job had the highest risk of occurrence of UEMSds. The highest incidence of distal upper extremity was allocated to the hand and fingers region. There was a significant relationship between surveyed work groups and incidences of upper extremities [chi2= 6.425, P= 0.008]. The OCRA Method could be a useful method for evaluating risk factors of UEMSds in repetitive tasks of the ironwork industry.



## Nasal Polyps

### Etiology

Fungi as Causative agent of nasal polyps. Kordbacheh, P.; Zaini, F.; Sabokbar, A.; Borghei, H.;Safara, M. **Iranian Journal of Public Health** 2006; 35 (1): 53-7 (18 ref.)

**Keywords:** Sinusitis-Etiology; Sinusitis-Diagnosis; Fungi

**Abstract:** Nasal polyposis is an inflammatory condition of unknown etiology that involves nasal and sinus mucous membrane. These polyps can impair a person's quality of life by nasal obstruction, recurrent sinusitis, persistent postnasal drainage, hyposmia, anosmia, changes in sense of taste and even bony destruction. It has been shown that chronic inflammation causes reactive hyperplasia of the intranasal mucosal membrane which results in the formation of polyps. Recently, fungal elements were suspected to be the causative agent of chronic rhinosinusitis and a fungal etiology has been proposed to underlie severe nasal polyposis. The present study was undertaken to determine the role of fungi in development of nasal polyps. In this study resected polyps from 100 patients were examined by mycological and pathological methods for the presence of fungi. Fungal elements were shown in 9 samples by mycological methods and isolated fungi were *Aspergillus flavus*, *Aspergillus fumigatus* and *Rhizopus* sp. Tissue invasion by fungi also was seen by histopathological examination in 6 patients. Therefore, fungi could be considered as the causative factor in the development of nasal polyposis in those patients and since medical treatment of nasal polyps have become increasingly recognized in recent years, the present study also implies the benefits of topical antifungal therapy in such cases.

### Neuronavigation

Morphological and stereotaxic studies of Iranian native goat's brain. Mohammadpour, A. A.

**Iranian Journal of Veterinary Research** 2006; 7 (1): 22-8 (10 ref.)

**Keywords:** Stereotaxic Techniques; Brain; Goats

**Abstract:** This study was conducted to find out the best outside points of skull to reach different areas of brain that are essential for neuroendocrinological studies. In this research 30 heads of Iranian native male goats aged between 2-3-year-old were collected from Shahrekord abattoir. After collecting whole heads, they were fixed in 10% formalin and then many holes were made on the dorsal surface of skull followed by median and transverse sectioning of the heads. Morphological characteristics of brain and distances from the bones of skull to different structures of brain were measured using caliper device and needle and the best points were determined. By this method the best points to reach the hypophysis and lateral ventricle with 90° angle are incidences of 45.2 +/- 2.23 mm and 20.92 +/- 1.02 mm at bregma point.

### Nigella sativa

Chemical composition of methanolic extract obtained from *Nigella sativa* L. Seeds. EL-Hadi, MMA; Hassan, KS.; Yousif, GM

**Omdurman Journal of Pharmaceutical Sciences** 2006; 1 (2): 179-87 (24 ref.)

**Keywords:** Anthraquinones; Naphthalenes; Prednisone; Glycerol; Mannose; Xylose; Seeds; Plants, Medicinal

**Abstract:** GC-MS analysis of the defatted acidified methanolic extract of *Nigella sativa* L. seeds showed the presence of 16 compounds. The major components were anthraquinone [0.90%] and naphthalenone [3.52%] derivatives and octylphenyl ether [4.44%]. Identified as phenolics in the ethyl acetate fraction [1.65%]. Phthalate dioctyl ester [33.85%] was found to be the dominating compound in this fraction. Dehydrocorticosterone [0.93%] and an alkaloid - dasycarpidine [2.43%] were also detected. The aqueous fraction [8.2%] of the defatted acidified alcoholic extract afforded the simple plant sugars: glycerol [7.74%], mannose [20.16%], xylose [8.04%] and glucose which occurred in the highest proportion [33.20%]; all were identified as silyloxy derivatives by GC-MS analysis.

### Oils

Coupled solution of oil slick and depth averaged tidal currents on three-dimensional geometry of Persian Gulf. Yazdi, S.R. Sabbagh

**International Journal of Environmental Science and Technology** 2006; 2 (4): 309-17 (17 ref.)

**Keywords:** Water Pollution; Biometry; Geology

**Abstract:** In this paper, simulation of oil spill due to tidal currents in Persian Gulf is performed by coupled solution of the hydrodynamics equations and an equation for convection and diffusion of the oil. The hydrodynamic equations utilized in this work consist of depth average equations of continuity and motion in two dimensional horizontal planes. The effect of evaporation is considered in the continuity equation and the effects of bed slope and friction, as well as the Coriolis effects are considered in two equations of motion. The overlapping cell vertex finite volume method is applied for solving the governing equations on triangular unstructured meshes. Using unstructured meshes provides great flexibility for modeling the flow in arbitrary and complex geometries, such as Persian Gulf flow domain. The results of the hydrodynamic model for tidal currents in Persian Gulf domain is examined by imposing tidal fluctuations to the main flow boundary during a limited period of time. Finally, the developed model is used to simulate an accidental oil spill from a point in Persian Gulf.

## Oocytes

### Physiology

In vitro survival rate of bovine oocytes following vitrification in glass capillary micropipette [GCM]. Babaei, H.; Nematollahi Mahani, S. N.; Kheradmand, A.; Ayen, E.

**Iranian Journal of Veterinary Research** 2006; 7 (1): 8-13 (36 ref.)

**Keywords:** Oocytes-Cytology; Cattle; Microtubules; Cryopreservation-Veterinary; Reproductive Techniques

**Abstract:** The purpose of this study was to evaluate the use of glass capillary micropipette [GCM] as a vessel for vitrification of bovine oocytes. Cumulus-oocyte complexes [COCs] were obtained from slaughter-house and washed 5 to 6 times in the washing medium [TCM-199 + 20% FBS] and randomly assigned to treatment and control group. In the first step of vitrification, COCs were exposed to first vitrification solution [VS1] [10% ethylene glycol [EG], 10% DMSO in holding medium [TCM-199 + 10% FBS: HM]] for 1 min at room temperature and then placed in VS2 solution [20% EG, 20% DMSO in HM] for 25 sec and immediately were loaded into the GCM vessel. The filled portion of GCM vessels were placed in liquid nitrogen [LN [2]] for 3 to 5 sec and then completely immersed and stored there. The oocytes were thawed by immersing the capillary end of the straw in 1 ml of 0.25 M sucrose in HM and gently expelling the contents. After 1 min the oocytes were transferred into 100 micro l of 0.15 M sucrose in HM for another 5 mm and then washed with HM twice. For examining the in vitro developmental potential of vitrified-warmed oocytes, the oocytes were placed in 50 micro l droplet of maturation medium [TCM-199 + 10% FBS - 10 IU/ml PMSG + 15 IU/ml HCG] covered with paraffin oil in a CO [2] incubator at 38.5°C for 24 hrs. A high proportion of morphologically normal oocytes [90%] was recovered after vitrification-warming. The percentage of live oocytes after 24 hrs when tested with trypan blue in GCM group was 85.18%, significantly did not differ from control group [90%]. The proportion of oocytes which were found to have undergone nuclear maturation did not show statistical difference between the control and GCM group [61.29% vs 40%, respectively]. The results of present study demonstrated that vitrification of immature bovine oocytes in the GCM vessels and EG + DMSO solution have high survival rate.

### Oral Hygiene

An evaluation of high school female student's knowledge and behaviour regarding oral hygiene. Haghghati, F.; Mofidi, F.

**Iranian Journal of Public Health** 2006; 35 (1): 82-7 (15 ref.)

**Keywords:** Oral Hygiene Index; Evaluation Studies; Schools; Students; Health Knowledge, Attitudes, Practice; Health Education, Dental

**Abstract:** In today's world, due to incensement of communication and different social relationship between people, oral health and aesthetic are considered more important than the past. The aim of this study was to assess the level of knowledge and behaviour of Gonbadkavoos, northern Iran high school female students regarding their oral hygiene and health status. In this descriptive study cluster, sampling technique was used to select 300 samples. The level of knowledge of each individual was assessed according to their information on the causes of caries, the preventive effect of fluoride supplement and so on. In terms of their oral health behaviour, tooth brushing frequency, use of dental floss and regular dentist visit were recorded. Results revealed that 80% of the students were aware of the fluoride preventive action and 18% of them replied, "I don't know", to this question. Parents were identified as their main source of oral health information by 68.3% of them and 12.6% identified the microbial activity as the main cause of dental caries. 44.3% of students expressed lack of time as the main reason for irregular dentist visit and 70% of them stated, only upon dental problems, referred to the dentist. Sixty two percent of the students brushed their teeth regularly. It is recommended to do similar researches on the level of knowledge and behaviour, about dental and oral health in other populations.

