CONGRESS ABSTRACTS

The 5th International and 10th National congress on Quality Improvement in Clinical Laboratory
April, 23-26, 2012-Tehran, Iran
Massage of Congress Chairman

After several months passed over the 4th international and 9th national congress on quality improvement in clinical laboratories, also gaining valuable experiences and reviewing over benefits and disadvantaging points, now there is a new chance to provide the 5th international & 10th national congress, and all these opportunities are available now because of GODs grace.

Congress efforts are done to improve quality of laboratory services by providing appropriate environment for intellectual agreement, information exchange, presenting the results of different researches and sharing updated scientific information of Iranian and abroad professors, elites, colleagues. Extending and optimizing laboratory services in different branches of clinical laboratory sciences as desired of society requirement are the main objectives of congress.

We hope all those who are involved in various fields of laboratory sciences either in Iran or abroad consider to take part in this splendid scientifically stage and give us this chance to take advantage of their knowledge and experiences.

Behzad Poopak, DCLS PhD
Chairman of Congress
Massage of Congress Secretaries

In the name of Him who imparted thought to soul
And lit the heart with the light of soul

A special welcome goes to the esteemed community of Medical Diagnostic Laboratories who is dedicated to serve the people. Undoubtedly, your efforts will improve the health level of society and your reward is reserved by God.

We thank God that the Iran’s Congress on Quality improvement in clinical Laboratories has been the seedbed of much remarkable advancement in medical sector and academia during the past decade. These would have not been possible without your valuable comments and criticisms and also the synergy of the Congress organizers.

We hope that the 10th Congress will be held outstandingly with the participation of all Sympathetic community members in the spring 2012, concurrent with its decennial ceremony; and may it add to the honors of the country’s laboratory community.

The scientific programs of the congress have been planned by inviting professors and researchers from universities and research centers around the country, as well as prominent professors from other world countries. They give their presentations and run workshops within the framework of 13 scientific disciplines. Hereby, all researches are invited to submit their research papers within the framework of congress disciplines via the congress website. Once accepted, they can deliver their paper as oral or poster presentations.

Worth mentioning is that it has been attempted to include emerging subjects as the congress disciplines - ones that have been less debated in the previous years. Moreover, the congress intends to discuss issues that the country’s laboratories are facing now with the aim of providing the latest scientific information and practical solutions for existing challenges of clinical laboratories.

In the end, we would like to express our gratitude to all professors, pioneers, sponsors, and companies, whose supports enable us to organize the congress at a magnificent level.

Dr. M. R. Bakhtiari, DCLS PhD
Dr. M. Taghikhani, DCLS
Dr. M. J. Gharavi, DCLS
Dr. A. Sadeghitabar, DCLS
### Congress Scientific Board

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ABSTRACTS

of the 5th International & 10th National Congress
on Quality Improvement in Clinical Laboratories
Oral Presentations
Quality and safety improvement of blood component products in blood transfusion by using statistical methods and control charts in screening test results

Saleh Nasiri 1*

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Background and Aim: One of the major goals of blood transfusion centers is to improve quality and safety of blood component products. Nowadays, statistical methods are used to monitor blood components quality control results. Measurement of mean, standard deviation, coefficient variation and bias for determination of random, systematic and total errors are the subjects which are applied in this field. Quality control process includes quality control samples, testing, determine control limits, include to all test runs, data collection, data analysis, monitor variation and if variation identified investigate. Precision and accuracy are statistical tools which are used to determine random and systematic errors. Random errors are inherent in system and data to fall above or below mean, which increase standard deviation and coefficient variation. But, systematic errors usually create two populations of data with different mean value which causes bias. The aim of this study is to use statistical methods and control chart in screening test results to improve quality and safety of blood component products. Methods: First, 20 to 30 test runs using 3 different reagent batches of a kit are tested for monitoring variations and drawing control charts. Sample/cut-off data of positive control are collected and mean, standard deviation and CV are measured and control chart is established with using Mean ± 2SD. Results: After fixing mean and control limits and drawing control chart, sample/cut-off data are plotted in control chart. With monitoring of variation in results, the type of error (random or systematic) can be identified. Conclusion: Higher variation of results can lead to higher SD or CV, lower precision and higher random error. On the other hand, change of mean value can causes bias, lower accuracy and increasing systematic error. It can be concluded that using statistical methods and control chart in screening test results can improve quality and safety levels of blood components with regard to transfusion transmitted infectious.

Keywords: Safety improvement, blood components, statistical methods, control chart
A New Law For Clinical Laboratories: Risk Management

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Risk management is a new area of focus for the Clinical Laboratory Standard Institute (CLSI) in The USA. Risk management is the systematic application of management policies, procedures and practices tasks, of analytical laboratories conduct a number of activities that could be considered risk management including verification of performance of new tests, trouble shooting instrument problems and responding to physician complains. Developments of a quality control plan for a laboratory test requires a process map on the testing process with consideration for weak steps in the pre analytical, analytical and post analytical phases of testing where is an increased probability of errors that either prevent or improve. Three documents, EP 18, EP22, and EP 23 provide a foundation of clinical laboratories to develop quality control plans based on risk management from ISO14971:2007 which is written for industry not clinical laboratories. CLSI EP 18, Risk management techniques to identify and control laboratory error sources, provides guidance for risk management activities that include risk analysis and risk monitoring reporting, analysis and corrective action. CLIA EP 22 presentation of manufacturer’s risk mitigation information for users of in vitro diagnostic devices, provide guidance to manufacturers on the establishment and disclosure of information they might choose to share with user regarding the scope and effectiveness of device risk mitigations intended to prevent production or release of inaccurate patient test results. CLIA EP 23, provide guidance based on risk management for laboratories to develop quality control plans tailed to the particular combination of measuring system, laboratory setting, and clinical application of the test. EP 23, describe good laboratory practice for development quality control plan based on manufacturer’s risk mitigation information. Quality control plans based on risk management may provide foundation for more scientifically based revisions to future laboratory quality regulation. A. Malekpour, PhD, NRCT, DABCC, FACB.

Keywords: Risk management, New quality control, CLIA and CMS

Clinical Governance and Clinical Laboratories

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Clinical Governance is a framework through which the health care organizations are accountable to continue to improve the quality of the service and safeguarding high standards of care by creating an environment in which excellence in clinical care would flourish. In Iran, clinical Governance has been chosen as a framework to promote high quality health services. It comprises seven components including risk Management; clinical effectiveness; clinical audit; staff and staff management; patient and public involvement; use of information; education and training. It is now health professional duty to put the Clinical Governance strategies into place. As a first step it is suggested that the components of Clinical Governance relevant to clinical laboratories and pathology departments be identified and then would be combined with quality improvement; accreditation and external quality assessment programs.

Keywords: Quality improvement, Clinical Governance, clinical laboratories, Pathology Departments
Organizing/Systematizing Emergency Laboratory Diagnostic Services

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Based on inspection and monitoring of provincial hospital laboratories as well as feedbacks received from hospitals evaluation program, there is a doubtless necessity for improving the quality of Laboratory Emergency Services. Improvement of all emergency medical services throughout the country is a priority for the Ministry of Health and Medical Education. As the first step, establishing a list of available laboratory tests indicating a feasible and applicable turnaround time (TAT) according to a need assessment in each emergency medical service (EMS) provider is mandatory. The range of emergency laboratory tests must fulfill the medical needs of the EMS provider center and be endorsed by the Emergency Service Committee members. The hospital management is responsible for providing all the facilities and equipments necessary for the emergency laboratory tests and the laboratory management is in charge of the quality and performance of the laboratory services. Reference Health laboratory (RHL), MOHME, recommended a provisional list of laboratory tests along with the suggested TATs to be used as a template. The list is considered the out-put of technical gatherings by participation of related authorities from MOHME, University professors in the field of emergency medicine from Tehran and Shahid Beheshti Universities of Medical Sciences, Iranian Scientific Association for Emergency Medicine and RHL experts. There are challenges to be considered and needs to be fulfilled to be able to take further steps.

Accreditation of Hospital Blood Banking Services

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One of the priorities of Ministry of Health and Medical Education for improving the Health System is the Clinical Governance Program. Most of the Reference Health laboratories, MOHME, such as setting standards and guidelines and establishing National Accreditation System for Medical laboratories are in concordance with seven axis of this program. As an instance, promising results of one of our projects under the title of “Risk Management and Reduction of Laboratory Errors” started since 1390, if case of success, will be an achievement for the “Risk Management” axis of the clinical Governance Program in the Laboratory discipline. Included in this RHL project, with close cooperation with Iranian Blood Transfusion Organization, there is a program for accreditation of hospital blood banks to reduce laboratory errors in this area. Although programming for risk management and error reduction must be implemented for the entire medical laboratory discipline, however this area of medical laboratory activities, due to direct dealing with hospital patient’s morbidity and mortality, needs special attention.
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National Medical laboratory Accreditation System: Further Steps Forward

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After establishment of Standards and guidelines for management of quality system in medical laboratories, mid-1386, and stepwise follow-up of their implementation to build our national accreditation system for medical laboratories, for the first time, the regulatory process of issuance of medical laboratory registration permissions as well as medical laboratory director qualifications carried out based on the fulfillment of pertaining requirements. During past four years, in spite of limitations and challenges, our country was witnessed a huge progress in medical laboratory quality management. Existence of more than 5000 medical laboratory with various affiliations (such as Public health, Academic, Private, Hospital based etc.) enforcing a unique prescription and approach to gain the quality goals in all various types of medical laboratories still seems challenging. Reviewing the national accreditation system establishment process and the steps passed by as well as focusing on the strong points and also challenges of providing quality laboratory service, would determine the path and next steps medical laboratory society should take towards improvement and excellence.

Keywords: Organizing/Systematizing Emergency Laboratory Diagnostic Services

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Accreditation of Molecular Diagnostic Laboratories

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Distinct nature of molecular diagnostic tests from the point of recruited Knowledge and technology, important applications (particularly prenatal diagnosis), being costly for Health system as well as patients receiving the service, slow standardization in spite of high-speed progression in this Hi-Tech field of laboratory diagnosis has convinced Reference Health Laboratories, Ministry of Health and Medical Education, that this discipline of medical laboratory needs a dedicated accreditation. Establishing standards and technical guidelines as well as an efficient auditing/inspection system are among the critical steps toward building an accreditation system. RHL at the starting point, focusing on the area of laboratory molecular diagnosis, evaluated the present situation of twelve essentials of ISO 15189 standard for Medical laboratories — Particular requirements for quality and competence- which specifies the quality management system requirements particular to medical laboratories. As a result of this evaluation, improvement through establishing standards and technical guidelines (particularly for quality assurance and assay validation), improving the quality of audit and inspection by comprehensive training and qualification of the auditor pool, upgrading the situation of laboratory diagnostic device supply (kits, reagents, instruments and other equipments) and strengthening the market supervision on this category of diagnostic devices as well as focusing on knowledge and skills of technologists working in molecular diagnostic discipline have the utmost priority.

Keywords: Accreditation, Molecular Diagnostic Laboratories
High-throughput Q-RT-PCR-based detection of microRNAs; a promising novel clinical tool for leukemia diagnosis and therapy

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Introduction and Objectives: Although ABL tyrosine kinase inhibitors designed to inhibit BCR-ABL oncogene are used in the therapy of chronic-phase CML, treatment efficacy is dramatically decreased due to the emergence of imatinib-resistant leukemic stem cell clones in blast crisis phase of disease. Therefore, development of molecular approach that specifically detects certain microRNAs targeting the LSC pool is essential to cure leukemia. The aims of this study are detection of microRNAs differentially expressed in CD34+ CML cells and evaluation of apoptotic effects following overexpression of downregulated microRNAs. Materials and Methods: CD34+ CML cells were isolated by using MACS immunomagnetic separation system from bone marrow of blast crisis CML patients. To quantify microRNA expression level, extracted total microRNAs were polyadenylated and subsequently were used as template to synthesize 1st-strand cDNA. Q-RT-PCR was performed with universal reverse primer of Stratagene kit and specific forward primer for microRNA of interest. The fold change for gene expression level was calculated using ΔΔCt method. Expression levels of miRNA-targeted genes were evaluated by real-time PCR and western blot analysis. Induction of apoptosis was measured by flow cytometry. Results: The expression analysis of certain microRNAs in CD34+ CML cells in comparison with controls showed microRNA-16 was down-regulated. Interestingly, ectopic overexpression of microRNA-16 induced apoptosis in CD34+ CML stem cells. Since anti-apoptotic Bcl-2 is a direct target of microRNA-16, real-time PCR and western blot analysis showed reduction of Bcl-2 mRNA and protein levels, respectively. Discussion and Conclusion: Due to significantly altered expression of microRNAs in different types of leukemia, microRNA profiling could be used for classification of types of leukemia. Here, expression analysis of microRNA-16 was used as a biomarker tool for CML diagnosis in blast crisis phase of disease. Moreover, due to targeting anti-apoptotic Bcl-2, overexpression of microRNA-16 was able to induce apoptosis in CD34+ CML cells. Since chemotherapy-resistant CD34+ CML cells are thought to be responsible for disease recurrence, the approach presented here may be a potential diagnosis and therapeutic strategy for leukemia.