### Permethrin

#### Toxicity

Comparison of Permethrin and Fipronil toxicity against German cockroach [Dictyoptera : Blattellidae] strains. Nasirian, H.; Ladonni, H.; Shayeghi, M.; Vatandoost, H.; Yaghoobi-Ershadi, MR; Rassi, Y.; Aboihassani, M.; Abaei, MR

**Iranian Journal of Public Health** 2006; 35 (1): 63-7 (20 ref.)

**Keywords:** Insecticides; Pyrazoles; Cockroaches; Blattellidae

**Abstract:** Control of insect pests of agriculture, economic, and medical importance usually focuses on the use of insecticides. The susceptibility levels of eleven strains of German cockroaches, *Blattella germanica* [L.], were compared with a standard susceptible strain against permethrin and fipronil. The strains were collected from nine infested students' dormitories and two infested hospitals in Tehran, capital of Iran. The susceptible strain showed LD50 of 0.43 µg and 0.96 ng for permethrin and fipronil respectively. Comparison of the resistance ratio of collected strain with susceptible strain showed resistance ratios of 8.6 to 17.7-folds for permethrin and 1.5 to 2.6-folds for fipronil, respectively. The result of this investigation indicated that the all strains were resistant to permethrin. Resistance spectrum of fipronil to permethrin showed different pattern of susceptibility to fipronil, indicating that there was no relationship between resistance to permethrin and fipronil.

### Photosensitivity Disorders

The frequency of photosensitization in a dairy cattle herd infected by *Leptospira*. Talebkhani Garoussi, M.

**Iranian Journal of Veterinary Research** 2006; 7 (1): 70-2 (6 ref.)

**Keywords:** Leptospirosis; *Leptospira*; Cattle

**Abstract:** Leptospirosis is a bacterial zoonotic disease, which can induce hepatic lesions. Photosensitization [PS] maybe is the result of accumulation of photodynamic agents unpigmented area of the skin exposed to sunlight which occurred due to hepatic lesions. An outbreak of leptospirosis was occurred in a dairy cattle herd complex with 760 dairy milking cows in March [1990]. Totally, 412 cows [54.21%] showed clinical signs including fever, systemic mastitis, haemoglobinuria, jaundice, lameness, abortion and stillbirth. The microscopic agglutination test [MAT] was used for diagnosis of leptospirosis. The herd was infected with *Leptospira interrogans grippityphosa*, *L. interrogans icterohaemorrhagiae*, *L. interrogans pomona*, *L. interrogans canicola* and *L. interrogans hardjo*. Only one [0.13%] cow showed PS in the unpigmented skin dorsum. MAT showed that she was infected with *L. interrogans pomona*, *L. interrogans hardjo* and *L. interrogans icterohaemorrhagiae* with titre of 1:3200 leptospirosis, the frequency of PS was too low.

## Plant Extracts

Activity of polyphenolic plant extracts as scavengers of free radicals and inhibitors of xanthine oxidase. Ahmad, Naseem Saud; Farman, Muhammad; Najmi, Muzammil Hasan; Mian, Kouser Bashir; Hasan, Aurangzeb

**Journal of Basic and Applied Sciences** 2006; 2 (1): 1-6 (24 ref.)

**Keywords:** Free Radical Scavengers; Enzyme Inhibitors; Xanthine Oxidase-Secretion; Xanthine Oxidase-Metabolism

**Abstract:** The free radical scavenging activity of ethanolic and aqueous extracts from six plants has been evaluated, in vitro, using 1, 1-diphenyl-2-picrylhydrazyl [DPPH] radical scavenging method and compared with ascorbic acid, quercetin, kaempferol and apigenin. Extracts of *Pistacia integerrima* leaves and galls exhibited highest DPPH radical scavenging activity among all the plants extracts examined. *Carissa carandas* from Apocynaceae and *Vitex negundo* of Verbenaceae family also demonstrated DPPH radical scavenging activity. Inhibitory effect towards the in-vitro reaction of hypoxanthine and xanthine oxidase [XO] was also carried out in the presence of plant extract, aglycones quercetin, kaempferol and apigenin along with allopurinol. The extracts from *Pistacia integerrima* galls exhibited highest XO inhibitory activity than leaves of *Pistacia integerrima* and other plant extracts, was comparable with aglycones but less than allopurinol, a pharmacologically different structure. The increased DPPH radical scavenging and XO inhibitors activity by *Pistacia integerrima* galls may be partly exerted by flavonoids produced during stress of an insect aphids [*Pemphigus* species] attack on the leaves. The results indicate that *Pistacia integerrima* may be a good candidate for future studies in vivo models of gout and hyperuricemia.

## Plants, Medicinal

Acetylcholinesterase and butyrylcholinesterase inhibitory potential of some Pakistani medicinal plants. Khan, Rafeeq Alam; Bukhari, Ishfaq Ali; Nawaz, Sarfraz Ahmad; Choudhary, Muhammad Iqbal

**Journal of Basic and Applied Sciences** 2006; 2 (1): 7-10 (21 ref.)

**Keywords:** Acetylcholinesterase-Metabolism; Butyrylcholinesterase-Metabolism; Cholinesterase Inhibitors

**Abstract:** The crude extracts of some selected Pakistani medicinal plants, namely, *Acacia modesta*, *Buddleja crispa*, *Carthamus oxycantha*, *Conyza bonariensis* and *Tanacetum artemisioides* were assessed for their inhibitory activities against acetylcholinesterase [AChE] and butyrylcholinesterase [BChE]. All the tested plant extracts exhibited dose dependent [0.25 - 1.0 mg/ml] inhibitory effects against both these enzymes with more selectivity for BChE. *A. modesta* and *C. bonariensis* showed activity against BChE only. The plant extracts of *B. crispa*, *C. oxycantha* and *T. artemisioides* caused maximum inhibition of AChE at 1.0 mg/ml with % inhibition of 28, 34 and 48 respectively. In the BChE inhibitory evaluation all the tested plant extracts at 1.0 mg/ml produced marked inhibition [68-80%] of the enzyme activity. The results show the presence of selective BChE inhibitory constituents in the aforementioned plant extracts.

Antimicrobial and phytochemical screening of three commonly used medicinal plants. Abd El Moniem, MA.; Mustafa, AF.

**Omdurman Journal of Pharmaceutical Sciences** 2006; 1 (2): 200-8 (8 ref.)

**Keywords:** Plant Extracts; Anti-Infective Agents; Terminalia; Acacia; Tephrosia; Microbiological Techniques

**Abstract:** In the present study, antimicrobial activities of nine extracts from three medicinal plants indigenous to Sudan and commonly used in traditional medicine, namely *Terminalia brownie*, *Acacia seyal* and *Tephrosia opollinea*, were tested against four standard bacterial strains: *Bacillus subtilis*, *Staphylococcus aureus*, *Escherichia coli* and *Pseudomonas aeruginosa*, and three fungal strains: *Aspergillus niger*, *Aspergillus flavus* and *Candida albicans*. The results exhibited that the chloroformic and methanolic extracts had prominent activity against most of the tested microorganisms. On the other hand, the benzene extract was devoid of any antimicrobial activity against all tested organisms. Due to the prominent antimicrobial activity of *Terminalia brownie*, it was subjected to an in-depth phytochemical investigation. Column chromatography of the methanolic extract resulted in the isolation of a crystalline compound [Tb/1]. The chemical structure Tb/1 was elucidated by infra-red coupled with nuclear magnetic resonance [<sup>1</sup>H NMR and <sup>13</sup>C NMR] and electron impact mass spectrophotometer [EIMS] as beta-Lupeol. This compound was not previously reported from *T. brownie*. It exhibited a high antifungal activity against *C. albicans*.

## Polycyclic Hydrocarbons, Aromatic

Optimization of sample preparation for 1-hydroxypyrene as a major biomarker of exposure to PAHs prior to HPLC. Shahtaheri, S.J.; Ibrahim, L.; Golbabaee, F.; Hosseini, M.; Fouladi, B.