Keywords: leukemia, leukemic stem cells, biomarker, molecular detection, therapy
The detection of prevalence of Anti-HTLV1,2 in thalassemia patients in Tehran blood center

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Introduction: Human T-lymphotropic virus type 1,2 is the etiologic agent of two distinct human diseases adult T-cell leukemia or lymphoma and a chronic progressive demyelinating disorder. These viruses are distributed all over the world for example South of Japan, Caribbean region, South of United of States, Some parts of Africa and Iran (khorasan). In Tehran blood center, Anti HTLV1,2 isn’t evaluated on the donor blood and thalassemic patients that receive repeated blood transfusions are considered high-risk targets in regard to HTLV-1,2 infection. Aim: In the study, We investigated the seroprevalence of HTLV-1,2 infection among of thalassemic patients and blood donors in Tehran blood center. Methods: In this descriptive cross-sectional study, blood samples were taken from 275 thalassemic patients and blood donors. For all of patients and blood donors were filled a questionnaire containing age, sex, number of blood transfusions, habitat and clinical history. Anti HTLV-1/2 was determined using ELISA and then All of the ELISA positive samples were confirmed by Western blot. SPSS software using Chi-square test was used to analyze the data. Results: From 550 thalassemic patients and blood donors, 370 (67.3%) were males and 180 (32.7%) were women. The age rate of these ranged 1-84 years, (mean of 29.79±11.5). Using ELISA, of 550 serum samples, 45 (8.2%) serum samples were positive for Anti-HTLV-1,2 that 18 (3.3%) was confirmed by western blot. Of 18 subjects 1 (0.2%) were blood donor and 17 (3.1%) were thalassemic patients. Of 17 thalassemic patients 7 (1.9%) were males and 11 (6.5%) were women that (6.2%) had received packed cell between 1-10 units per month and None of them didn’t have clinical history of HTLV disease in their family. Conclusion: These Data showed that Anti-HTLV-1,2 should be tested for all of blood donors in order to prevent the transmission of this virus to patients.

Keywords: Key word: HTLV-1/2, thalassemia, ELISA, Western blot, blood donors

Usage of Bar Code Technology, The Way to Revolutionize Medical Laboratory System

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Bar Code Enabled Point of Care (BPOC): Applications of healthcare at the point of care. Serious medical laboratory testing errors/mistakes which ultimately lead to medication errors are common in many healthcare systems and often occur during order transcription or administration of medical tests. To help prevent such errors, technology has been developed to verify medical tests by incorporating bar-code verification technology within an electronic medical test-administration system (bar-code technology). A bar code can be defined as a graphic representation of data (alpha, numeric, or both) that is machine-readable. Bar codes are a way of encoding numbers and letters by using a combination of bars and spaces of varying widths. Both the lines and spaces are read. The most compelling advantages of bar coding and automatic data collection are: i) Accuracy, ii) Ease of use, iii) Timely feedback, and iv) Improved productivity. Bar code technology can be translated into three primary functions: tracking, inventory management, and validation. There is movement underway to expand the use of bar codes to generate efficiencies on a micro level that will have very significant effects on the entire supply chain specifically at medical laboratories. The increasing use of bar codes to capture data at the point of use has evolved to create an increasingly efficient supply chain by providing real-time visibility of the inventory levels at the laboratory units. At medical laboratories, BPOC capabilities not only enhance productivity, they improve the safety and quality of care. It is important to note that the scanning of bar codes prior to patient treatment can alert caregivers to potential errors before they occur, thereby preventing the error and avoiding patient harm.

Keywords: Bar Code, healthcare, medical laboratory testing errors
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Telemedicine

Siavash Ghaderi Sohi 1 *

Telepathology, has advanced continuously since1986. Today, so-called virtual slide telemedicine systems, are being used for education. The technology has been commercialized by more many in Asia, the United States, and Europe. The trend at medical schools, is to go entirely digital for their courses, discarding gradually their student light microscopes, and building virtual slide laboratories.

Keywords: Telepathology, Telemedicine

O12

Biological and clinical experiments on compact disks

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Microfluidics technologies have enabled many novel applications in the medical and life sciences. For instance, performing of all steps of biological and clinical tests is possible in micro devices with the size of a chip, called “lab-on-a-chip”. A special type of these technologies called “lab-on-a-disk” has been developed and entire process of a test is designed and installed in compact disks. Samples such as blood, saliva, urine, and the other biological samples are applied in the central part of disk and are moved in capillary tubes and chambers by centrifugal force and controlled changes of spinning frequency of disk. All steps of experiments including sample preparation, mixing with reagents, and final detections are performed in the disk. Simultaneous performing of several tests or several samples is possible in “lab-on-a-disk

Keywords: lab-on-a-disk, microfluidics, lab on CD
Lean laboratory

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Technology and innovation have an important role in providing of medical laboratory service and variety of new technologies, state of management and its applications are one of the serious challenges of health system in the world in this field. Medical laboratory have lots of limitations and problems that need wide and quick change for dynamic management of these problems and promotion of capabilities. Lean laboratory as a transformational tool has different applications in each steps of value chain in laboratories. These applications by proper and planned use, can respond to the challenges. This article describes a structure in which the map of innovation and growth by providing model of lean medical laboratory is drawn. The main core model determines suitable conditions for appointment of valuable and unvalued activities that need to provide services to patients by providing relationship of equipment, technologies, work in process and all times cycle in each process simultaneous with Return on Investment (ROI) and cost errors. Elegance of laboratory model is understood in its application and simplicity. The following objects by use of lean principles in laboratory will implement:

• Improvement of operational performance (quality improvement, decease cost and faster turnover of testing)
• Preparation for entrancing of technologies as developing new testing
• Safety promotion and improve staff moral
• Reducing errors during testing

Keywords: Lean laboratory, innovation, new technologies, work in process
Respiratory infections caused by influenza viruses, respiratory syncytial virus (RSV), parainfluenza viruses, Human Metapneumovirus, Coronavirus, Adenovirus, Rhinovirus, and Human Bocavirus are major causes of upper and lower respiratory tract diseases in humans. Early diagnosis, often possible with the use of rapid detection assays, is essential for optimal management and prevention of the spread of these serious infections to others. Currently, viral culture usually in combination with immunofluorescence (IF) is the gold standard for laboratory diagnosis. However, it is not a rapid diagnostic test, and therefore, its clinical value is limited. Rapid antigen detection tests are now widely used in routine laboratories, but these have been shown to be less sensitive and specific. Molecular detection assays have many proven advantages over standard virological methods. Polymerase chain reaction (PCR) is found to be more sensitive, specific, and rapid for the detection of respiratory viruses. Many developments in PCR technology have improved specificity and the time taken to perform assays, including multiplex nested PCRs, real-time PCR. However, tissue culture remains an important method for detecting novel viral mutations within a virus population, for detecting novel viruses and for phenotypic characterization of viral isolates. Finally, rapid viral diagnosis significantly decreases length of hospital stays and unnecessary laboratory testing. Understanding the true cause of disease also serves to decrease the unnecessary use of antibiotics, which are often prescribed to patients infected with respiratory viruses.

**Keywords:** respiratory infection, viruses, diagnosis
Fungal infections of the Respiratory tract

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Fungal infections of the Respiratory tract are important causes of morbidity and mortality in immunocompromised hosts. Invasive Aspergillosis has been reported with increased frequency in parallel with an expanding population of immunocompromised patients. Other filamentous fungi such as Fusarium sp., Zygomycetes, and Pseudallescheria boydii, are reported with increasing frequency, particularly in patients with quantitative or qualitative defects in neutrophils. Pulmonary Aspergillosis may be classified as allergic, saprophytic, and invasive. Recognition of Aspergillosis of the respiratory tract requires a skillful integration of the data derived from bedside evaluation, radiographic findings, and clinical microbiology. Zygomycosis is an uncommon but frequently fatal group of infections caused by members of the class Zygomycetes. The spectrum of Zygomycosis includes rhinocerebral infections, pulmonary infections emerging during granulocytopenia or corticosteroid therapy, and disseminated infection developing during desferoxamine therapy. Because Amphotericin B is the only effective therapeutic agent, pulmonary Zygomycosis warrants, a high degree of suspicion and an aggressive approach toward diagnosis. Examination by calcofluor staining or by koh-digested sputum and cultures of respiratory tract secretions are frequently negative. Careful evaluation of all patients with the pulmonary infarct syndrome and biopsy of skin lesions may improve diagnosis. Fusarium infections in agranulocytopenic patients are characterized by pulmonary infiltrates, cutaneous lesions, positive blood cultures, and sinusitis. Unlike Aspergillus spp, Fusarium species are frequently detected by advanced blood culture detection systems, such as lysis centrifugation. Pseudallescheria boydii causes sinusitis, pneumonia, and disseminated infections in immunocompromised hosts and mycetoma in immunocompetent patients. Pneumonia due to P. boydii is clinically indistinguishable from that due to Aspergillus spp. As with pulmonary Aspergillosis, dissemination complicating P. boydii pneumonia often involves the CNS.

Keywords: Fungal infection, Respiratory tract, sinusitis, Pneumonia, Lung disease

A study on Etiology and drug resistance pattern of Ventilator Associated Pneumonia (VAP) in Iranian 1000-beds tertiary Care Hospital and evaluation of extract of Thymus vulgaris,Zataria multiflora and Cinnamomum burmannii against isolated organisms.

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Background: Ventilator associated pneumonia (VAP) is the most common nosocomial infection in ICUs and making up one-third of the total nosocomial infections. Objective: The aim of this study was to determine etiology and drug resistance pattern of most frequency isolates in an Iranian 1000-bed tertiary hospital in Tehran. We also evaluated Antimicrobial activity of Thymus vulgaris,Zataria multiflora and Cinnamomum burmannii against VAP etiology agents. Methods: Tracheal Specimens were collected and processed according standard microbiological methods. Bacterial identification and susceptibility testing were performed using standard methods. We investigated antimicrobial effects of the three herbal extracts including Thymus vulgaris, Zataria multiflora and Cinnamomum burmannii and minimum Inhibitory concentration(MIC) of each extracted calculated against tested pathogens. Results: 126 microorganisms were isolated from VAP cases. Acinetobacert baumannii with46 (36.5%) isolates was the predominant organism followed by Staphylococcus aureus with 31(24.6%) . Pseudomona aeruginoa were accounted 19(15.7% ) isolates . Our study showed antimicrobial activity of all three herbal extracts against microorganisms isolated from tracheal aspirates of patients with VAP. The extract of Cinnamon (Cinnmomon burmannii ) was the most effective against K.pneumoniae,P.aeruginosa and S.aureus. The extract of Cinnamon had the MIC value <1-2µg/ml for Paeruginosa and <0.5-2 µg/ml for K.pneumonia and S.aureus. The lowest MIC value of thymus was 0.0625 -1 µg/ml for A.baumannii and Zataria multiflora and Cinnamon extracts had 0.125-1 µg/ml and 0.0625 -2 µg/ml MIC for A.baumannii .

Conclusion: Our study revealed that A. baumannii, S. aureus and Paeruginosae were the major etiological agents of VAP in our hospital. The majority isolates were resistant to routinely used antibiotics including third generation of cephalosprins. We also observed a high rate of MRSA among our isolates. All herbal extrats were effective against important nosocomial pathogens isolated from VAP cases.

Keywords: VAP, Antimicrobial effect,Essential oils,
Microbiological diagnosis of upper respiratory tract infections

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While upper respiratory tract infections (URTIs) cause much infectious morbidity in infants and young children, adolescents are not immune to infections. Adolescents experience two to four episodes of viral nasopharyngitis annually. In addition to group A streptococcus (GAS), pharyngitis may occur with other streptococci, Arcanobacterium haemolyticum, Epstein-Barr virus, Neisseria gonorrhoeae, and other pathogens. Uvulitis, typically in association with GAS, occurs occasionally. Peritonsillar abscess is the most common deep neck space infection seen in adolescents, but retropharyngeal and parapharyngeal abscesses also occur, causing major morbidity. Adolescents experience fewer cases of otitis media than younger children. Rhinosinusitis occurs commonly in adolescents, occasionally leading to chronic sinusitis and serious sequelae such as osteomyelitis. For laboratory diagnosis of respiratory disease it is of overwhelming importance that the specimens taken are adequate, taken from the correct site and at the correct time. The lower regions of the respiratory tract are particularly difficult to sample but are more likely to yield the causative agent of a pneumonia. Infections involving the upper respiratory tract are much easier to sample and appropriate aspiration apparatus can be used. Consideration must be given to the timing of sample collection in relation to the life cycle of the causative micro-organism. Sampling of several animals is recommended. Diagnosis may be achieved by isolation in culture of the causative agent or the demonstration of the agent by indirect methods such as electron microscopy and ELISA. Clinical biochemical tests may reflect systemic metabolic changes induced by microbial infections and give an indication of the severity of the disease and its prognosis. This article reviews the major URTIs likely to be encountered by physicians. For each entity there is a brief description of the epidemiology, morbidity, microbiology, clinical and laboratory features, treatment, and prevention.

Keywords: epidemiology, morbidity, microbiology, clinical and laboratory features, treatment, and prevention

Acute Pneumonia

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A. Community Acquired  B. Nosocomial : 1. HAP: is defined as pneumonia that occurs 48 hours or more after admission, which was not incubating at the time of admission. 2. VAP: refers to pneumonia that arises more than 48–72 hours after endotracheal intubation 3. HCAP: includes any patient who was hospitalized in an acute care hospital for two or more days within 90 days of the infection; resided in a nursing home or long-term care facility; received recent intravenous antibiotic therapy, chemotherapy, or wound care within the past 30 days of the current infection; or attended a hospital or hemodialysis clinic. Diagnosis CAP: In addition to a constellation of suggestive clinical features, a demonstrable infiltrate by chest radiograph or other imaging technique, with or without supporting microbiological data, is required for the diagnosis of pneumonia. - Routine diagnostic tests to identify an etiologic diagnosis are optional for outpatients with CAP. (Moderate recommendation; level III evidence.) - Pretreatment blood samples for culture and an expectorated sputum sample for stain and culture (in patients with a productive cough) should be obtained from hospitalized patients with some clinical indications but are optional for patients without these conditions. (Moderate recommendation; level I evidence.) - Pretreatment Gram stain and culture of expectorated sputum should be performed only if a good-quality specimen can be obtained and quality performance measures for collection, transport, and processing of samples can be met. (Moderate recommendation; level II evidence.) 14. Patients with severe CAP, as defined above, should at least have blood samples drawn for culture, urinary antigen tests for Legionella pneumophila and Streptococcus pneumoniae performed, and expectorated sputum samples collected for culture. For intubated patients, an endotracheal aspirate sample should be obtained. (Moderate recommendation; level II evidence.) - The most clear-cut indication for extensive diagnostic testing is in the critically ill CAP patient. Such patients should at least have blood drawn for culture and an endotracheal aspirate obtained if they are intubated; consideration should be given to more extensive testing, including urinary antigen tests for L. pneumophila and S. pneumoniae and Gram stain and culture of expectorated sputum in nonintubated patients. For inpatients without these clinical indications, diagnostic testing is optional (but should not be considered wrong).

Keywords: Pneumonia, VAP, CAP, Nosocomial Pneumonia
Posthumous assisted reproduction: patients’ right and Islamic view

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Rapid development in assisted reproductive techniques along with relieving the pain of childlessness has brought new ethical and policy dilemmas. Stored frozen gametes and embryos have led to situations where the surviving spouse wants to create offspring after the person’s death. Also, possibility of sperm retrieval even after 36 hours of death, and getting oocytes from aborted fetus or brain dead people brought a new term: “posthumous assisted reproduction”. Posthumous assisted reproduction is the most challenging, difficult and sensitive issue to be discussed ethically and religiously. In this paper the acceptability of the posthumous reproduction in Islamic contexts is evaluated and major concerns like Consent and ownership of the gametes after death, Family and Marriage vision and Welfare of the child are discussed together with some international legislation. We can conclude that upon Islamic vision to assisted reproductive techniques as treatment of families and relieving the serious problem of childlessness, posthumous assisted reproduction is unacceptable even with previously frozen gametes or embryos. Also, Islamic vision to marriage, consent and welfare of the child confirms the unacceptability. There must be some law or legislation to ban this procedure in Islamic contexts.

Keywords: Posthumous, reproduction, embryo, sperm, oocyte, ART
O20

**Ethical and legal issues in assisted reproductive technologies**

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Infertility is a disaster for the family specially in Iran that it is considered “an stigma” and has social and emotional burden on the families. Assisted reproductive technologies gave the hope of the child to the infertile couples and also brought ethical, religious and legal issues. In this paper I tried to introduce these issues and possible answers: 1) Access to fertility services: temporary marriage, trans-sexuals, single person, criminal history, addiction, disability, AIDS, cancer and ... 2) Counselling and physical exam: informed consent, statistics and success rates, look and touch of genitalia, sperm retrieval, training of the students and residents and ... 3) Procedure: PGD, sex selection, multi embryo transfer, embryo reduction, gamete and embryo freezing, fertility preservation and ... 4) Donation and surrogacy: religious acceptability, religious issues like inheritance, intimacy, lineage, expenditure, guardianship, anonymity, payment, contracts and ... Sunni Muslims consider all the donation and surrogacy programs forbidden.

**Keywords:** ART, Donation, PGD, surrogacy, religious

O21

**Basis, the parties and their mutual commitments in a simple surrogacy contract**

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Nowadays, “Simple Surrogacy” is a quite common method of fertility treatment in Iran. Each fertility treatment institute follows its own discretions and guidelines. The parliament has not yet approved a correlate law to manage ratification of this kind of agreement and it’s impressions. Therefore, the surrogacy contract should solve all matters. The very first questions arise about this contract are: What is this contract called? Which category of contracts is it belonged to? Who is supposed to conclude it? In it’s first part, this article is aimed at responding these questions properly. “Contract is it’s parties’ law” : It is a famous legal maxim. This perch is moreover eminent when there is no law in the related field. “Surrogacy” is one of these fields. The second part of this article intends to get a quite comprehensive image of surrogacy contract’s parties’ mutual commitments considering surrogacy’s specifications, particularities of Iranian society and foreign model contracts.

**Keywords:** Simple surrogacy contract, Contract’s title, Contract’s essence, Contract’s parties, Mutual commitments
From “Selection” to “Balancing”; Passing of “Individual Desire” to “Family Interest”

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Sex selection is a topic that can have various meanings and different aspects. In general, sex selection includes before implantation, after implantation (abortion) and even after birth (buries life). But in a special and idiomatic mean, it refers to pre-implantation genetic diagnosis (PGD). Sex selection for non-medical reasons has more important challenge and is subject of this article. Significant debates about sex selection relate to sexism and sex discrimination, sex disproportionate, and non-ethical issues. Main Responses includes: parental autonomy, compare with their authority in using contraceptive methods or Cosmetic Surgery; utilitarianism and consequentialism that practically prefers sex selection than abortion. This article tries to combine two different ideas: one, protect the population sex ratio and opposes of sexism, on the other hand, presents a realistic approach to the situation that can be summarized to a term “family balancing”. Terms of “Family Balancing”: 1- Sex selection can be offered only for married couples. Permanent marriage and stable family relation is necessary. 2- It cannot be offered for the first child. 3- Sex selection can be justified exclusively for family balancing; so if both genders exist in family, sex selection should not be performed. This balance means that at least one child of each gender is in the family. 4- Sex selection is permitted only one time. Nevertheless, if the selected child dies, new attempt for the same sex is permitted. 5- The family court (tribunal) is not bound to accept that demands. Any acceptance is subjected to compliance with regulations and country sex ratio. For this purpose, statistical and population institutes must be established. 6- For demonstrating any of the said issues, a proof is necessary. 7- Sex selecting clinics should act under supervision of the health care authorities. 8- Insemination should be performed by a woman gynecologist if possible to follow the religious regulations. 9- Couples should provide a consent that they will not do any efforts to abort the embryo in case of undesired gender. Abortion only justified based on genetic and chromosomal disorders or abnormal embryo position according to provisions (Therapeutic Abortion Act). 10- Couples should have been explicitly aware that success rate will not be 100%. It is possible that all of the embryos have the undesired sex and even after transfer of the desired embryos, the pregnancy rate is about 35%.

Keywords: Sex selection, ART, rights, ethics, family balancing
Islamic view of assisted reproductive techniques

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“Family” is very important in Islam and as a main aim of marriage; acceptability of reproduction procedure has some rules and regulations. All the religions have the consensus on every relation of women and men in the religious, ethical and cultural structure of the family. So, the main question is: “Can reproduction outside of the legal family be accepted? And what is the regulation for it?” From the holy Quran and Islamic traditions we can understand that sexual contacts for enjoyment and reproduction as the result is totally different from assisted reproductive techniques. In this regard, any look or contact between men and women is forbidden unless there is a religious permission. About the lineage of the offspring, Islamic jurisdiction has not specify a procedure. Only reproduction by adultery (which needs touch between man and woman) is condemned and even has some legal penalties (no inheritance). So, reproduction without contact of two bodies is not considered adultery. So, when all the forbidden ways of reproduction in Islam is specified and condemned, we can not forbid new reproduction techniques that are accepted (may please God), unless the procedure has some forbidden steps. However, rely on legal and religious texts and traditions is not enough for the most fundamental issue of the human “reproduction” or production of “human”. The questions are remaining: How useful are the assisted reproductive techniques? Do these procedures de-humanize the reproduction or delete “love” in human life? Etc… So, there are so many factors about fertility techniques to be discussed like ethical and legal issues, social problems, their consequences, necessity, best interest of individual and society along with religious issues.

Keywords: Islam, reproduction, ART, family, lineage

Legal considerations in prenatal diagnostic tests, PND

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The Subject of experimental interventions in the prenatal diagnosis was known as a great development in human knowledge’s at the first time, but nowadays, it gets involved in potential Challenges along with actual scores. In contrast to development and advancement in Medical knowledge, this field is faced with new and unknown issues. Verification or rejection of pregnancy Continuity is a part of conventional laboratory diagnosis in recent years that was n’t evident any sections except surface areas like an iceberg. After nearly a decade of exerting this program, occurred issues related to this type of professional activities were appeared in the field of precision, accuracy, credibility and competence of these scientific comments in predicting health Or fetus diseases which can lead to establish the legal issuance for Pregnancy termination. Despite performing health monitoring tests pre- and during pregnancy, accuracy and sensitivity of diagnostic methods, in accord to available facilities and knowledge, is now seriously under question to approved fetal’s health while numerous families confront to the birth of children suffering from serious complications. To answer these questions, laboratory community Need to consult and exchange of ideas and information with the master (scientist) of law and ethics zones. in this article, library research of legal and ethical considerations of these interventions in particular routine procedures of laboratory has been explored and also it considered to controversial issues and legal responsibilities of Laboratory supervisors and the legal consequences in the conventional reports in this field and the reliability of available Method and softwares used in most laboratories, especially. Liable in the Law and Ethics fields (infertility treatment and prenatal diagnosis)

Keywords: -
Kidney damages or Diabetic Nephropathy of patients with longstanding diabetes mellitus was reported for the first time (1936) in the American journal of pathology by Dr Clifford Wilson, British physician, and Dr Paul Kimmelstiel, German-born American physician. Hence, the alternate name of Diabetic Nephropathy is known as Kimmelstiel-Wilson disease or syndrome, today. They described the disease as nodular glomerulosclerosis caused by diabetes associated by proteinuria and hypertension. In fact, it is a kind of glomerular vessels angiopathy. This complication occurs in as many as 50% of patients with diabetes mellitus of more than 20 years duration and it is the most remarkable cause of mortality in diabetics and also is the most prevalent reason for chronic kidney disease. Therefore, its prompt diagnosis and management is of very imperative significance. Thickening of the glomeruli and excretion of low amounts of protein in the urine, detectable by sensitive methods, are amongst the first symptoms of diabetic nephropathy. So, clinical laboratories may play a very vital role in detection and monitoring of the disease. The main pivot of the submitted article is to survey the responsibility of clinical laboratories in detecting and managing of kidney damages originated by diabetes mellitus. In addition, for achieving the abovementioned goals, the most updated (2012) tests recommended by American Diabetes Association (ADA) and National Kidney Disease Education Program (NKDEP) will be introduced and explained.

**Keywords:** Diabetes, Nephropathy, Kimmelstiel, Wilson, Glomerulosclerosis, NKDEP
O26

Miroalbumin in the Diagnosis of Nephropathy of Diabetes Melitus Patients.

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Albuminuria (formerly microalbuminuria) are a well-established renal risk marker, in which increases over time to macroalbuminuria (>300 mg/day) are associated with kidney disease and an increased risk for progression to end-stage renal disease. Annual testing for albuminuria is recommended by all major guidelines for patients with diabetes and/or kidney disease. To be useful, semiquantitative or quantitative screening tests must be shown to be positive in >95% of patients with albuminuria. Positive results of such tests must be confirmed by quantitative testing in an accredited laboratory. The JNC 7, the National Kidney Foundation (NKF), and the ADA all recommend the use of morning spot albumin/creatinine measurement for annual quantitative testing for urine albumin in adults with diabetes (21, 326, 327). Individuals should be fasting. The optimal time for spot urine collection is the early morning, but for minimizing variation, all collections should be at the same time of day; the individual preferably should not have ingested food for at least 2 h (334).

Keywords: microalbumin, nephelometry,
immunological disorder in recurrent pregnancy loss and repeated ART failure

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Introduction: Today, recurrent pregnancy loss is usually defined as three or more pregnancy losses (not necessarily consecutive). Most also consider clinical investigation and treatment appropriate in couples with two consecutive spontaneous miscarriages, preferably documented by ultrasound or histopathological examination. Evaluation is especially indicated when any of the following are also present: 1- Embryonic heart activity observed before any earlier pregnancy loss. 2- Normal karyotype on products of conception from an earlier loss. 3- Female partner age over 35 years. 4- Infertility. Repeated Implantation Failure is defined as 3 cycles of IVF/ICSI failure when good embryos were transferred or more than 10 good quality embryos were transferred. Many factors have role in RIF like female age, hydrosalpinx and fetal anaploidy. Some researchers evaluate RIF like RPL. The only undisputed causes of recurrent pregnancy loss are genetic (balanced chromosomal translocation in either partner, maternal age-related increase in prevalence of aneuploid oocytes), anatomic (congenital and acquired uterine abnormalities), or immunologic (the thrombotic complications of antiphospholipid syndrome). Alloimmunopathology, inherited thrombophilias (Factor V Leiden and others), endocrinopathies (thyroid disorders, diabetes, luteal phase deficiency), infections (genital mycoplasmas), and environmental exposures (smoking, heavy alcohol or caffeine consumption) have been implicated but are not established causes of recurrent pregnancy loss. Even after a comprehensive evaluation, recurrent pregnancy loss remains unexplained in well more than half of affected couples. Incidence: If clinical intervention is undertaken in the form of investigation after two spontaneous abortions, approximately 1% of pregnant women will require evaluation. For patients with a history of RPL, the risk of subsequent pregnancy loss is estimated to be 24% after two clinically recognized losses, 30% after three losses, and 40% to 50% after four losses. Immunologic Factors Both autoimmune and alloimmune mechanisms have been implicated as causes of recurrent pregnancy loss or RIF.