**Iranian Journal of Public Health** 2006; 35 (1): 33-41 (21 ref.)

**Keywords:** Pyrenes; Biological Markers

**Abstract:** Urinary 1-hydroxypyrene [1-OHP] is commonly used as a major metabolite and biological indicator of the overall exposure to polycyclic aromatic hydrocarbons [PAHs]. For evaluation of human exposure to such compounds, biological monitoring is an essential process, in which, preparation of samples is one of the most time-consuming and error-prone aspects prior to chromatographic techniques. In this study, non-classic form of liquid-liquid extraction [LLE] was optimized with regard to solvent type, solvent volume, extraction temperature, mixing type, and mixing duration. Through the extraction process, a mild

temperature was used to keep the compound of interest as stable as possible. In this study, a high performance liquid chromatography, using reverse-phase column was used. The isocratic run was done at a constant flow rate of 0.8 ml/min, the mobile phase was methanol/water and a fluorescence detector was used, setting at 242 nm and 388 nm. At the developed conditions, the extraction recovery was exceeded 87.3%, achieving detection limit of 0.2 µg/l. The factors were evaluated statically and the procedure was validated with three different pools of spiked urine samples and showed a good reproducibility over six consecutive days as well as experiments. It was concluded that, this optimized method could simplify sample preparation for trace residue analysis of PAHs metabolites.

Polycyclic aromatic hydrocarbons in Niger Delta Soil : contamination sources and profiles. Abbas, A. Olajire; Brack, W.

**International Journal of Environmental Science and Technology** 2006; 2 (4): 343-52 (30 ref.)

**Keywords:** Soil; Soil Pollutants

**Abstract:** The distribution and sources of PAHs in soil as well as PAHs profiles have been investigated in areas with anthropogenic pollution in the Niger Delta [Nigeria] such as Warri and Ughelli. PAHs were identified in 21 soil samples [0- 10cm upper layer] collected in May, 2003. The typical total PAHs level in Niger Delta soil ranged from 182 +/- 112 - to - 433 +/- 256 ig/kg dw. PAH concentrations in soil samples from Warri Refinery, Tanker Loading point and Ugboko via Rapeoil field were quite high [ the mean OPAH concentrations were 433, 402 and 384 ig/kg dry weight respectively]. The dominant PAHs in soil samples were pyrene, naphthalene and benzo[k]fluoranthene. The soil total PAHs [PAHtot.] concentration, normalized to organic carbon content [OC], ranged from 11.4 to 47.2 mg PAHtot./kg OC; and showed that organic matter of the soil samples from Quality Control Centre, Ugelli West is highly contaminated with PAHs and had a value of 47.2 +/- 31.2 mg PAH tot ./kg OC. Two and three ring aromatic hydrocarbons predominated in soil samples from Ughelli West , Tanker Loading point and Delta Steel Company, which is indicative of petrogenic origin.

## Prostatic Neoplasms

### Pathology

Relationship between Gleason's score and immunohistochemical staining intensity of tissue PSA in prostatic carcinoma. Hussain, Afshan Kamran; Riaz, Sabiha; Ur-Rahman, Saeed

**Pakistan Journal of Pathology** 2006; 17 (1): 2-9 (34 ref.)

**Keywords:** Prostatic Neoplasms-Diagnosis; Carcinoma-Pathology; Prostatic-Specific Antigen; Immunohistochemistry; Evaluation Studies; Sensitivity and Specificity

**Abstract:** Objective: To evaluate the usefulness of Immunohistochemical Staining of Tissue PSA in determining the severity of Prostatic Carcinoma. Material and Methods: An explanatory study carried out at the Department of Histopathology of a Tertiary Care Hospital Lahore, from January 1999 to July 2002. Sixty-two [62]- cases of prostatic adenocarcinoma were graded with Gleason's score and stained with immunohistochemical stain for tissue PSA. Intensity of staining was correlated with Gleason's score and relationship was evaluated by ANOVA and simple regression. Specificity & sensitivity of staining intensity was estimated for specific Gleason's scores. Results: Age of the 62 cases ranged between 50 \_ 90 years and no significant difference was found between age groups regarding tumor cell differentiation. Staining intensity was found to be positively related to cellular differentiation [-2 51]. Relationship between staining intensity and Gleason's score showed an inverse relationship with ANOVA / linear regression; F statistic of 209.72 [p.0001] and R 0.882. Conclusion: Our study confirmed the findings of other international studies exploring relationships between Gleason's score and staining intensity of tissue PSA. Staining of tissue PSA with immunohistochemical stains is helpful in diagnosing the severity of the tumor grade as a complimentary tool along with Gleason's scoring.

## Pyelonephritis

Abattoir survey of bovine pyelonephritis. Karimi, I.; Shahgholian, M.; Ebrahimi, A.; Mahzounieh, M. R.

**Iranian Journal of Veterinary Research** 2006; 7 (1): 59-61 (10 ref.)

**Keywords:** Cattle; Abattoirs; Kidney-Pathology

**Abstract:** In order to investigate the prevalence and detection of etiological agents of pyelonephritis in Shahrekord abattoir, 404 kidneys of slaughtered cattle [207 female and 197 male] were inspected. Kidney samples, which had gross changes were obtained for histological examination. Urine and renal tissue samples were also collected aseptically for microbiological examination. In histological examination pyelonephritis were observed in 3 cases [0.74%], one of which occurred in a 7-year-old cow and the others in bulls less than 2-year-old. In microbiological examination E. coli was isolated from urine and renal tissues in 2 cases and Staphylococcus aureus isolated only from renal tissue in the other case.

## Reproductive Techniques, Assisted

The role of sperm chromatin anomalies on the outcome of assisted reproductive techniques. Razavi, Shahnaz; Nasr-Esfahani, Mohammad; Mardani, Mohammad

**Yakhteh Medical Journal** 2006; 7 (4): 206-15 (119 ref.)

**Keywords:** DNA Fragmentation; Chromatin; Spermatozoa; Pregnancy Outcome; Fertilization in Vitro; Sperm Injections, Intracytoplasmic; Apoptosis

**Abstract:** Sperm DNA is known to contribute one half of the genomic material to the offspring. The integrity of sperm DNA is important in fertilization, embryonic and fetal development, and postnatal child well being. The nature has created multiple barriers that allow only the fittest sperm to reach and fertilize an oocyte. However, assisted reproductive techniques [ART], like IVF and ICSI, may allow sperm with abnormal genomic material to enter the oocyte with minimal effort. This article describes

structure of sperm DNA and different mechanism involved in sperm chromatin anomalies and DNA damage. Furthermore, this study elaborates possible sperm selection methods that may improve the outcome of ART.

## Respiratory Tract Diseases

### Parasitology

Leech infestation in oro-pharynx. Butt, Tariq; Saeed, Furrugh; Chohan, Arshad Muhammad

**Pakistan Journal of Pathology** 2006; 17 (1): 42-4 (17 ref.)

**Keywords:** Leeches; Oropharynx-Parasitology; Oropharynx-Pathology; Water Pollution

**Abstract:** Leech can infest human as ecto- and endoparasite. Endoparasitism occurs most commonly in respiratory passage usually by drinking contaminated water. The most likely manifestations of endoparasitism are haemoptysis, haematemesis, dyspnoea or blood stained saliva. We present a case of leech infestation in oropharynx in a young soldier resulting in haematemesis and blood stained saliva. High index of suspicion must be entertained if patient belong to some rural population where aquatic leeches are commonly found and presenting with such symptoms particularly unexplained bleeding from throat and or blood stained saliva.

### Rift Valley Fever

Rift valley fever outbreak in Yemen 2000 : Disease Investigation and sero-survey studies. Thabet, Ahmed Ali K.; Al-Hamadi, Najib A.; Al-Hemari, Amin; Al-Hanami, Mohamed; Imran, Jamal

**Sudanese Journal of Public Health** 2006; 1 (1): 31-5 (14 ref.)

**Keywords:** Hemorrhagic Fevers, Viral; Disease Outbreaks; Seroepidemiologic Studies

**Abstract:** A total of 1080 suspected cases of haemorrhagic fever including 140 deaths were reported in Tihama [Yemen] between September and December 2000. Laboratory, testing identified evidence of acute Rift Valley Fever Virus [RVFV] in the outbreak areas. Of the 725 persons enrolled in a serosurvey study, 34 [4.7%] were anti-RVF IgM positive and 109 [15.0%] were anti-RVF IgG positive. The overall attack rate was 18.6% with an estimated 25,000 cases in Az-Zuhra district during the course of the outbreak. In multivariable analysis contact with animals' body fluids was the most important modifiable risk factor for RVF infection. Although cattle and camels were also injected the most susceptible animals appeared to be sheep and goats but. The study shows that RVFV occurred in close association with the Wadi systems and the infection rates were particularly higher closer to the exit from the mountains to the alluvial plain. No positive animals were found South of Wadi Siham or East towards Taiz Province. Also comparatively few positive animals were found in the rangeland ecozones, which constitute most of the Tihama area, and only very few in the highland areas of Taiz, Ibb and, Al-Jawf. There may have resulted from animal movements or represents an evidence of some RVFV activity in these areas. Public health education during epizootics may reduce human illness and deaths associated with future outbreaks.