Keywords: recurrent pregnancy loss, immunology, repeated implantation failure, antiphospholipid syndrome
O28

lab tests before ovulation induction

Soheila Ansaripur 1

Review Article Ovarian Reserve Assessment for Infertility Investigation Bruno Ramalho de Carvalho, David Barreira Gomes Sobrinho, Andréa Duarte Damasceno Vieira, Manoela Porto Silva Resende, Antônio César Paes Barbosa, Adelino Amaral Silva, and Hitomi Miura Nakagava GENESIS-Centre for Assistance in Human Reproduction, SHLS 716, Bloco “L”, Salas “L” 328/331, Centro Clínico Sul, Ala Leste, 70.390 Brasília, DF, Brazil Correspondence should be addressed to Bruno Ramalho de Carvalho, brunoramalho@hotmail.com Received 6 November 2011; Accepted 30 November 2011 Academic Editors: C. Battaglia, J. G. Schenker, and F. Sharara Copyright © 2012 Bruno Ramalho de Carvalho et al. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. The current trends to postpone motherhood and the increase in demand for assistance in reproductive medicine highlight the need for seeking guidelines for the establishment of individualized treatment protocols. Currently available ovarian reserve tests do not provide sufficient evidence to be solely considered ideal, but they may occupy important place in initial counseling, predicting unsatisfactory results that could be improved by individualized induction schemes and reducing excessive psychological and financial burdens, and adverse effects. In this paper, we revise the role of hormonal basal and dynamic tests, as well as ultrasonographic markers, as ovarian reserve markers, in order to provide embasement for pro-paedeutic strategies and their interpretation in order to have reproductive success.

Keywords: ISRN Obstetrics and Gynecology

O29

laboratory tests in diagnosis of infertility in females

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ABSTRACT LABORATORY TESTS IN DIAGNOSIS OF infertility in females AN infertility evaluation in female usually might be initiated after one year of regular unprotected intercourse when they are less than 35 years and after six months when they are more than 35 years. After taking a history and doing a physical exam, laboratory tests can be helpful for evaluation of female infertility. One of the frequent causes of female infertility is ovulatory disorder which is very important because of its prevalence, so it is under focused in this paper. Tests for evaluation of ovulation include - Progesterone level in midluteal phase. - Urinary LH - In ovulatory disorders and pco - FSH, LH, TSH, PRI Evaluation of ovarian reserve include: - Fsh in 3rd day of cycle. - AMH - Estradiol - Other tests which are required in management of infertility are preconceptional - Laboratory screening.

Keywords: infertility, laboratory tests, ovarian disorders, ovarian reserve
O30

The correlation between obesity and infertility in women in theran hospitals

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Preface The documents of negative effects obesity on fertility have always been disputable. Obese women are usually susceptible to diabetes which in turn put them in higher risk of cardiovascular disease. Studies show obesity is a risk factor for ovulation disorder but its correlation infertility is under investigation. Scope In this study we have tried to investigate effect of high BMI in women on infertility. Results The results show there is a significant correlation between obesity and infertility.

Keywords: Obesity, infertility, Body mass Index

O31

The study of coordination between ELISA and Electro chemiluminescence (ECL) methods for Estradiol hormone measurement sake.

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Introduction: Infertility is a disorder which is touched by various physiological and pathological factors such as sexual hormones that have some determinative roles in infertility effusion or treatment. Hereinto, Estradiol is considerable as one of the most significant operant and its accurate measurement and valid report from diagnostic laboratory is so important. This hormone is an indicator for steroid drug usage regulation and also the recipient response to these substances. This study characterizes the importance of a constant and stable laboratorial method usage during the treatment and the necessity of clinical specialist’s attention to critical concentrations. Material and methods: In this study the serum of 100 under treatment females taking ovulation stimulator drugs were analyzed for Estradiol by both ECL and ELISA methods. The measurement units were pg/ml in both methods and all of the analyses were done in a parallel run and under the same physical and chronological condition. Results: The obtained results from ECL and ELISA were compared and a significant interval was seen. The results from ECL were higher than ELISA results, two times approximately. (Beta coefficient: 1.987) (r square: 0.958, p: 0.001) Discussion: Clinical specialists are faced to the results of these tests, daily, on the other hand, normal concentrations are often written in the results paper of the laboratories and critical amounts are realized according to the experiences of the specialists using a special laboratorial method in the laboratory of infertility clinic. Changing the method without any previous experience in using this technique, may leads to some insecurities for the patients, because in case of ELISA method replacement with ECL, according to the same analytical unit in both methods (pg/ml), obtained results are lower than ECL and this can leads to miss interpretation to deficiency of drugs or no suitable response from recipients.

Keywords: Estradiol, Sexual hormones, Infertility, Steroid drugs, ovulation stimulation, Electrochemiluminescence, ELISA.
Sperm functional test

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Dr. Jalali  Sperm functional test  Fertilization is the result of a complex set of molecular events which enable the spermatozoon to recognize and bind to the oocyte. Fertilization failure dependent of male or female factor or both of them. According to the World Health Organization, male factor infertility is present in approximately 40-50% of all infertile couples. Current evaluation of male factor infertility remains routine semen analysis including seminal volume, pH, sperm concentration, motility, and morphology. However, approximately 15% of patients with male factor infertility have a normal semen and a definitive diagnosis of male infertility often cannot be made as a result of routine semen analysis. Several studies have been suggested that sperm functional tests may be a better predictor of male fertility than routine semen analysis. However, among sperm functional tests, sperm chromatin integrity tests have played a central role and these tests have paved their way as a diagnostic test. A large number of tests are available to assess different aspects of sperm DNA integrity. The sperm chromatin dispersion (SCD) test currently used to evaluate DNA Damage. The advantages of this method is easy, cost effective and sensitive, and seems it can be routinely used in laboratories. Considering that development of acrosome is concomitant with formation of compact DNA during spermiogenesis and the acrosome reaction is an essential step for the fertilization of ova by spermatozoa and it is an important for zona binding and zona penetration. Therefore, assessment of the acrosome may help to diagnosis of male fertility.

**Keywords:** spermatozoa, semen analysis, sperm function
Semen analysis report

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A normal sperm analysis report is reassuring, and usually does not need to be repeated. If the semen analysis is normal, most doctors will not even need to examine the man. However, remember that just because the sperm count and motility are in the normal range, this does not necessarily mean that the man is fertile. Even if the sperm display normal motility, this does not always mean that they are capable of working and fertilising the egg. Poor sperm tests can result from incorrect semen collection technique, if the sample is not collected properly, or if the container is dirty too long a time delay between providing the sample and its testing in the laboratory too short an interval since the previous ejaculation recent systemic illness in the last 3 months. If the sperm test is abnormal, this will need to be repeated 3-4 times over a period of 3-6 months to find whether the abnormality is persistent or not. Don’t jump to a conclusion based on just one report - remember that sperm counts do tend to vary on their own! It takes six weeks for the testes to produce new sperm - which is why you need to wait before repeating the test. Prepare an standard report of semen analysis is helpful in diagnosis by medical doctors.

Keywords: Semen analysis

Immunological Aspects of the Human Fertility: Male Infertilities of Immunological Origin

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It is widely accepted that subfertility or infertility due to immunological factors is one of the major causes of infertility in humans. On average, infertility occurs in one in every five couples of reproductive age, of which 10-20% are of unexplained infertility and the majority of this group seems to be of Immunoinfertility origin. Moreover, since a subset of infertile couples has been found to possess antisperm antibodies (ASAs), the laboratory efforts have been focused on the tests to evaluate these antibodies, and so the patients with positive ASA are classified as being immunologically infertile. Immunological cause may contribute to 5-15% of the male infertility factors. The presence of antisperm antibodies in infertile men was first reported in 1954. The incidence of sperm autoimmunity in infertile couples is 9-36% in contrast to 0.9-4% in the fertile population. The incidence of detection of sperm antibodies may vary from 8-21% in the fertile male and 6-23% in the fertile female. These immunoglobulines can be found in both males and females, and hence is seen in serum, seminal fluid, cervical mucus or follicular fluid. The blood-testis barrier (BTB) in men plays a major role in keeping the developing spermatozoa -which express many foreign antigens- out of reach of the immune system. Sperm cells bear a large number of antigenic peptides that are foreign to the immune system of both sexes. The sperm antibodies in men or women are polyclonal, that is directed at more than one sperm antigen. ASA can be defined as immunoglobulines of the IgG, IgA and/or IgM isotypes that are directed to various parts of the spermatozoa (head, tail, midpiece or combination thereof). Immunoglobulin M is too large to cross into the seminal fluid unless the antibody producing cell are present in the lumen of seminiferous tubes. Immunologic infertility is probable if more than 50% sperm are bound to IgG or IgA antibodies. It may be suspected if more than 10% spermatozoa are antibody bound. There are some protective mechanisms preventing ASA production in males and females, and on the other hand, chronic infection, orchitis, varicocele, vasovasostomy, and testicular cancer and torsion may induce or promote the production of ASAs. They may be responsible for decreased count and motility (in the presence of complement components), and may interfere with sperm penetration of cervical mucus, and the blockage of the acrosome reaction and the sperm-oocyte interaction. Although many efforts for the treatment of ASA-mediated infertility have been proposed and attempted but current therapy for ASA-associated infertility is almost empiric and largely unproven.

Keywords: Immune System, Infertility, Subfertility, Male, Anti Sperm Antibody
Mechanisms related to production of autoantibodies in rheumatologic disorders (2nd version)

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Rheumatologic disorders are a group of more than one hundred debilitating, chronic diseases of different organs and tissues. Because characteristics of some rheumatological disorders are often best explained by immunology, they are commonly referred as autoimmune diseases. Emerging of autoantibodies is usually seen in patients with these disorders but it is not yet clear that these antibodies are cause or effect of disorders. Some proposed mechanisms are speculated in production of autoantibodies are: - Imbalance between inhibitory and stimulatory mechanisms of immune response because of different acquired and/or genetic defects. - Cross reaction between autoantigens and antigens released by foreign invaders. - Emerging of Neoantigens as a result of chemicals or uncontrolled apoptosis

Keywords: autoantibodies, rheumatologic disorders
Management of laboratory errors in Thyroid function tests assessment

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Management of laboratory errors in Thyroid function tests assessment

Dr. Mehrdad Vanaki, Consultant of quality assurance & QMS in medical labs. One of the most important problems in the field of medical laboratory is the high variation of thyroid function test results that cause incorrect interpretation by physicians, and finally, physicians will be mistrusted in medical laboratory results. High variation between results of Thyroid function tests in two different samples in different days from one person is mostly caused by biological and physiologic variations such as consumption of drugs, circadian cycle, NTI (Non-Thyroidal Illness), and… High variation between results of Thyroid function tests in one sample is mostly caused by analytical errors and lab-related sources. Main axis of medical lab errors in the field of TFT include: 1- using of old manual immunoassay methods for TFT assay, 2- using of unvalid immunoassay kits (low generation with low sensitivity and specificity) that used without any validation and investigation about quality of kits, 3- incomplete using of control and calibrator in each run of tests, 4- disuse of patient mean method for daily evaluation of systematic errors in TFT, 5- bad selection of method and immunoassay equipments for TFT, 6- using of incompetence staffs in immunoassay tests, 7- variations in environmental factors (Temp & humidity), 8- absence of QA plan (quality assurance) in the field of TFT (unvalid reference range related age). References: 1- UK Guidelines for the Use of Thyroid Function Tests 2008, 2- Tietz textbook of Clinical Chemistry and Molecular Diagnostics 2006, 3- Pathophysiology and Thyroid Function Testing, 4- Quality control of thyroid function tests in vitro by A. M. BOLD AND D. M. BROWNING, From the Clinical Chemistry Department, Queen Elizabeth Hospital, Birmingham 2003

**Keywords:** management of laboratory errors
False Negative Results in the Newborn Screening Program for Congenital Hypothyroidism in IRAN

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Introduction: The newborn screening (NBS) for Congenital Hypothyroidism (CH) was initiated in Iran since 2005. All NBS program experiences cases (False Negatives) that are not detected by newborn screening. Explanations include errors in the screening process (man or technical errors) or biological variations. Nearly 90 percent of CH cases are detected by newborn screening; however, the remaining 10 percent must be detected clinically. Objective: to find out the frequency of false negative cases in Iranian neonates (2005-2010). Methods and Population: The study included 5868105 screened newborns and 187 additional newborns with CH who had normal screening results on filter paper. The false negative cases were studied regarding the cause of developing CH. Results: The frequency of false negative in our NBS is 0.003%. The prevalence of Central CH in Iran is 1 in 838300 live births. Most of cases were immature and low birth weight. 9 (4.8%) of cases had delayed TSH rise. Conclusions: the frequency of false negative is very low (0.003 % vs up to 10%) in Iran compared to other NBS program due to TSH threshold of 5 mU/l on filter paper. Premature and abnormal weight babies have more chance to develop CH later in their life, most likely because of immaturity of the hypothalamic-pituitary-thyroid axis. Recently, all premature and low birth weight babies are screened at age of 1, 2, 6, and 10 weeks to reduce the false negative cases.

Keywords: Newborn Screening Program, Congenital Hypothyroidism

Thyroid function tests and Thyroid Hormone action

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The production of T4 and T3 is stimulated by pituitary TSH whose synthesis is regulated by hypothalamic thyrotropin-releasing hormone (TRH). In turn, T4 and T3 inhibit TRH and TSH production by negative feedback, thus establishing an equilibrium: this ‘set point’ of the HPT axis is tightly regulated within an individual, but varies between subjects, likely reflecting genetic and other factors. The actions of TH are mediated by two genes (THRα, THRβ which encode three nuclear receptor subtypes with differing tissue expression (TRa1: central nervous system, cardiac and skeletal muscle; TRb1: liver and kidney; TRb2: pituitary and hypothalamus. Thyroid disorders can be broadly classified into benign (simple goiter, hyperthyroidism, hypothyroidism, thyroiditis) and neoplastic diseases (including thyroid adenomas and thyroid carcinoma). The choice of tests to investigate the functional status of a patient with a Simple diffuse goiter or Multinodular goiter may differ depending on the geographic areas of the world. Most of the experts, however, would perform a serum TSH and serum Free T4 test. In other settings Total T4 and Total T3 are also included because of the preferential secretion of T3 over T4 in mild iodine deficiency. Antibodies against thyro-peroxidase (anti-TPO) and thyroglobulin (anti-TG) are measured, routinely, by most thyroidologists. In the interpretation of thyroid function tests, nonthyroidal illness, history of drug consumption and phathological conditions should be considered. Many drugs, pathological conditions or NTI by altering protein binding of thyroid hormones or displacement of these hormones could change their blood level. Relationship between free thyroid hormone and thyrotropin levels in physiological and pathological states should be considered. Many drugs, pathological conditions or NTI by altering protein binding of thyroid hormones or displacement of these hormones could change their blood level. Assessment of hyperthyroidism: All patients with known or suspected hyperthyroidism should undergo a comprehensive history and physical examination, including measurement of pulse rate, blood pressure, respiratory rate, and body weight. In addition, thyroid size; presence or absence of thyroid tenderness, symmetry, and nodularity; pulmonary, cardiac, and neuromuscular function; and presence or absence of peripheral edema, eye signs, or pretibial myxedema should be assessed. Biochemical evaluation: Serum TSH measurement has the highest sensitivity and specificity of any single blood test used in the evaluation of suspected hyperthyroidism and should be used as an initial screening test. However, when hyperthyroidism is strongly suspected, diagnostic accuracy improves when both a serum TSH and free T4 are assessed at the time of the initial evaluation. The relationship between free T4 and TSH is an inverse log-linear relationship; therefore, small changes in free T4 result in large changes in serum TSH concentrations. Serum TSH levels are considerably more sensitive than direct thyroid hormone measurements for assessing thyroid hormone excess. In overt hyperthyroidism, usually both serum free T4 and T3 estimates are elevated, and serum TSH is undetectable; however, in milder hyperthyroidism, serum T4 and free T4 estimates can be normal, only serum T3 may be elevated, and serum TSH will be

Keywords: Thyroid function tests, Thyroid Hormone action
Thyroidal Disorders

Farinaz Rashedmarandi

Based on thyroidal function in different disorders, it should be classified to hyperthyroidism and hypothyroidism. Tumors are followed in a different class. All types of hyperthyroidism are due to an overproduction of thyroid hormones, but the condition can occur in several ways: • Graves’ disease: The production of too much thyroid hormone. • Toxic adenomas: Nodules develop in the thyroid gland and begin to secrete thyroid hormones, upsetting the body’s chemical balance; some goiters may contain several of these nodules. • Subacute thyroiditis: Inflammation of the thyroid causes the gland to leak; excess hormones, resulting in temporary hyperthyroidism that generally lasts a few weeks but may persist for months. • Pituitary gland malfunctions or cancerous growths in the thyroid gland: Although rare, hyperthyroidism can also develop from these causes. Hypothyroidism, by contrast, stems from an underproduction of thyroid hormones. Since energy production requires certain amounts of thyroid hormones, a drop in hormone production leads to lower energy levels. Causes of hypothyroidism include: • Hashimoto’s thyroiditis: In this autoimmune disorder, the body attacks thyroid tissue. The tissue eventually dies and stops producing hormones. • Exposure to excessive amounts of iodide: Cold and sinus medicines, the heart medicine amiodarone, or certain contrast dyes given before some X-rays may expose you to too much iodine. You may be at greater risk for developing hypothyroidism, especially if you have had thyroid problems in the past. • Post thyroidectomy • Lithium: This drug has also been linked as a cause of hypothyroidism. Hypothyroidism poses a special danger to newborns and infants. A lack of thyroid hormones in the system at an early age can lead to the development of cretinism (mental retardation) and dwarfism (stunted growth). Most infants now have their thyroid levels checked routinely soon after birth. If they are hypothyroid, treatment begins immediately. In infants, as in adults, hypothyroidism can be due to these causes: A pituitary disorder, a defective thyroid and lack of the gland entirely. A hypothyroid infant is unusually inactive and quiet, has a poor appetite and sleeps for excessively long periods of time. Cancer of the thyroid gland is quite rare and occurs in less than 10% of thyroid nodules. People who have received radiation treatment to the head and neck earlier in life, possibly as a remedy for acne, tend to have a higher-than-normal propensity for thyroid cancer. The majority of clinically apparent thyroid neoplasms are primary and epithelial. Traditionally, they have been divided into adenomas and carcinomas, the latter group incorporating the medullary carcinomas together with the more common lesions composed of follicular cells. From a histogenetic/differentiation standpoint, it is preferable to divide thyroid neoplasms into three major categories, depending on the cell types involved, and subdivide them into the various benign and malignant categories. 1 Tumors exhibiting follicular cell differentiation which comprise more than 95% of the cases 2 tumor exhibiting C cell differentiation 3 tumor exhibiting follicular and C cell differentiation

Keywords: Pathology of thyroid disorders
Role of diagnostic and Screening testing in prenatal prevention of live newborns with chromosomal abnormalities: evaluation of 3000 fetal karyotypes

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The most frequent genetic cause of mental retardation is trisomy 21 with the incidence of 1 in 700 newborns. Hence, one of the major issues in genetic counseling and specially antenatal genetics is the prevention of the birth of Down syndrome children and its diverse methods and approaches. It is noteworthy that other common trisomies, such as trisomy 18 and trisomy 13, plus sex chromosome abnormalities (Turner and Klinefelter syndromes) are significant issues which require preventive measures too. It is also evident that with present available technologies, provision and execution of diagnostic tests including karyotyping and other genomic techniques are not feasible for all pregnancies, and it is desirable initially to identify the mothers with higher risk by one or other of the screening modalities before the application of a diagnostic test. In the present study 3000 pregnancies belonging to various risk categories were chromosomally analyzed following amniocentesis and cell culturing, and their outcome will be discussed

Keywords: chromosomal abnormality, screening tests
Role of medical labs in serum screening tests for prenatal screening

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Role of medical labs in serum screening tests for prenatal screening Before 1970 first choice for prenatal diagnosis of genetic abnormality was invasive & high cost method that is called CVS(between 10 and 12 weeks of pregnancy is recommended) & Ameniocentesis (between 15 and 20 weeks of pregnancy is recommended) that only recommended for high risk pregnant women .after few years alpha fetoprotein & other serum screening test( triple / quadruple marker & …) planned in medical laboratory that assess risk of carrying a fetus with certain chosomal abnormalities such as down syndrome (trisomy 21) & Edwards syndrome (trisomy 18) & NTD(neural tube defects) . this serum screening markers are non invasive & practical tests that provide screening of chosomal abnormalities in all of pregnant women (100%) . It is better these serum markers should be done in one qualified laboratory with valid method & software & competence operator  Most important challenges about this serum screening tests in medical labs include: 1- Obvious conflict between different lab results for one sample ( serum screening test) because of major difference of MOM between medical labs with different softwares and using of unvalid kits & methods for measurement of screening tests . 2- Refer of patient to physician from laboratory without any of good consultation about final results . 3- Absence of correction of serum markers base on diabet & weight of mother 4- Inaccurate determination of the gestational age of the fetus that results flalsely high or low. For twin pregnancies a psudorisk can be calculated . 5- Other parameter… References: 1. Burtis C.A, etal. Tietz Textbook of clinical chemistry. 4th ed. Washington, DC: Elsevier saunders; 2006 2. Sanda C, Stanton L,B, etal .Maternal Serum screening; Approved Standard. NCCLS 2006;I/LA 25-A: vol 24 no 39 3. ACOG Practice Bulletin. Screening for fetal chromosomal abnormalities. Obstet Gynecol. 109(1), Jan 2007

Keywords: screening tests

Association between markers of systemic inflammation, oxidative stress and insulin resistance during normal pregnancy

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Background and aim: Increased levels of pro-inflammatory factors, markers of oxidative stress and lipid profiles during pregnancy have been associated with several complications. The aim of this study was to determine the association of markers of systemic inflammation and oxidative stress with insulin resistance during normal pregnancy in Kashan, Iran. Methods: In a cross-sectional study, serum hs-CRP, TNF-α, fasting plasma glucose (FPG) levels, serum insulin and 8-oxo-7, 8-dihydroguanine (8-oxo-G), total cholesterol, triglyceride and HDL-cholesterol concentrations and plasma total antioxidant capacity (TAC) were measured among 89 primigravida singleton pregnant women aged 18-30 y at 24-28 weeks (wk) of gestation. Pearson correlation and multiple linear regressions were used to assess the relationships. Results: We found that among biochemical indicators of pregnant women, serum hs-CRP and total cholesterol levels were positively correlated with insulin concentrations. These associations remained significant even after controlling for other biochemical indicators (β=0.04, P=0.01 for hs-CRP and β=0.007, P=0.02 for total cholesterol). Further adjustment for BMI made the association of hs-CRP and HOMA-IR disappeared, however, the relationship for total cholesterol levels remained significant. Conclusion: Our findings showed that serum hs-CRP and total cholesterol levels were independently correlated with a measure of insulin resistance at weeks 24-28 of gestation.

Keywords: Inflammatory factors, oxidative stress, insulin resistance, lipid profiles, pregnant women
Present debates in fetal health screening (Fetal Health Panel)

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Prenatal diagnosis of fetal aneuploidy and neural anomalies started by screening of pregnant women. Since then, many questions and debates are to set forth for discussion among the health workers. Presenting a suitable guide and standards based on the national and international studies and experiences is needed in order to eliminate the present challenges, problems, and debates. In this panel, the most important questions in the following topics will be discussed through scientific evaluations and studies by experts in this field:

- What elements effect the mother’s decision to perform screening methods?
- What diseases are in special attention? What are the differences between screening and invasive methods?
- What is the best time for screening?
- What procedure is for the first and the second trimester?
- What is the role of sonography for prenatal diagnosis of fetal aneuploidy and neural anomalies?
- What are double, triple, quadruple, and penta tests with their detection rates?
- What is the role of statistics in interpretation of the results?

Keywords: Fetal health, Prenatal diagnosis, Prenatal screening
Abstract: Molecular diagnostic assays have played and continuing to have a critical role in clinical laboratories in recent years. Therefore, standardization is an evolutionary process that needs to be upgrade with increasing scientific knowledge, improvement of the instruments and techniques. The aim of this study was design a quality assurance program in order to have similar conditions for all medical laboratories engaging with molecular tests. In this regard we had to design a plan for all four elements; required space conditions, equipments, training, and basic guidelines. Necessary guidelines was prepared and confirmed by the launched specific committee at the Health Reference Laboratory. Several workshops were also held for medical laboratories directors and staffs, quality control manager of molecular companies, directors and nominees from universities. Accreditation of equipments and molecular material was followed parallel with rest of program. Now we are going to accredit medical laboratories and to evaluate the success of the program. Conclusion: Accreditation of medical laboratory will be succeed if its basic elements to be provided in advance. Professional practice guidelines, holding training and performing accreditation the molecular materials and equipments ensured us that laboratories are aware of best practices, proper interpretation, limitations of techniques, and technical issues. Now, active external auditing can improve the applied laboratory conditions toward the defined standard level. Key Words: Quality Assurance, Accreditation, Molecular Laboratory

Keywords: Quality Assurance, Accreditation, Molecular Laboratory
Genetic diversity of clinical isolates of Salmonella enterica in Tehran by ribotyping

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Background and Aim: Salmonella is a genus of Gram-negative rod-shaped bacteria of the family Enterobacteriaceae. Salmonella is an important foodborne pathogen through from animals to humans and are still dominate as the most important public health problem in all over the word. The aim of this study was to evaluate the genetic diversity of Salmonella enterica strains isolated from Tehran hospitals using ribotyping. Methods: Clinical samples of the cases having symptom of Salmonella infection were collected from different hospitals in Tehran between October 2006 to December 2009. Salmonella isolation was carried out by bacteriological and serological characterization. Finally genetic diversity of clinical isolates was determined using ribotyping. Results: The results showed that the ribotyping was able to differentiate Salmonella isolates into 21 clusters. Salmonella Serogroup C (26 strains), B (13 strains) and D (29 isolates) were divided into 11, 7 and 3 clusters. Conclusion: The results of this study indicated that ribotyping is reliable and valuable technique for subtyping of S. enterica serotypes.