## Salmonella Infections

### Microbiology

Analysis of the antibiotics resistance detected in 415 strains of salmonella isolated in stool cultures of Turkish patients with diarrhea. Abo Asaker, Esmat; Yurdak, Kadriye

**PMJ - Palestinian Medical Journal** 2006; 2 (1) (12 ref.)

**Keywords:** Salmonella Infections-Drug Therapy; Diarrhea-Drug Therapy; Diarrhea-Microbiology; Feces-Microbiology; Drug Resistance, Multiple, Bacterial; Microbial Sensitivity Tests; Retrospective Studies

**Abstract:** From May, 1987 to December, 1994 Antibiotic resistance to 415 patients with Salmonella gastroenteritis was studied. Seventy seven percent of the isolated Salmonella were serogroup B, 21% were serogroup D and 2% were serogroup C. Serotypes were detected in 77% of S. serogroup B. Of these, 88% were S. typhimurium and 12% were S. paratyphi B. Generally resistance rate to commonly used antibiotics [Trimethoprim -Sulphamethoxazole, Ampicillin, Sulbactam Ampicillin, Chloramphenicol and Gentamicin] were high. But it showed continuous decreasing up to years 1992, 1993, except resistance rates to sulbactam ampicillin which shows a continuous decrease up to 1994. Resistance rates to cefuroxime and ceftriaxone were generally low, but there were a notable increase in resistance in the last years. No strains showed resistance to quinolones. The isolates of serogroup B were found to be more resistant to the antibiotics studied. Resistance of non typhoidal Salmonella to all antibiotics studied with the exception of ceftriaxone and cefuroxime have significantly decreased during the interval from 1991 to 1994 in comparison to that from 1987 to 1990. It's concluded that, although it is evident that there has been progressive decrease in resistance of non-typhoidal Salmonella strains to commonly used antibiotics, Salmonella strains still have high resistance against these antibiotics. On the other hand, third generation cephalosporin have been used successfully in enteric fever and salmonella gastroenteritis in children when it's indicated. Our results, however, show that resistance against third generation cephalosporins started to increase in the last years. Therefore, it is recommended that wide use of them should be avoided.

## Sarcoidosis

### Diagnosis

Sarcoidosis. Al-Astal, Amro

**PMJ - Palestinian Medical Journal** 2006; 2 (1) (8 ref.)

**Keywords:** Sarcoidosis-Drug Therapy; Sarcoidosis-Complications; Adrenal CortexHormones-Therapeutic Use; Pentoxifylline-Therapeutic Use; Thalidomide-Therapeutic Use; Drug Therapy,Combination; Treatment Outcome; Tumor Necrosis Factor-alpha

## Schistosoma mansoni

Nephrotic syndrome following Schistosoma mansoni. Saeed, M.K.; Ibrahim, M.; Nema, MA.

**Sudanese Journal of Public Health** 2006; 1 (1): 56-8 (7 ref.)

**Keywords:** Schistosoma mansoni-Complications; Nephrotic Syndrome-Diagnosis; NephroticSyndrome-Etiology; Prevalence  
**Abstract:** A young Sudanese female presented with features of generalized edema for the lastthree years. Examination showed anasarca, hepatomegaly and anemia. Investigations confirmedthe presence of Nephrotic syndrome with normal renal function. It also showed iron deficiencyanemia and leukamoid reaction, hypereosinophilia. Causes for hypereosinophilia were excluded.Renal biopsy showed the diagnosis of amyloidosis. Stool by concentration method diagnosed.Schistosoma mansoni as possible explanation for all the, manifestations. Leucocytosis,hypereosinophilia responded to steroids and antihelminthic therapy however the patientglomerulopathy progressed to end stage and the patient was put on regular renal replacementtherapy.

## Schistosomiasis

### Diagnosis

Schistosoma mansoni associated mortality in Gezira : Determined by clinical and ultrasoundexamination. Saeed, Osman K.; Desein, Alain J.; El-Wali, Nasruddin; Adeel, Ahmed A.; Mayzoub,Mubarak; El-Samani, Kamal A.; Youssif, Yousif M.; Qurashi, Mohamed A.

**Sudanese Journal of Public Health** 2006; 1 (1): 27-30 (6 ref.)

**Keywords:** Schistosomiasis-Epidemiology; Schistosomiasis-Mortality; Prevalence; Schistosoma mansoni;Ultrasonography; Splenomegaly-Pathology; Liver-Pathology

**Abstract:** Background: Schistosomiasis is the most common problem in Gezira area. Theprevalence among school children could reach up to 90% in some villages. This study wasconducted in a small village in the Gezira area in central Sudan. This part of the Gezira is wellknown for its high endemicity of Bilharzia. Methods: A total of 428 individuals were included in thestudy. All were examined clinically and by Ultrasoungraphy for spleen and liver. Stoll specimenswere also taken from all the subjects and were examined for Schistosoma mansoni ova. Results:The prevalence of schistosomiasis was found to be 72% in males and 68 3% in females. It wasalso observed that the overall prevalence of splenomegaly on the examined subjects was 35.8%.Males recorded higher prevalence of splenomegaly [38.8%] compared to females [32.7%] [p =/0.05]. The observed prevalence of hepatomegaly was 12.6%., with high prevalence among males[13.1%] compared to females [11.2%]. Out of the 406 subjects examined by ultrasound, 266[63.1%] were found to have evidence of periportal fibrosis. The hepatomegaly in the differentgrades1.2 and 3 are 12.6%, 3.8% and 0% respectively. Conclusion: It is clear from the above datathat the size of the spleen increases while the size of the liver decreases with the severity ofperiportal fibrosis.

### Immunology

Correlation between cytokine expression levels and formation of symmers' periportal fibrosis inSchistosomiasis. Elobaid, EA.; Chesbro, J.; Bull, P.; Fonray, S.; AbdAlla, IB.; Hommeida, MM.; Gerlach, J.

**Omdurman Journal of Pharmaceutical Sciences** 2006; 1 (2): 135-41 (9 ref.)

**Keywords:** Schistosoma mansoni; Fibrosis; Liver Cirrhosis; Cytokines; Tumor NecrosisFactor-alpha; Inter Leukins

**Abstract:** This study has been conducted on 23 Sudanese patients with Schistosomiasismansoni, eight of whom were positive for Symmers' fibrosis. Twenty three DNA samples, obtainedfrom these patients, were examined for polymorphism in promoter regions. introns and leadersequences for various cytokines. The cytokines and polymorphs tested included: TNF-alpha,TGF-beta 1, IL-10, IL-6 and IFN-gamma. Cytokine expression levels obtained from hand analysison the electrophoresis gel allowed for profiling of the patients tendency to be pro- or antiinflammatorywhen challenged. Pro- inflammatory cytokines are TGF-beta 1 and IL- 10. As seen inthe results, the only noticeable difference between the two groups was in IFN-gamma levels,where nearly all the samples [87.5%, 7/8] positive for Symmers' fibrosis expressed high levels ofthe cytokine, whereas only 58.3 [7/12] expressed low levels of IFN-gamma in samples negative forSymmers' fibrosis. In conclusion, when comparing cytokine expression levels with liver fibrosis, nostrong correlation could be found The relative risk values obtained were low and implied that therewas no significant correlation between the expression levels ct TGF-beta 1 IL-10 and TFN-gammaand the production of Symmers' fibrosis.

## Schizophrenic Psychology

Level of schizophrenic thinking in adults and their visual-motor performance. Munaf, Seema; Rizwan, Muhammad; Aftab, Sobia  
**Journal of Basic and Applied Sciences** 2006; 2 (1): 33-6 (12 ref.)

**Keywords:** Thinking; Schizophrenic Language; Confusion; Verbal Behavior; Problem Solving; Psychomotor Performance

**Abstract:** The present study aims to determine the relationship between schizophrenic thinking and Visual-Motor Performance of Adults. It was hypothesized that there could be a negative correlation between schizophrenic thinking and Visual-Motor performance. The sample consisted of 98 adults [41 males and 57 females], whose age range was from 19-45 years and all of them belonged to middle socioeconomic level. In order to assess schizophrenic thinking and Visual-Motor Performance, Whitaker index of Schizophrenic Thinking test [Whitaker, 1980] and Slosson Visual Motor Performance Test for children and adults [Slosson, 1996] were administered. For the quantitative analysis, Pearson Product Moment correlation was applied. The results were consistent with the hypothesis, regarding the predictive relationship between both the variables, which indicates that adults with higher trends of Schizophrenic thinking, have lower Visual-Motor performance and adults with lower trends of Schizophrenic thinking, have higher Visual-Motor performance.

## Semen

### Analysis

Seasonal variation in the characteristics of the Azarbaijani buffalo [*Bubalus bubalis*] semen. Alavi-Shoushtari, S. M.; Babazadeh-Habashi, B.

**Iranian Journal of Veterinary Research** 2006; 7 (1): 49-54 (15 ref.)

**Keywords:** Buffaloes; Seasons; Spermatozoa; Sperm Motility

**Abstract:** To study the seasonal variation in the characteristics of the Azarbaijani buffalo semen, three 2-4-year-old bulls of Azarbaijani water buffaloes, kept in the Buffalo Breeding Center, in Urmia, northwest of Iran, were selected. Semen samples were collected once a week for a period of one year using artificial vagina and a buffalo cow as a dummy. Semen volume, colour, pH and motility and spermatozoa motility, viability, morphology and concentration were examined. During one calendar year, 129 semen samples were examined. The mean values were plotted and a curve was drawn for the annual variations in each parameter. The comparison of the mean values in each sampling and in different seasons and the correlation between these variations and ecological factors, such as temperature, rainfall and day length were also studied. Semen was characterized by a mean [ $\pm$  SEM] ejaculation volume of 4  $\pm$  0.14 ml, semen colour density score of 3.75  $\pm$  0.07, pH of 6.97  $\pm$  0.03 and motility score of 2.89  $\pm$  0.05. The sperm motility of 75.85%  $\pm$  1.59% and sperm viability of 73.2%  $\pm$  1.56% were observed; 11.55%  $\pm$  0.42% of spermatozoa had abnormal morphology. The mean [ $\pm$  SEM] sperm concentration was 1239.9  $\pm$  34.11  $\times$  10<sup>6</sup> cells/ml. All of the studied parameters showed fluctuations throughout the year but these variations were statistically significant only in some occasions and were mostly correlated with length of the day. Semen of better quality was collected in summer and autumn.

## Septicemia

### Etiology

Increasing trend of antimicrobial drug-resistance in *Pseudomonas aeruginosa* causing septicemia. Moniri, R.; Mosayebi, Z.; Morahedian, A.H.; Mossavi, GhA

**Iranian Journal of Public Health** 2006; 35 (1): 58-62 (20 ref.)

**Keywords:** Septicemia-Diagnosis; *Pseudomonas aeruginosa*; *Pseudomonas* Infections; Cross Infection; Drug Resistance, Multiple

**Abstract:** The emergence of multi-drug resistant strains of *Pseudomonas aeruginosa* has complicated treatment decision and may lead to treatment failures. In this study, we describe the trends of drug-resistant *P. aeruginosa* isolated in blood cultures from patients detected in a tertiary teaching hospital and evaluated the prevalence of resistance to amikacin, ampicillin, carbenicillin, cefixime, cefotaxime, ceftazidime, ceftizoxime, ceftriaxone, gentamicin, imipenem, and trimethoprim/sulfamethoxazole in sixty-nine strains of *P. aeruginosa* isolated from neonates with septicemia in Kashan, Iran, from April, 2000 to June 2004. In assessment of the current breadth of multi-drug resistance in *P. aeruginosa* isolated from neonates with septicemia, 4.3% were susceptible to all studied agents, 10.1% were resistant to a single agent. Multi-drug resistance [MDR] isolates accounted for 73.9% of isolates. The majority of MDR isolates [41.2%] were resistant to three antimicrobial agents, which accounted for 30.4% of all isolates. Nineteen MDR isolates from fifty-one [37.3%] were resistant to four agents [19 out of 69; 27.5% of all isolates] and 21.6% to five agents [15.9% of all isolates]. Statistical analysis confirmed that there were no significant differences between multi-drug resistance phenotypes of isolates with age, gender, gestational age, outcome of septicemia, and application of respirator in neonates. Continued local surveillance studies are urged to monitor emerging antimicrobial resistance and to guide interventions to minimize its occurrence.

## Shigella flexneri

### Isolation and Purification

Determination of distribution of *icsA* gene and *IcsA* protein bands between *Shigella flexneri* isolated from 3 hospitals in Tehran.

Vala, Mojdeh Hakemi; Nowroozi, Jamileh; Kazemi, Bahram

**Yakhteh Medical Journal** 2006; 7 (4): 250-3 (16 ref.)

**Keywords:** Shigella flexneri-Cytology; Bacterial Proteins; Polymerase Chain Reaction; Cell Separation; Hospitals

**Abstract:** Introduction: Shigella is a facultative intracellular pathogen that uses the host actin cytoskeleton protein for intra- and intercellular spread. The aim of this study was to determine the distribution of icsA gene and IcsA expressed protein bands among Shigella flexneri strains isolated from 3 clinical centers in Tehran. Material and Methods: Two hundred and seventy five isolated Shigella flexneri strains were identified by standard microbiological and biochemical methods. DNA isolation was performed using sodium perchlorate method. Hot start-PCR was done with 2 pairs of primers and the products were separated through agarose gel [0.8%] in TAE buffer. DNA fragments were visualized by ethidium bromide staining under UV illumination. Whole membrane preparation was used to examine the protein profiles and identification of probable IcsA [120-kDa] protein band by SDS-PAGE. Results: From 100 isolated Shigella flexneri strains, both bands of 1600 bp and 1709 bp were detected in 46 isolates [46%]. A 120 kDa band which seems to be related to IcsA protein was detected in 46 isolates [46%]. The protein bands varied between 30 and 150 kDa. Discussion: IcsA is both necessary and sufficient for actin assembly in Shigella flexneri. Since icsA gene and IcsA protein band were not found in all Shigella strains, it seems that not all strains have the same pathogenesis. On the other hand, since the demonstration of icsA gene by PCR in all Shigella strains [46%] corresponded to the presence of a 120 kDa protein band by SDS-PAGE [46%], it seems that both tests may confirm each other. However, the PCR may be more accurate than SDS-PAGE.

## Sinusitis

### Diagnosis

Paranasal sinus mycosis in suspected fungal sinusitis. Jahromi, Shahindokht Bassiri; Khaksar, Ali Asghar

**Iranian Journal of Clinical Infectious Diseases** 2006; 1 (1): 25-9 (20 ref.)

**Keywords:** Sinusitis-Microbiology; Paranasal Sinuses-Pathology; Paranasal Sinuses-Microbiology; Mycoses-Diagnosis; Mycoses-Complications; Diagnosis, Differential; Paranasal Sinus Diseases

**Abstract:** Background: Fungal infections of the paranasal sinuses in the immunocompetent patients are being recognized with increasing frequency. Infections are assigned in invasive and noninvasive forms. Materials and methods: In a retrospective study, a total 39 patients with suspected fungal sinusitis were studied for causative fungal agents between 1994 and 2001. Diagnosis was confirmed by demonstration of fungi in direct preparations and culture techniques. Samples were biopsy specimens taken from the sinuses or exudates from deep sinus tracts. Results: Paranasal sinus mycoses were proven in 18 patients, including 12 men and 6 women, their age ranging from 17-58 years. The most frequently isolated organisms were Aspergillus spp. and Candida spp. Paranasal sinus infections by Cladosporium trichoides [bantianum] and Pseudallescheria boydii are reported for the first time in Iran from Pasteur Institute, Conclusion: In our series, Aspergillus flavus has been isolated more frequently than other agents. **Keywords:** Fungal infection, Paranasal sinus infection, Sinus mycoses.

## Smoking

First cigarette smoking experience among secondary-school students in Aden, Republic of Yemen. Bawazeer, A. A.; Hattab, A. S.; Morales, E.

**YHMRJ - Yemeni Health and Medical Research Journal** 2006; 3 (9): 65-77 (14 ref.)

**Keywords:** Tobacco Use Disorder; Prevalence; Schools; Students

**Abstract:** The objectives of this study were first to estimate the prevalence of cigarette smoking among secondary-school students and then to identify and analyze the demographic, social and cultural risk factors associated with the first cigarette smoking experience. A sample comprising 1000 students was selected randomly. Results showed that 19.6% of the total sample smoke; 15.5% among females and 21.9% among males. Family and/or friends appeared to influence the first cigarette experience and thus prevention strategies should involve not only the students themselves but the home, school and social environments also.