Keywords: Genetic diversity, Salmonella enterica, Ribotyping

Production of molecular diagnostic kit for Hepatitis B Virus DNA with method Real Time PCR and Comparison with Commercial Assay for the first time in Iran

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The estimates show throughout the world about 300 million people have been afflicted by HBV. Measurement of HBV quantity, which is possible by patient serum, is an important tool for recognition of virus multiplication rate, supervision and treatment of patients. Because of no availability to valid standards in Iran, for quantity assessment of manufactured HBV kit, 50 serum samples of HBV patients with distinct & various titers, were tested by AIDS & Hepatitis department in Iran Pasteur Institute, simultaneously on the mentioned kit and standard Qiagen, Germany kit, which has different European certificates, such as CE. Finally, the results were statistically analyzed by Pearson Correlation test. Moreover, for examination of Specificity of this manufactured kit, 50 samples of healthy people were tested by that. The results indicated that all positive serums were recognized by both kits. The statistical analysis results have been presented in the following table. KTE Company (Novingen) Artus 0951.000 50 1 50 Artus Pearson Correlation Sig. (2-tailed) N 1 50 .951 .000 50 KTE Company (Novingen) Pearson Correlation Sig. (2-tailed) N It is noteworthy that all of healthy serums were reported negative by Iranian manufactured kit, which shows high Specificity of aforementioned kit. According to above mentioned data, the manufactured kit prospers high correlation (R

Keywords: molecular diagnostic kit, Real Time PCR, Hepatitis B Virus
Common Pre-analytical Errors in Molecular Testing

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Molecular testing is applied to wide variety of sample materials: whole blood, bone marrow, fresh tissue, paraffin em bedded tissue, serum, plasma, sputum, saliva, CSF, urine, stool and so on. Sampling is best done in closed, disposable, nuclease free plasticware. When sampling system is not closed, special attention must be paid to avoid sample contamina tion with hair, skin scale and sputum from sampler. EDTA and citrate are preferable anticoagulants for blood and bone marrow, yet heparin can inhibit the PCR reaction even in minute amounts. Moreover, improper sampling, sample handling, or storage, especially when RNA testing is involved, can be a cause of erroneous result. Therefore, sample handling and stabilization are to be performed as soon as possible because nucleic acids degrade rapidly. Furthermore, molecular methods generally involve multiple steps and employment of reagents which are sensitive to storage conditions. Meanwhile, amplification methods in particular are prone to contamination. In conclusion, standard laboratory procedures aimed at performing good laboratory practice and avoiding contamination are to be developed and followed strictly in every diagnostic laboratory that performs molecular testing. While the number of laboratories that employ molecular methods for diagnostic testing is rapidly increasing, standardization and quality improvement are ever more needed.

Keywords: Molecular Testing, Preanalytical Errors

Investigation of Clonality among mycobacterium tuberculosis species by using pulsed-field gel electrophoresis method

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Introduction : PFGE is the powerful molecular technique which represents informative epidemiology insights for most pathogens. In some cases using PFGE has advantage instead of IS6110-RFLP method. Because of IS6110-RFLP is depend on the copy numbers of IS6110 sequence along the genome and it has no application in isolates with less than 6 copy numbers of IS6110 sequence in the genome. While this method has no above limitation. Material and method: 150 µl of melted incert agarose and 10 µl lysozyme were mixed and purred in special plaque molds. After solidification the plaques were lysed with Tris-EDTA buffer containing 10 mg/ml lysozyme and incubated at 37ºc for 16 hours. After washing in several stages we used a buffer including EDTA, SDS and proteinase K to remove proteins. Plaques remain in this solution for 48 hours at 55ºc. Then it will be washed and digested with speI restriction enzyme. Finally the digested DNA were electrophoresed on 1% agarose on CHEF-DR III apparatus. Results : The comparison of DNA bands between mycobacterium tuberculosis strains and standard H37rv revealed two common pulsotype ever known. Investigation of clonality among mycobacterium tuberculosis isolates in 1389 in Tehran in comparison with the pattern of antibiotic resistance in order to control of mycobacterium tuberculosis is one of the results in this research. It is very important to control mycobacterium tuberculosis in the society that if there are special genotypes between resistance strains and if these strains can be spread more among population.

Keywords: pulsed-field gel electrophoresis method-mycobacterium tuberculosis
Molecular typing of mycobacterium tuberculosis spices with IS6110-RFLP between patients

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Introduction: Mycobacterium tuberculosis is the one of the harmful human pathogens in the world and now IS6110-RFLP typing remains the international accepted standard and continues to provide new insights in the epidemiology of mycobacterium tuberculosis infections. Genetic basement of IS6110 is because of different copies and places in different spices. Material & method: first stage in this technique is the selection of probe. the IS6110 DNA probe was prepared with amplification of 245 bp-fragment using PCR. This fragment was purified and labeled by Digoxigenin. After extraction of DNA do stage of RFLP then do stage of hybridation RFLP product with digoxigenin prob at last analizis the patern of bands with gel compaII. Result After recognizing patterns between different isolates, until now four common types of mycobacterium tuberculosis was detected. Of course, we will find more information about the other types after completing informational bank Until now we couldn’t find any meaningful relation between antibiotic resistance and revealed genotypes. After examination between isolates, 4 pattern are common type 22rest of spieces are single type. Conclusion IS6110 was conserved in all of mycobacterium tuberculosis strains and was usually present in high copy number. This will be value when compared with other characteristics such as level of virulence or antibiotic resistant.

Keywords: IS6110-RFLP -Mycobacterium tuberculosis-probe-hybridation

Using Molecular Kits or Laboratory developed Tests (Home Brew) – Emphasis on Validation

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In recent years the use of molecular tests in diagnosis, prognosis, monitoring therapy, pharmacogenetics, drug resistance and ... is allocated to a special place. Supply side constraints in molecular diagnostic kits for various reasons such as high cost of kits, the problems in imports led to the design and diagnostic services which are home made. Validation and verification of homebrew procedures, should be done as the same as commercial kits and even more. Complete documentation and records in these cases should have been done and it should be present in the molecular laboratory. Validation determines that we are doing the correct test while verification confirms that we are doing the test correctly and both are important in patient care and laboratory accuracy. Three steps should be passed for validation/verification. In the first phase, purpose of testing, sample types, the dangers that threaten the patient if not properly done and ... will be defined. In the second phase, validation data will be produced which are different for qualitative and quantitative tests. In quantitative tests, parameters such as accuracy, precision, linearity will be determined and in qualitative methods comparison with positive and negative controls and its reliability will be evaluated with other methods. Finally applying the real testing phase with reception, doing tests and reporting results and records to be archived for every three steps

Keywords: Validation, Molecular diagnosis
The frequency of common α-deletions among β-thalassemia minor individuals in an Iranian population.

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β-thalassemia is the most common monogenic disorder in Iran, and one of the challenges in the screening of the carriers is the coinheritance of alpha thalassemia mutations. Alpha-thalassemia acts as a secondary modifier in clinical manifestations of beta thalassemia. In the view of high prevalence of alpha-thalassemia mutations in many parts of the country, its coinheritance with beta-thal may cause misdiagnosis. The aim of this study was to determine the carrier frequency of alpha deletions in carriers of beta-thalassemia with known mutations in beta-globin gene. The study includes families referred from different primary health care centers with microcytic hypochromic anemia

Keywords: thalassemia, coinheritance, microcytic hypochromic anemia

Providing Stem Cell (SC) Research Training Environment Will Transfer Stem Cell Technology in the Field of Regenerative Medicine (RM)

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Abstract Research environment will attract the best and brightest minds to the SC Laboratory to develop new cell based technology for treatment of diseases and disorders. SC researcher also will improve clinical trial methodology for SC therapy. Research environment will create job, will bring funds from other countries for SC treatment and prevents traveling to other countries for SC therapies. The purpose of this work shop is to review the basic information about human SC and the new developments in this field. Participants in this work shop will learn about human embryo SC, cell and gene cloning, fertilization VS cloning, why cloning is unsafe, ethical validity of using SC, and current or potential SC problems including transplant rejection. The best news is about discovering adult SC and its application for tissue repair. We will briefly review current clinical use of adult SC. Adult SC therapy in Regenerative Medicine (RM) asks for research training program for SC technology. The University of California, Irvine (UCI) has established a research center, CA Institute for Regenerative Medicine (CIRM) to train doctoral, postdoctoral and clinical research to develop the next generation of researchers in the field of (RM).

Keywords: Stem cell basic information, Embryonic stem cell problem, Inducing pluripotent stem cells
The analysis of haplotype in δβ thalassemia deletions

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Abstract Background and Objectives: Beta thalassemia is one of the most common single-mutation diseases. These mutations cause decreased beta-globin protein synthesis or even deletion. Most of mutations in beta-globin gene are point mutations but there are some small and big deletions in beta-globin gene cluster. The aim of this study was to find the relationship between δβ deletions and β-globin cluster haplotype. Material Method: Genomic DNA was extracted from 5ml of peripheral blood of Iranian carriers of β-thalassemia referred from Primary Health care (PHC) centers. The homological data indicate the low MCV and low MCH values and normal HbA2 and high HbF in heterogeneous state. δβ deletions were performed by Gap-PCR method and for haplotype analysis 4 different polymorphic marker in β-globin cluster (Gγ HindIII,3`ΨHincII,βAvaII,βHinfI) were analyzed using PCR-RFLP. Results: Using PCR-RFLP was shown all of the individuals with Asian-Indian deletion had haplotyps II and IX (++++) and 100% of carriers with Sicilian deletion had haplotype I (--++). 70% heterozygous Hemoglobin Lepore had Positive Hyplotype and 30% of them negative Hyplotype in βHinfI site (+++-). Discussion: This study is the first investigation on association of β-thalassemia with chromosome haplotype in pasture institute for Sicilian, Asian-Indian, and Hemoglobin lepore. These haplotype probabilities have some modifier impacts on the haplotype of βthalassemia.

Keywords: Key word: β-thalassemia, Asian-Indian, deletion, Sicilian, Hb lepore, Haplotype

O54

Isolation and Characteristics of phenotypic and genotypic Metallo-β-Lactamases in Pseudomonas aeruginosa clinical strains isolated from Vali-asr Hospital of Zanjan province

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Background and Aim: Pseudomonas aeruginosa is a Gram-negative, opportunistic pathogen causes death or great infections. Metallo-beta-lactamases (MBLs) are created drug resistant such as carbapenems. The aims of this study were to survey the antimicrobial resistance pattern and to detect the frequency of VIM and IMP genes (MBLs) among Pseudomonas aeruginosa isolates using two phenotypic and genotypic methods. Methods: A total of 63 P. aeruginosa isolate were identified from patients admitted at intensive care units (ICU). The antimicrobial susceptibility was found by disk diffusion (Kirby-buera) method and then MBL was detected using the double-disk synergy test (DDST). VIM-IMP1and IMP types of MBL producing genes were investigated by PCR. Results: of 63 strains were determined as P. aeruginosa by phenotypic method. The most antibiotic resistance was meropenem, cefotaxime and ceftazidime respectively. Of 40 imepenem resistant isolated were confirmed by DDST, only 30 isolated were positive for production of MBL. PCR amplification showed that 20 isolated carried bla VIM gene in among 30 MBL-producing isolates and 8 of them possessed bla IMP genes. Conclusion: Our results showed that increasing prevalence of antibiotic resistance in our region and also among the MBL producing strains the frequency of VIM type is higher than IMP.

Keywords: P. aeruginosa, MBLS, DDST, Antibiotic resistance, PCR
Multiplex Real Time PCR

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Multiplex PCR is the simultaneous amplification of more than one target sequence in a single reaction. Specifically, duplex PCR is the amplification of two target sequences in one reaction, triplex PCR is the amplification of three targets, and so on. Multiplex real-time PCR is possible using TaqMan® probe-based assays, in which each assay has a specific probe labeled with a unique fluorescent dye, resulting in different observed colors for each assay. Real-time PCR instruments can discriminate between the different dyes. The signal from each dye is used to separately quantities the amount of each target. Duplex PCR, which has several advantages over individual reactions, is routinely performed in many research labs. However, setting up reliable multiplex PCR can be a challenge as the results need to be validated, and in some situations, optimization of the reaction conditions may be necessary. Multiplex assays must always be validated and often require optimization. Depending on the targets being analyzed and the samples being used, reaction optimization and validation could range from a simple, straightforward exercise to a costly, time-consuming endeavor. The cost and time involved increase with the number of targets to be investigated. It is absolutely essential that results obtained from multiplex reactions are verified to confirm that the same results would be obtained if the reactions were performed individually. Where sample amounts are extremely limited, pre-amplification using the TaqMan® PreAmp Master Mix is a suitable option, particularly if many targets need to be analyzed. This application note outlines the optimization and validation of duplex PCR and provides recommendations for multiplex reactions with a greater number of targets.