Global Youth Tobacco Survey [GYTS] Republic of Yemen -2003. Bahaj, Ahmed Ali

**YHMRJ - Yemeni Health and Medical Research Journal** 2006; 3 (9): 49-64 (5 ref.)

**Keywords:** Tobacco; Tobacco Use Disorder; World Health Organization; Data Collection; Health Surveys; Questionnaires

**Abstract:** Introduction:- The global youth tobacco survey [GYTS] was developed by WHO/CDC to track tobacco use among youth in different countries. It is a school-based survey designed to use two-stage cluster sampling to produce representative data on smoking among school-age students 13-15 years. Objectives:- GYTS-Yemen 2003 report describes the knowledge, attitude and behavior of young people regarding tobacco use, their exposure to environmental tobacco smoke [ETS], pro-tobacco as well as anti-tobacco advertisement. It reveals also the extent to which young people receive anti-tobacco knowledge in the schools. Methods:- We conducted school-based, two-stage cluster survey in governmental and private schools in three governorates of Yemen [n 12658, age 13-15 years], using a standardized questionnaire based on the Global Youth Tobacco Survey. Results:- 19.8% of boys and 10.6% of girls had ever smoked a cigarette. ETS exposure is high, over 4 in 10 students live in home where others smoke in their presence, almost 5 in 10 expose to smoke in public places and over 4 in 10 have parents who smoke. Over 7 in 10 of students think smoke from others is harmful to them. Over 80% of current smokers want to stop smoking and 70% of current smokers tried to stop smoking during the past year and failed. 30.8% think boys and 21.5% think girls who smoke have more friends and 24.9% think boys and 17.9% think girls who smoke look more attractive. In the past 30 days more than 80% saw pro-tobacco advertisements in billboards and 18.6% have an object with cigarette brand logo. Less than half of students [41%] had been taught in the class about the danger and effect of tobacco use and only 20% had discussed why people in their age smoke. Conclusion:- The prevalence of tobacco use among students is quite high. Young students are



daily exposed to ETS, tobacco advertisements and can access tobacco product easily. Immediate interventional prevention measures are needed to limit dangerous effects of tobacco on young population.

## Sperm Injections, Intracytoplasmic

Effect of human sperm MTT viability test on outcome of intracytoplasmic sperm injection. Aboutorabi, Roshanak; Esfahani, Mohammad; Baharvand, Hossein

**Yakhteh Medical Journal** 2006; 7 (4): 254-7 (17 ref.)

**Keywords:** Fertilization in Vitro; Infertility, Male; Oligospermia; Spermatozoa; Pregnancy Rate

**Abstract:** Introduction: The aim of this study was to evaluate the effect of human sperm MTT viability assay on outcome of intracytoplasmic sperm injection. MTT is a tetrazolium salt, routinely used for cell proliferation and cytotoxicity assays. Material and Methods: 50 microl of processed semen was treated with MTT solution, while the remaining used as the control. Meanwhile, 109 donated human oocytes [metaphase II] obtained from 12 patients were divided into two groups. Fifty five oocytes were injected using MTT positive sperms, while 54 oocytes were injected with sperms from the control group. Then the injected oocytes were cultured and observed at 18, 42, 66, 90, and 114 hours post-ICSI. Finally, the fertilization and embryo development rates were compared in both groups. Results: No significant differences were observed between fertilization and embryo development rates in the MTT and control groups. Conclusion: In future studies after approving that the MTT has not cytotoxic or teratogenic effects, then sperm MTT viability assay might be useful for ICSI in patients with absolute or severe asthenospermia or in patients with highly deformed sperm tails.

## Spermatogenesis

Graft efficiency of Co-cultured spermatogonial cells using sperm assay in epididymal lumen of recipient mice. Anjamrooz, Seyed; Morahedin, Mansoureh; Tiraihi, Taki; Mowla, Seyed Javad

**Yakhteh Medical Journal** 2006; 7 (4): 242-9 (42 ref.)

**Keywords:** Fertility; Mice; Immunohistochemistry; Risk Factors

**Abstract:** Introduction: Transplantation of germ cells restores the male fertility. Nevertheless, a lot of questions remain incompletely resolved. The aim of this study was to evaluate in vitro colonization efficiency of germ cells and sperm production capacity of spermatogonial cells before and after culture by sperm number assay in epididymis of recipient mice. Materials and Methods: We developed a Sertoli cell feeder in a co-culture system with spermatogonial cells and the cells were co-cultured for 2 months. The cells were isolated from mouse neonates. Colony assay was performed during culture using light microscopy. The transplanted cells were traced using BrdU incorporation. Sperm parameters were assessed 2 months after transplantation. Results: Our findings showed that spermatogonial cells created colonies during culture. Transplantation of fresh spermatogonial cells at a concentration of  $2 \times 10^5$  cells/ml did not show significant difference. However, after transplantation of  $2 \times 10^5$  cells/ml cultured for 2 weeks, the number of epididymal sperms in recipients increased significantly in groups with more fresh cells. Conclusion: Epididymal sperm number in recipient mice can be increased by enrichment of type A spermatogonial cells using an in vitro co-culture system. Other important factors include the source of donor cells and the number of transplanted cells.

## Substance Withdrawal Syndrome

Increase in serotonin-1A receptor responsiveness following haloperidol, withdrawal. Shireen, Erum; Khan, Asma; Batool, Farhat; Haleem, Darakhshan Jabeen

**Journal of Basic and Applied Sciences** 2006; 2 (1): 45-54 (45 ref.)

**Keywords:** Haloperidol-Adverse Effects; Rats, Wistar; Receptors, Serotonin-Physiology; Synaptic Transmission; Serotonin Agonists

**Abstract:** In view of a role of 5-hydroxytryptamine [serotonin; 5-HT]-1A receptors in the elicitation of extrapyramidal symptoms [EPS], The present study was designed to monitor pre- and postsynaptic responses to a selective 5-HT-1A ligand, 8-hydroxy-2-[di-n-propylamino] tetralin [8-OH-DPAT] following single and repeated [two times a day for 9 days] administration of haloperidol [5 mg/kg] in rats. The intensity of 5-HT syndrome elicited by 8-OH-DPAT [0.5 mg/kg] was taken as measure of postsynaptic response. 8-OH-DPAT induced decreases of 5-HT metabolism in the striatum and brain were taken as a measure of postsynaptic response. 8-OH-DPAT induced forepaw treading and hyperlocomotion were smaller in haloperidol than saline injected rats. The decreases were not observed following withdrawal from repeated administration of haloperidol. Flat body posture not altered by single injection of haloperidol was enhanced following withdrawal from repeated administration of haloperidol. Haloperidol plus 8-OH-DPAT injected animals exhibited comparable levels of 5-HT metabolism in the striatum as well as in the brain. Administration of 8-OH-DPAT significantly decreased 5-HT metabolism in brain but not in striatum of repeated saline injected animals. Conversely, same dose of 8-OH-DPAT injected to haloperidol-injected animals did not decrease 5-HT metabolism in the brain but decreased it in the striatum. The results show an increase in the responsiveness of pre- and postsynaptic 5-HT responsiveness of post and presynaptic 5-HT-1A receptors may be involved in the greater incidence of EPS in patients treated with neuroleptics such as haloperidol.

## Surgical Wound Infection

An experimental study on surgical wound contamination from distant infective source in rabbits. Sarrafzadeh-Rezaei, F.; Yousefbaigi, Gb.; Shariati, A.

**Iranian Journal of Veterinary Research** 2006; 7 (1): 29-33 (22 ref.)

**Keywords:** Staphylococcus aureus; Rabbits; Risk Factors

**Abstract:** Surgical wound infections are usually encountered due to the endogenous rather than the exogenous infective

sources. The objective of this study was to evaluate the effect of a distant inoculated infective source on the contamination of surgical wounds. Thirty White New Zealand rabbits divided randomly into three control and three treatment equal groups. In treatment groups 24 hrs before surgical intervention staphylococcus aureus was injected subcutaneously in right thigh. In model animals, skin and muscles were incised 1 cm to the right of the vertebral column and sutured, immediately. The relative frequency of staphylococcal contamination of tissue specimens at 24 and 48 hrs after surgery in treatment groups were 20% and 60%, respectively. Statistical analysis did not show any significant differences in the rate of contamination between control and treatment groups at aforementioned times [P 0.05]. However, comparison at 72 hrs after surgery, showed that the rate of contamination in treatment group is significantly more than control ones [P = 0.004]. The presence of S. aureus in wounds of treatment animals at 72 hrs after surgery, suggested that microorganisms lodged in any part of body other than wound region could contaminate it, which could be important in wound healing.

## Tetanus

### Epidemiology

Tetanus antitoxin levels and cutaneous anergy in hemodialysis patients in two university hospitals in Iran. Aminzadeh, Zohreh; Yaghmaei, Farhad; Poorkazemi, Aydin; Gachkar, Latif

**Iranian Journal of Clinical Infectious Diseases** 2006; 1 (1): 31-4 (10 ref.)

**Keywords:** Tetanus-Immunology; Tetanus-Prevention and control; Tetanus Antitoxin-Blood; Cross-Sectional Studies; Incidence; Enzyme-Linked Immunosorbent Assay; Renal Dialysis; Immunization; Skin Tests

**Abstract:** Background: The global incidence of tetanus is about 1 million cases annually. Tetanus antibody values decrease with age. Some patients with humoral immune deficiencies may not respond adequately to tetanus toxoid vaccination. The incidence of infectious disease is increased in patients with chronic renal failure. The purpose of this study was to determine tetanus antitoxin level and cutaneous anergy test in hemodialysis patients. Materials and methods: A cross sectional study was performed on 44 hemodialysis patients who had been on dialysis thrice a week for at least 2 months. Quantitation of tetanus-specific antibodies was achieved by ELISA technique. Then, for Mantoux test 0.1 ml of 1/10 saline diluted solution of tetanus and diphtheria toxoid was injected intradermally to the volar surface of the shunt-free arm. Induration was recorded 48 - 72 and 7 - 9 days after the injection. Results: Twenty-eight [64%] patients had induration  $\geq$  0.1 IU/ml. There was no significant correlation between age, sex, duration of dialysis, frequencies of dialysis history of tetanus-diphtheria vaccination, and tetanus antitoxin levels. There was a significant difference between induration size of anergy test results recorded on two separate observations [48 - 72h and 7 - 9 days after the test] [p 0.05]. Conclusion: Our results indicate that immunization history was not consistent with protective antibody level, so monitoring immunization status and administering the tetanus vaccine in hemodialysis patients are required. **Keywords:** Anergy test, Anti-tetanus antibody, Hemodialysis.

### Total Quality Management

The role of total quality management in improving the quality of health care. Nassar, Abdallah

**PMJ - Palestinian Medical Journal** 2006; 2 (1) (4 ref.)

**Keywords:** Quality Assurance, Health Care; Health Services Needs and Demand; Health Care Reform; Quality Indicators, Health Care

## Trichomonas Vaginitis

### Drug Therapy

In vitro antitrichomonas activity of *Allium hirtifolium* [Persian Shallot] in comparison with metronidazole. Taran, M.; Rezaeian, M.; Izaddoost, M.

**Iranian Journal of Public Health** 2006; 35 (1): 92-4 (14 ref.)

**Keywords:** Metronidazole-Therapeutic Uses; Metronidazole-Adverse Effects; Allium; Plants, Medicinal; Shallots

**Abstract:** Trichomonas vaginalis infection is a sexually transmitted infection causing vaginitis and acute inflammatory disease of the genital mucosa. Although Metronidazole resistance in T. vaginalis is well documented, the only drug approved for the treatment of trichomoniasis in some countries is metronidazole. Genus Allium plants including garlic, shallot and onion have had an important medicinal role for centuries. Some studies have proven antibacterial, antifungal, antiviral, antiprotozoal and antihelmintic properties of genus Allium plants. At first PSHE and PSDE [Persian shallot hydroalcoholic and dichloromethane extract] was prepared in ethanol/water [50:50] and dichloromethane respectively at cool temperature [10°C]. Genus Allium plants extracts were shown to decrease the oxygen uptake, reduce the growth of the organism, inhibit the synthesis of lipids, proteins and nucleic acids and damage membranes. In this study the Minimal Inhibitory Concentrations [MICs] of PSHE, PSDE and metronidazole respectively were 10, 5 and 2 µg/ml. Persian shallot inhibited growth of T. vaginalis at low concentrations and in short times, therefore this plant has some antitrichomonas components [including allicin, ajoene and other organosulfides] that antimicrobial properties of these was proven.

## Trypanosomiasis

### Epidemiology

Prevalence of imported West African Trypanosomiasis among prison inmates and displaced people in Khartoum state. Abd allal, IB.; Elnim, El.; Elobaid, EA.; Elkadaru, AY.

**Omdurman Journal of Pharmaceutical Sciences** 2006; 1 (2): 142-8 (9 ref.)

**Keywords:** Trypanosomiasis, African-Epidemiology; Prevalence; Agglutination Tests; Prisons; Refugees; Age Factors; Sex Factors

**Abstract:** The problem of sleeping sickness in the Sudan and its effect on the human population is a big worry to those working in the health care service. These facts directed the present work to estimate of the prevalence of Sleeping Sickness in prison inmates and displaced people of different age and sex groups in Khartoum state, and to evaluate and compare serological techniques versus parasitological methods in the effective diagnosis of the infection. A total of 365 individuals have been screened, during the period of August 1999 to February 2000 for sleeping sickness using serological technique [CATT = Card Agglutination Test for Trypanosomiasis] and conventional parasitological technique [3% Giemsa Stain]. Direct agglutination serology was further investigated by a serial dilution of the serum using the CATT buffer [phosphate buffered saline solution, pH 7.2]. A total of 365 patients were screened 154 were prison inmates in the four major prisons in Khartoum State. Out of the 365 screened individuals, 102 were positive by the conventional direct smear. The study has shown that prevalence of Sleeping sickness is 32% and 26% among men and women, respectively. The prevalence of the disease among different age groups in the four camps showed that it was high among people of the ages 15-45 years [38 positive cases], and low in people of the ages 1-14 years [2 positive cases].

### Tuberculin Test

Evaluation of tuberculin skin test and booster effect in hemodialysis patients. Alimagham, Masomeh; Aminiafshar, Saied; Gachkar, Latif; Sharafim, Kamran; Farahbakhsh, Mohammad

**Iranian Journal of Clinical Infectious Diseases** 2006; 1 (1): 35-7 (10 ref.)

**Keywords:** Tuberculosis-Diagnosis; Tuberculosis-Immunology; Tuberculosis-Epidemiology; Renal Dialysis

**Abstract:** Background: Tuberculosis is an endemic disease in Iran which may occur more frequently among hemodialysis patients. We have evaluated tuberculin skin test [TST] in hemodialysis patients in a university hospital in 2003 - 2004. Materials and methods: Sixty-seven hemodialysis patients were enrolled for tuberculin skin tests. Indurations were measured 48 - 72 hours after the injection and then on the 7th day. Those with indurations less than 5mm in TST1 were introduced for TST2. Results: Of 67 patients, 18 [26.9%] had indurations of less than 5mm in TST1 and were introduced for TST2 among whom 7 [39%] had an induration measured less than 5mm. Of 18 cases, 11 [61%] were revealed to have booster effect that represent a ratio of 16% of all studied hemodialysis patients in our study. Conclusion: It seems that the second TST is a better indicator of infectivity in hemodialysis patients, especially for patients who require repeated or annual estimation for M. tuberculosis infection. **Keywords:** hemodialysis, Booster effect, Tuberculosis, Tuberculin skin test.

### Tuberculosis, Multidrug-Resistant

Tuberculosis drug resistance patterns At SIUT. Jamal, Syed Asfar; Kamal, Mustafa; Rasool, Sheikh Aijaz

**Journal of Basic and Applied Sciences** 2006; 2 (1): 55-8 (22 ref.)

**Keywords:** Drug Resistance, Bacterial; Drug Utilization; Tuberculosis-Drug Therapy; Antitubercular Agents-Therapeutic Use; Risk Factors

**Abstract:** Tuberculosis [TB] remains endemic in our population. The growing resistance to drugs poses problems in treatment and prevention of this disease and transplanted patients. Immunostatus of many of the first group and majority of latter is comprised due to illness and drugs respectively. There is thus a predisposition to TB in both these groups and therefore drug sensitivity testing is of extreme importance. At SIUT between Nov 2000 and Dec 2001 a total of routine clinical specimens were cultured for Mycobacteria by using Lowenstein-Jensen [LJ] slants. 77.5% of Mycobacterium tuberculosis were susceptible to all five drugs. Resistance to any drug was 22.5%. Highest resistance was against Isoniazid [13.75%] followed by Streptomycin [11.25%]. Multi drug resistance [MDR] was only 1.25%. Drug sensitivity testing has shown the Rifampicin remains resistant free and MDR remains low in our series of patients. However, such testing is unnecessary in other populations groups since compliance, incomplete treatment and reinfection are major causes of everyday resistance in our population.

### Tuberculosis, Pulmonary

#### Diagnosis

Update on pulmonary tuberculosis. Al-Attar, Hussein

**PMJ - Palestinian Medical Journal** 2006; 2 (1) (36 ref.)

**Keywords:** Tuberculosis, Pulmonary-Radiography; Tuberculosis, Pulmonary-Therapy; Tuberculosis, Multidrug-Resistant; Antitubercular Agents-Therapeutic Uses; Drug Resistance, Bacterial

## Vagina

### Surgery

Total vaginal replacement with sigmoid colon experience at Gaza European hospital. Abudaia, Jehad  
**PMJ - Palestinian Medical Journal** 2006; 2 (1): 71-3 (10 ref.)

**Keywords:** Vagina-Abnormalities; Colon, Sigmoid-Transplantation; Postoperative Complications

**Abstract:** Absence of the vagina in the pediatric population most commonly results from congenital abnormalities. Vaginal replacement may be achieved by several techniques. We reviewed our experience in the efficacy of using a segment of the sigmoid colon for primary vaginal replacement. From 2001 to 2005 we evaluated five patients who required vaginal replacement. In 4 patients the abnormality was suspected because of absent menstruation, one patient was discovered after marriage at the initial sexual approach. The diagnosis exclusively was Mayer-Rokitansky syndrome. The vagina was reconstructed using a 14 cm isolated sigmoid segment. A minimum of 1 year of follow-up is available. The vagina had a good appearing introitus. Three patients already had an active sexual life [married] all reported to be satisfactory by the husband and wife when asked separately. Stenosis at the mucocutaneous junction in one patient was treated with Y-V plasty. We conclude that our experience with this group of patients leads us to believe that isolated sigmoid segments provides a cosmetic, self-lubricating neovagina with low rates of failure and revision, and without the need for routine dilation.