Keywords: Multiplex PCR, Real Time PCR.
Haemolytic activity of Trichomonas vaginalis for human RBCs

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Introduction and aim: Trichomonas vaginalis, is causative agent of trichomoniasis as prevalent sexually transmitted infection. The mechanism of urogenital trichomoniasis are based on their adhesive and colonization ability, production of cell detaching factors, pore forming proteins, soluble haemolysins and cellular proteinases. The aim of this study is comparative evaluation of haemolytic activity of T. vaginalis isolated from symptomatic and asymptomatic patients for human RBCs. Methods: Erythrocytes from blood group O were used for haemolysis assay. Washed erythrocytes were mixed with trophozoites isolated from patients. After incubation, absorbance of supernatant was measured and haemoglobin released (mg/ml) was calculated from the standard curve. Results and conclusion: Concentration of Hb released by T. vaginalis isolates on incubation with human RBC’s was measured. The mean concentration of Hb released by isolates from symptomatic patients was 2.32 mg/ml while concentration of Hb released by isolates from asymptomatic patients was 1.89 mg/ml, as measured by using standard curve. Comparison of average haemolytic activity between symptomatic and asymptomatic patients was found to be statistically significant (p<0.01). It is known that in trichomoniasis exacerbation of symptoms observed during and following menstruation. This is because erythrocytes provide both lipid and iron for the growth and multiplication of parasite, which may be responsible for increase, the symptoms.

Keywords: Trichomonas vaginalis, Haemolytic activity, human RBCs
**O57**

**Frequency surveillance of extended-spectrum β-lactamases (ESBLs) PER1 & VEB1 of Pseudomonas aeruginosa isolated from hospitalized patients in Imam Khomeini hospital of Urmia**

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Introduction: Pseudomonas aeruginosa is one of the medically important Gram-negative bacilli which are found in Nosocomial infections. Materials and Methods: During one year period (2008-2009), 115 isolates of P. aeruginosa were collected from hospitalized patients in all wards of Imam Khomeini hospital in Urmia. Bacterial isolates identified by conventional bacteriologic tests and then antibiotic sensitivity tests were performed according to Kirby-Bauer method. All Ceftazidime resistance isolates was used for determination of ESBLs producing isolates by CDT (Combined Disk Test) and DDST (Double Disk Synergy Test) methods. Finally bla PER-1 and bla VEB-1 genes were detected by using PCR technique. Results: forty percent isolates were resistant to Ceftazidime. Resistance rate against Cefotaxime and Cefteriaxone highest than other and Meropenem and Imipenem were sensitive antibiotic against isolates, respectively. Overall 38 of 46 isolates (82%) were identified as ESBL producers by both phenotypic methods. Of all Ceftazidime resistant isolates (36%) and (26%), contained bla PER-1 and bla VEB-1 genes, respectively. Conclusion: High resistance of our P. aeruginosa isolates to the cephalosporins and high rate of ESBLs production in our isolates underline accurate sensitivity tests, also avoidance from inappropriate use of antibiotics in treatment of various infections due to P. aeruginosa is very important.

**Keywords:** Pseudomonas aeruginosa, Extend-Spectrum Beta-Lactamaes, bla PER-1 gene and bla VEB-1 gene

**O58**

**Job- personality Compatibility in Clinical Laboratories Employees.**

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Dargahi H (Ph.D) Bolourchi SM (Medical Lab Doctorate) Our behaviors are originated from our personality. Personal differences are influenced by personality. Personality is defined as (a set of determinants and specifications of people that used for comparison of people with each other. Clinical Laboratories directors should more pay attention to their employees personality, because employees conception, evaluation, and their reaction to personality, Recognition of job needs, expectations and requirements may improve job-personality compatibility. John Holland defines six types of personality in this model that each of them may be coorindateded with job environment. There is significant positive correlation between job-personality compatibility with job satisfaction and negative correlation with the clinical laboratories technologists for employment. This article is aimed to determine personality specifications compatible with clinical laboratory profession.

**Keywords:** Personality, job, Compatibility, Clinical Laboratory, Employees.
Serum Superoxide dismutase activity in thalassemia patients and healthy subjects with new method

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Serum Superoxide dismutase activity in thalassemia patients and healthy subjects with new method. 1 Elham ghahramanlu, 2 Abdollah Banihashem, 3 Shima tavalaei, 4 Vahid salmasi, 5 Majid Ghayour mobarhan 1 Blood transfusion organization, north khorasan, Iran. 2 Hematology division, Sheikh Hospital, Faculty of Medicine, MUMS, Mashhad, Iran. 3 Buali Research, Mashhad, Iran. 4 Blood transfusion organization, north khorasan, Iran. 5 Biochemistry and Nutrition Research Center and Department of Nutrition, Faculty of Medicine, Cardiovascular research center, MUMS, Mashhad, Iran.

Aim: The aim of this study was to evaluate the extent of status of SOD (an antioxidant enzyme) in β-thalassemia major patients with new method.

Introduction: Superoxide dismutase (SOD) is an enzyme that neutralises molecules of superoxide, a common and extremely destructive free radical. Thalassemic patients (TM) may lead to peroxidative tissue injury by secondary iron overload. In TM patients oxidative stress caused by precipitation of excess alpha-globin chains, iron decompartmentalization, and release of free iron. To combat this potential danger, most cells make superoxide dismutase.

Material and method: thalassemic patients age between 7-22 years admitted in Dr. Sheikh Hospital in Mashhad, Iran. 60 thalassemic patients (25 males and 35 females) and 60 normal healthy age and sex matched, were enrolled in the study. SOD activity was measured by using microassay based on the inhibition of pyrogallol oxidation. In order to assess the SOD activity, we used a 96-well-plate microassay based on the inhibition of pyrogallol oxidation.

Result: Serum levels of SOD activities were significantly higher in the patients with beta thalassaemia than in the normal subjects (1.0277±0.144 vs 0.9816±0.131) & (P<0.0001).

Conclusion: The increased superoxide dismutase activity in thalassemia is a response to superoxide generated in greater amounts. When acclimating to increased levels of oxidative stress, SOD concentrations typically increase with the degree of stress conditions. Our study results suggest that iron overload causes peroxidative damage in β-thalassemia and antioxidant systems try to lower tissue damage. Our 96-well-plate format assay has the advantages that it is simple, rapid, and high throughput and we suggested it.

Keywords: superoxid dismutase, assay method, thalassemia, serum

Detection of anti-oxidant drugs on platelet Enzymes function

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Introduction: The platelets play an important roll in ischemic myocardial disease in many ways, one of the consequences ischemic of the myocardial is huge generation oxygen derived free radicals that have the huge pathologic consequences. Platelet xanthine oxidase is one of the free radical generations. Methods: we have study on 20 patients with MI, 10 voluntary healthy people were under taken as Normal controls The Patients were divided in two groups; we administrate just their routine drugs and aspirin for group 1 reperfused after myocardial infraction, and anti-oxidant drugs such as aspirin with vitamin E on the platelet xanthine oxidase and lipid peroxidase in the second groups of patients. We collected 10 Ml coagulated blood from patients and controls. After preparation the PRP the Xanthine oxidase and Lipid peroxidase of platelet were detected. The data was analyzed using the statistical tools like SPSS. Results: Our finding show that the administration of Vitamin E alone aspirin after 6 days gave us a good result as an anti oxidant drugs effect as evidence by reducing platelet xanthine oxidase activity P< 0.001 and Lowering lipid peroxidase metabolite (MDA) P< 0.001.

Discussion: Using the Vitamin E alone the other b blocker drugs would protect patients with MI from oxidant and further heart fouler.

Keywords: platelet Xanthine oxidase, platelet lipid peroxidase, Myocard infarction, anti oxidant
**The impact of chronic GVHD on survival of acute myeloid leukemia patients after non-T-cell depleted HLA-identical sibling peripheral blood stem cells transplantation**

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Introduction: Peripheral blood stem cells (PBSC) are increasingly being used as the source of stem cells in allogeneic transplantations. Graft versus host disease (GVHD) is a major complication of allogeneic hematopoietic stem cells transplantation, and also is an important factor affecting the outcome of transplantation. An increased incidence of GVHD has been suggested following unmanipulated allogeneic PBSC transplantation (PBSCT), however, how this affects survival is not yet well clear. In this study, our aim was to assess the impact of acute GVHD (aGVHD) and chronic GVHD (cGVHD) on overall survival (OS), disease-free survival (DFS) and relapse following non-T-cell depleted HLA-identical sibling peripheral blood stem cells transplantation (PBSCT). METHODS: Data were analyzed from 78 patients, including 40 patients with acute myeloid leukemia (AML) and 38 patients with acute lymphoblastic leukemia (ALL), undergoing non-T-cell depleted HLA-identical sibling allogeneic PBSCT. All patients were received a uniform myeloablative conditioning regimen and prophylaxis for GVHD. We studied the incidence of aGVHD and cGVHD and theirs affect on survival and relapse in these patients. RESULTS: The overall incidence of aGVHD and chronic GVHD was 82.5% and 42.5% in the AML patients and 84.2% and 26.3% in the ALL patients. The occurrence of aGVHD had no effect on OS, DFS and relapse in AML and ALL patients receiving transplants. Although incidence of 2-year OS and DFS were significantly higher in the AML Patients with cGVHD compared to patients without cGVHD (P=0.024 and P=0.033, respectively), this difference was not due to the low incidence of relapse. Conclusion: These data indicate that the occurrence cGVHD is an important predictor of outcome of non-T-cell depleted HLA-identical sibling allogeneic PBSCT, in that AML patients who develop cGVHD have a high chance of survival.

**Keywords:** Chronic GVHD, Leukemia, Peripheral Blood Stem Cells Transplantation, Survival, Relapse
The survey of Rh system and Kell antibody frequency among patients with recurrent blood transfusion

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Introduction: Continuous blood transfusion make contact possibility between patients’ immunity system and stranger antigen and as a result , Alloimmunization . Alloimmunization causes a decrease in RBCs’ age and in consequence , a decrease in blood transfusion , and eventually a great increase in cure expenses and side effects of blood transfusion in patients .Kell antigen is hardly imjugenic and is placed in second rank after D antigen in stimulating immunity response as a result of blood transfusion. Regarding contrast of prevalence of Kell and Rh system’s antigen in various societies , in studying we were willing to carry out a survey of Kell and Rh system’s antibodies frequency in needy people to recurrent blood transfusion. Methods: This survey was prospective and all of the patients who need blood transfusion (almost 2 units per month) for instance Thalasemia , Sickle Cell Anemia , Hemolytic Anemia were surveyed. After collecting sample of patients, Ab screening test and Panel test (for typing antibody) were done, and the results were surveyed by statistical method via SPSS. Result and Discussion: In this survey the number of 307 patients were surveyed, who 164 male and 143 of were female, between sex and presence of antibody there was no meaningful connection. (P>.05) Among whole of the patients ,132 people (43%) were Ab screening positive and 175 (57%) were negative in this test result. Age range was between 1 to 87 years old.17.4% of them were under 12 and 82.6% were above 12 and this is accepting more alloantibody presence by time passing and more blood transfusion. 75% of the patients were affected by Minor Thalasemia and the rest were affected by other diseases , the reason for it in Thalasemia patients is recurrent blood transfusion which increases production antibody probability in them. In this research after doing Panel test , this was observed that antibodies which are against Rh system’s antigen have the highest frequency and among them anti C with frequency around 37.2% and after that anti E with frequency about 36.4% were reported as the most prevalent Rh system’s antibody. Kell system’s antibodies were observed in 8.4% of the patients , in which anti Kell was more prevalent (4.8%). In the same process which was done on Asian Major Thalasemia patients, Alloimmunization prevalence was reported about 20% and in a large degree they were against Rh system’s antigens. In another research Alloimmunization percentage of patients decreased by blood transfusion after E,c,Kell antigens’ confirmation about 2 to 5 percent and Hemolytic reaction amount also decreased about 90 percent. With regard to Kell and Rh system’s antigens immunogenicity and their role in Hemolytic reactions appearing ,ascertaining the phenotype of RBC of patients (specially in way of two upper blood systems) before the first blood transfusion and antigenic compatibility between donor and receiver , could be one of the suitable ways to decrease side effects of blood transfusion needy patients to recurrent blood transfusion.

Keywords: Thalasemia , Alloimmunization
O63

The Comparison of Plasma C-Reactive Protein and Homocysteine Levels in gestational diabetic patients and non-diabetic subjects

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Diabetes has clearly been identified as an independent, major risk factor of cardiovascular disease. In this study, the levels of two cardiovascular disease risk factor including C-reactive protein (CRP) and homocysteine were measured in gestational diabetic patients and non-diabetic subjects. The present study was undertaken in 50 gestational diabetic patients and 50 non-diabetic subjects that the age and sex matched healthy volunteers and consult to Hamedan Fatemyeh hospital. Their venous blood sample were collected and separated the plasma fractions. Then, the plasma CRP and homocysteine levels were measured using an ELISA kit and the data analyzed by SPSS program. In gestational diabetic patients, plasma levels of CRP

Keywords: C-reactive Protein, Homocystein, Gestational Diabetes

O64

Evaluation of lipid profile in different anemic patients and controls, in Children Medical Center in 2008-2010

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Introduction: Hypocholesterolemia was reported in hematological disorders such major β Thalassemia, intermediate Thalassemia, sickle cell anemia; but the patho-physiology of Hypocholesterolemia is unknown. The main of this study is evaluation of lipid profile, Total Cholesterol, Triglyceride, Low density Lipoprotein and High density Lipoprotein, in different anemic disorders compare with control group. Methods and materials: In a case-control study, in 2008-2010 in Children Medical Center, 33 iron deficiency anemia cases, 35 minor Thalassemia cases, 50 major Thalassemia cases and 79 healthy subjects enrolled to the study. Serum Total Cholesterol, Triglyceride, Low density Lipoprotein and High density Lipoprotein measured and compared in the groups. Results: Mean of Total Cholesterol, LDL and HDL were significantly Lower in major Thalassemia compared with controls (P0.05). Conclusions: Children with major Thalassemia had lipid profile disorder. Further studies are needed for understanding the exact mechanism of hypocholerlemia in major Thalassemia and its impact on patient’s health.