## Vibrio cholerae

### Isolation and Purification

Phenotypical analysis of vibrio cholerae 01 [Eltor and classic] biotypes by scanning electron microscope and transmission electron microscope. Goudarzi, Hossein; Bandehpour, Mojgan; Eslami, Gita; Fallah, Fatemeh; Heidari, Mohammad; Taheri, Sudabeh; Pourroshan, Roxana Khani

**Iranian Journal of Clinical Infectious Diseases** 2006; 1 (1): 15-7 (5 ref.)

**Keywords:** Cholera-Microbiology; Microscopy, Electron, Scanning Transmission; Microscopy, Immunoelectron; Vibrio cholerae-Ultrastructure

**Abstract:** Background: Due to repeated cholera outbreaks in Iran and neighboring countries, the present study was performed to determine the prevalence of phenotypes of Ogawa and Inaba serotypes of Vibrio cholera 01 and classic Vibrio cholera 01 biotypes. Materials and methods: Scanning and transmission electron microscopy [SEM and TEM] were applied on 4 species, of Ogawa and Inaba serotypes and two classic serotypes of Vibrio cholera 01. Results: Membrane diameter of Eltor was wider as compared to classic biotype. Number of ribosomes, protein synthesis, length and number of flagella were quite more in comparison with classic biotype. Conclusion: According to our findings, genome of classic biotype is more compact. **Keywords:** Vibrio cholera, Ogawa serotype, Inaba serotype, Transmission Electron Microscopy, Scanning Electron Microscopy.

## Water

Alteration of macroinvertebrate community in community tropical aquatic systems in relation to sediment redox potential and overlying water quality. Chakrabarty, D.; Das, S.K.

**International Journal of Environmental Science and Technology** 2006; 2 (4): 327-34 (23 ref.)

**Keywords:** Water Pollution; Oxidation-Reduction

**Abstract:** Limnological studies in two tropical Indian aquatic habitats showed that macroinvertebrate communities have greater diversity than other biotic communities present there. Sediment redox potential is found to be an important factor for alteration of macroinvertebrate communities in aquatic bodies. Anthropogenic activities have influenced the changing of sediment redox potential values of the studied sites and there by affected the macroinvertebrate communities.

The impact of farming on river banks on water quality of the rivers. Chimwanza, B.; Mumba, P.P.; Moyo, B.H.Z.; Kadewa, W.

**International Journal of Environmental Science and Technology** 2006; 2 (4): 353-8 (14 ref.)

**Keywords:** Water Pollution; Agricultural Workers' Diseases; Fertilizers; Rivers

**Abstract:** A study was carried out in a strip of a river in the dry and rainy seasons to assess the effect of farming along river banks on the quality of water in rivers. The results showed that there was an increase in the concentration of nitrate in the water downstream in both the rainy and dry seasons. In both rainy and dry seasons, the total nitrogen in the soil was highest [p<0.01] in the middle section. Significant seasonal differences [p<0.01] were observed for phosphate in water, being higher in the dry season. In the soil, the concentration of phosphate showed significant sectional differences [p<0.01] in the rainy season with the highest concentration observed in the lower section [1.74\_0.01mg/l] and the least in the upper section [1.02\_0.01g/l]. However, in the dry season, the highest concentration was obtained in the middle section [1.69\_0.01mg/l] and the least in the upper section [1.15\_0.02 mg/l]. The results suggest that the farms along the riverbanks have an impact on the water quality of the water in the river. It is therefore recommended that there should be close monitoring of the activities of the farms on riverbanks to minimize their impacts on the natural ecosystems that they interact with. Frequent monitoring of the water quality in the rivers relative to the farming estates should be done.

Synthetic vegetation : An ecosystem prosthesis. Woodley, M.A.

**International Journal of Environmental Science and Technology** 2006; 2 (4): 395-8 (9 ref.)

**Keywords:** Trees; Ecosystem; Ecology

**Abstract:** In this paper, an entirely novel, theoretical restoration/conservation tool will be described. This tool will take the form of self-sustaining synthetic vegetation designed, through the use of solar energy, to generate Oxygen through the electrolysis of water and sequester CO<sub>2</sub> in a disposable form through the formation of Carbonic acid amongst other things; in short simulating many of the major functions of living vegetation. The environmental role of synthetic vegetation as a terrestrial ecosystem prosthesis is evaluated with a Carbon acquisition calculation and a cost-benefit analysis reviewing the benefits of utilization in the context of material costs. It is proposed that synthetic vegetation could greatly aid in conservation by regenerating degraded environments and speeding up the process of restoration.

## Water Pollution

Chemical analysis of drinking water of villages of Sanganer, Tehsil, Jaipur District. Jain, P.; Sharma, J.D.; Sohu, D.; Sharma, P. **International Journal of Environmental Science and Technology** 2006; 2 (4): 373-9 (12 ref.)

**Keywords:** Water Purification; Water; Water Pollutants, Chemical; Electric Conductivity

**Abstract:** Due to pressure of human activity, urbanization and industrialization, the groundwater sources are degraded gradually; therefore pure, safe, healthy and odorless drinking water is a matter of deep concern. There are many pollutants in groundwater due to seepage viz. organic and inorganic pollutants, heavy metals, pesticides, fluorides etc. In Rajasthan state, all 32 districts are affected with high fluoride concentration in groundwater and among these Jaipur ranks second. The drinking water samples were collected in clean polyethylene plastic containers from villages [Code No. 51-100] of Sanganer Tehsil of Jaipur District. The water samples were analysed for pH, Fluoride [F<sup>-</sup>], Electrical Conductivity [EC], Total Dissolved Solid [TDS], Calcium [Ca], Magnesium [Mg], Total Hardness [TH], Chloride [Cl<sup>-</sup>], Carbonate [CO<sub>3</sub>-2], Bicarbonate [HCO<sub>3</sub>-], Alkalinity, Sodium [Na<sup>+</sup>], Potassium [K<sup>+</sup>] and Nitrate [NO<sub>3</sub>- using standard techniques in laboratory [APHA, 1985]. The results revealed that most of the water samples were below or out of limit; according to the WHO standards [1996]. The fluoride concentration ranged from 0.4 to 5.4 ppm, where 42% samples showed fluoride less than permissible limit and 48% water samples were within optimum limit i.e. 1-1.5 ppm while 10% samples contained Fluoride higher than permissible limit. pH of all the samples were within limit [6 to 9.2], while EC of all the water samples were out of limit i.e. 300 µmhos/cm. The alkalinity was greater than permissible limit [200 mg/l] in 98% villages and only 2% villages had below than optimum limit. The NO<sub>3</sub>- concentration was less than permissible limit [45 mg/l] in 64% villages whereas 26% samples showed higher concentration of NO<sub>3</sub>-. However only 10% samples contain optimum level of nitrate. Moreover Na concentration was greater than permissible [50 to 60 mg/l] limit in 98% water samples whereas K<sup>+</sup> concentration was below the optimum [20 mg/l] level in all the samples studied. The results revealed that the quality of drinking water of Sanganer is very poor, which can be used for drinking and cooking only after prior treatment.

Specific methanogenic activity of halophilic and mixed cultures in saline wastewater. Riffat, R.; Krongthamchat, K.

**International Journal of Environmental Science and Technology** 2006; 2 (4): 291-9 (11 ref.)

**Keywords:** Water Purification; Waste Management; Sewage

**Abstract:** Wastewater containing high concentrations of salt, are difficult to treat using biological treatment processes, especially anaerobic processes. Limited information is available on methanogenic activity in saline environments. The objective of this research was to investigate the activity of halophilic methanogens, digester sludge and a mixed culture of halophilic and methanogenic bacteria, at various levels of salinity, in terms of lag period and specific methanogenic activity [SMA] at two temperatures. For the halophilic bacteria at 35 °C, the initial SMA ranged from 0.46 to 0.90 g acetate/g VSS.d, but decreased at higher salt concentrations. The maximum SMA varied from 1.2 to 2.08 g acetate/g VSS.d. High sodium chloride concentrations had a significant adverse effect on digester sludge. At 25 °C, at salt concentrations of 30 g/l and above, the digester sludge could not acclimate even in 50 days. Little difference was observed in the maximum SMA of mixed culture and halophilic bacteria at high salt concentrations of 40 -50 g/l.



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