Keywords: Anemia, lipid profile, Thalassemia
Serum adenosine deaminase activity in gestational diabetes mellitus: correlation with glycemic status

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Background and aim: Adenosine stimulates insulin activity on glucose metabolism. Adenosine deaminase (ADA) degrades and reduces adenosine level. The aim of this study was to investigate the level of serum ADA activity in gestational diabetes mellitus (GDM) and its correlation to fasting blood sugar (FBS) and hemoglobin A1C (HbA1c).

METHODS: Fasting ADA activity, FBS and HbA1c were measured in the serum of 45 patients with GDM and 70 healthy pregnant women. Correlation analysis was performed between ADA and other biochemical markers of GDM. RESULTS: Mean serum ADA levels were significantly elevated in GDM patients compared with healthy pregnant women (13.9 ± 7.1 and 9.6 ± 3.5 IU/L, respectively, P < 0.001). A positive correlation was observed between ADA and FBS (r = 0.317, p < 0.05), ADA and HbA1c (r = 0.281, p < 0.05) and also between FBS and HbA1c (r = 0.701, p < 0.001). Conclusions: ADA activity was significantly higher and correlated with glycemic status in patients with GDM.

Keywords: Adenosine deaminase, Gestational diabetes mellitus, Pregnancy

Reference values for serum zinc concentration and prevalence of zinc deficiency in Iranian adult subjects

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Introduction: Zinc, as an essential trace element for health, plays various biological roles in human body functions. Serum zinc reference values are needed for assessing zinc-associated abnormalities and prevalence of zinc deficiency. Aim: The aim of this study was to determine age- and sex-specific reference values for serum zinc concentrations in Iranian adult subjects. Materials and methods: Serum zinc concentration was measured by flame atomic absorption spectrometry in 4698 adult subjects, aged 20-94 years, randomly selected from population of Tehran, Lipid, and Glucose study. Serum zinc reference values were determined in 2632 apparently healthy subjects according to guidelines presented by the International Federation of Clinical chemistry (non-parametric method). Dietary zinc assessment was performed in 2906 individuals using a validated semi-quantitative food frequency questionnaire (FFQ). Results: Reference values for serum zinc concentrations ranged between 9.6-31.6, 8.9-29.9, and 9.3-30.8 μmol/L in men, women, and total population respectively. Prevalence of serum zinc deficiency was 3.0% and 2.4% in men and women respectively and there was no difference between genders (p = 0.267); in men but not in women, the prevalence was significantly increased with age (p for trend < 0.001). Of the total participants, the zinc intake of 10.3% (6.5% men and 3.8% women, P

Keywords: Reference values, Zinc, Serum, Population
A Comparison between Diagnostic Value of CA 15-3 Tumor Marker of Serum and of Pleural Fluid Using pleural Fluid Cytology in Malignancy Diagnosis

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Introduction and Objectives Pleural Effusion is known as one of the most important and prevalent lung disease. Malignant tumor can cause abnormal accumulation of fluid without direct involvement of the pleura. The cytology been performed to evaluate the malignancy individually has a low sensitivity of 60%; therefore, it requires combined methods or even some simpler ones. This study has been conducted to evaluate diagnostic value of CA 15-3 tumor marker of serum and of pleural to distinguish pleural malignancy.

Materials and Methods Of 65 inpatients and outpatients who went under Thoracentesis , pleural fluid and blood sample (2cc) were taken. Having centrifuged the pleural fluid, its superior fluid along with the obtained serum from blood centrifuging was used to detect CA 15-3 using Elisa. The attained sediment from pleural fluid was used to evaluate cytology and to detect malignant cells by preparing smear which was colored using Gimsa and papa nikolaou staining. The results were analyzed using SPSS. Result: 40(61.6%) men and 25(38.4%) women with the age range of 66.7± 23 participated in this study. In cytology evaluation, 17 were positive and 48 were negative. The average CA 15-3 of serum and of pleural fluid in patients with positive and negative cytology was 56±20u/ml, 19±12u/ml, 78.5±22u/ml, and 8.6±9u/ml respectively. The sensitivity as well as specificity of CA 15-3 of serum and of pleural fluid at the beginning of diagnosis was 42%, 84%, 47%, and 98% respectively. Discussion The result showed that the experiment of CA 15-3 of pleural fluid had greater sensitivity and specificity in comparison with that of serum. The conduction of CA 15-3 experiments along with that of cytology as a non-aggressive and less expensive method should be considered. Further studies with greater samples and greater positive cytology along with diagnostic panel of other tumor marker are recommended.

Keywords: CA 15-3, Malignancy, Pleural Fluid, Elisa

Comparison of serum leptin level in pregnant women with preeclampsia and that of those with normal blood pressure who referred to Vali-asr Hospital of Zanjan, Iran.

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Background & Objective: After many of researches, the cause of hypertension during pregnancy period has not been revealed. The disorders related to hypertension still remain among the most important unresolved maternity problems. This study was conducted to study the relationship between serum leptin level and preeclampsia in Vali-asr Hospital of Zanjan from 20 March 2005 to 21 March 2006. Material & Methods: This cross-sectional study comprised 2 groups of pregnant women in their last trimester. Each group consisted of 30 cases. The case group had BP>140/90, proteinuria >300 microgram/24h or +1 and more with dipstick. The control group had normal blood pressure. The samples were analyzed with leptin kit using ELISA method. Independent t-test was used to compare the means by SPSS. Results: Despite higher serum leptin level mean in the control group, the difference was not significant (57.92 33.6 and 45.8 34.6pg/dl respectively, P= 0.18). Regard to serum leptin level means in based of BMI>29, there was not significant difference between case and control groups (51.12 39.72 and 56.75 34.84pg/dl respectively, P= 0.64) but in based of BMI 29, it was higher in the control group significantly (36.75 22.1 and 60.26 32.51pg/dl respectively, P=0.07). Conclusion: The results of this study showed that there is no relationship between preeclampsia and increased serum leptin level. It seems there is a need for more studies with prospective designs and a larger sample size to clarify the relationship and association between serum leptin level and preeclampsia.

Keywords: Leptin, Preeclampsia, Hypertension
A cases of Sezary syndrome of a 60 years old man progressed from Mycosis fungoides

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Introduction: SS is an aggressive erythrodermic cutaneous T-cell lymphoma and leukemic variant of MF that is characterized by erythroderma, generalized lymphadenopathy and the presence of neoplastic T cells (Sezary syndrome) in skin, lymph node and peripheral blood. These cells are atypical lymphocyte with irregular convoluted nuclei (Cerebriform) and predominance of CD4+ CD7 T cells in flowcytometry analysis. Case Report: A 60-old-year Iranian male patient that is diagnosed for MF 5 years ago with symptoms like skin patches and plugs most often affecting trunk and foot. After 5-year-treatment due to clinical findings his clinician suspect to more advanced disease (SS) and request PBS and flowcytometry analysis of PB. Results confirm the clinical diagnosis, (an absolute sezary cell count more than 1000 / mm3, an expanded CD4+ T cell population resulting in a CD4/CD8 ratio more than 10 and more than 50 %CD4 positive, CD7 negative cells (Sezary cell) in flowcytometry analysis). Conclusion: MF clinically characterized by an indolent and protracted course but SS is an aggressive cutaneous T-cell lymphoma with poor prognosis that remains incurable, with a median survival of 2 or 3 years. Progression of MF to SS can be done by immunophenotyping evaluation of peripheral lymphocyte by multicolor flowcytometry methods.

Keywords: Key Word: Mycosis Fungoides, Sezary Syndrome, Flowcytometry

The effect of grape (Askari) juice on plasma lipid profile in male rats

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Introduction: There are several benefits for grape(vitis vinifera-Askari)in traditional medicine such as improve of blood. Some of this benefits have been investigated by novel scientific methods, but there isn’t any experimental study about the effect of grape juice on plasma lipid profile in male rats. Therefore, the present study is the effect of grape juice on plasma lipid profile (cholesterol(CHOL), triglyceride(TG), LDL-C and HDL-C) in male rats. Methods: The juice of grape seedless was separated by compressing and concentrated in oven at 60 ͦC, then 100, 200 and 400 mg/kg body weight doses were prepared and solved in 1ml distilled water then fed them with gavage tube for 35 days. Male rats weight were 200 to 250g and they divided to four groups. One group was control that received 1ml of normal saline and the other groups were test groups. The rats were anesthetized after 24 hours from last dose with ketamine/zaylazin. Blood samples were got from heart punctured, then centrifuged, the plasma was separated, after that the analyzing of lipid profile was performed. The results were analyzed by ANOVA, with SPSS programme. Results: The results shown LDL with 100mg (39.7±5mg/ml), with 400mg(66±5mg/ml). With 100mg TG and CHOL were 109.75±33 and 75.84±9 separately, that CHOL increased was significantly vs control(P≤0.02), and with 400mg 65.6±10 and 61.6±5 separately, CHOL in 200 and 400mg was significantly decreased vs 100mg. The variations in TG was similar to CHOL but not significant. HDL just in 400mg was significantly increased vs control. Conclusion: This study base on traditional medicine suggest that grape (Askari) juice can influence on lipid profile to improve the blood.

Keywords: plasma lipid profile, HDL, grape (Askari) juice, male rat
CLINICAL EVALUATION OF LABORATORY TESTS

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Laboratory tests are ordered to detect, diagnose, monitor disease, or predisposition to disease. Asymptomatic individuals are screened for unsuspected disease and symptomatic patients are tested to confirm or identify disease. After the laboratory produces a result, it must be interpreted so that a medical decision can be made. On the basis of cutoff or reference interval, results are interpreted as normal or abnormal and these, in turn, influence the decision to do nothing if the patient is considered healthy or to follow up with additional tests or treatment if disease is suspected or confirmed. However, it is important to note that most laboratory tests have false negative and false positive results which lead to misclassification of healthy individuals and patients. And also, altering the test cutoff affects significantly on diagnostic efficiency of the test. So in addition to analytical evaluation, a new method must also be evaluated for its diagnostic sensitivity, specificity and efficiency. In this evaluation process, the results of a laboratory test are matched to the presence or absence of disease in the patient and a judgment is made about the ability of the test to reflect true patient status. Clinical evaluation is impractical for most laboratories, but manufacturers usually list data for these parameters for tests. Although, it is important to understand the concepts of the diagnostic value of a test so that a manufacturer’s data can be interpreted correctly. The diagnostic value of a test is also an important piece of information that a laboratory can share with the physician who must interpret laboratory test data.

Keywords: cutoff or reference interval, diagnostic sensitivity, diagnostic specificity, diagnostic efficiency

ANALYTICAL EVALUATION OF LABORATORY TESTS

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New methods are generally proposed for improved laboratory service. Major goals include expanding tests, decreasing turnaround time, improving precision and accuracy, and reducing overall costs. Method selection and evaluation are key steps in the process of implementing new methods. A new method must be selected carefully, and its performance evaluated thoroughly in the laboratory before adopted for routine use. Analytical performance criteria in evaluation of performance characteristics of a method include precision, accuracy, analytical range, detection limit, analytical sensitivity, and analytical specificity. Although package inserts list manufacture claims for these parameters, individual laboratories must verify that the claims can be met within the laboratory’s own environment, using its own equipment and its own personnel.

Keywords: Method selection and evaluation, analytical sensitivity, analytical specificity, precision, accuracy
Tuberculosis and laboratory challenges views of lab safety and staining

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Introduction: Mycobacteria are responsible for the two major infections and contagious disease, namely tuberculosis and leprosy. Nowadays tuberculosis (white death) is the major health problem worldwide. According to reports one third world population are infected with mycobacterium tuberculosis complex and the rate of infections are increasing in underdeveloped countries and places where HIV infections are more prevalent. Bacteriology of M.tb The cell wall of M.tb is neither like gram positive nor gram negative bacteria. No teichoic acid and no lipopolysaccharide on the cell wall there is a lipid rich capsule composed of glycolipids. The major component s are esterified mycolic acid (cell bound) and unbounded cord factor which is the major virulence factor. The glycolipid capsule gives the distinctive properties of acid fastness. The stained bacilli by carbolfuchsin cannot be decolorized by acid and/or alcohol. The capsule also slow down entrance of nutrients in to the cytoplasm, so bacterium a slow metabolic rate and a long generation time(24-30)hours for each division. The major challenge is too long incubation period to have observable colonies on LJ agar. For more than one century Ziehl-Neelsen staining method were (is) based for microscopic identification of M.tb This method is not expensive is fast and have enough sensitivity but of low specificity. Challenges facing 2*1 staining is that because stained smear should be seen by oil immersion lens (*100) it is not possible to scan all fields and every red staining rod shaped particle may be misidentified as tubercle bacilli and there should be at least 10000 bacilli per milliliter of specimen to have a positive smear. fluochrome stains such as auramine - Rhodamine are used in conjunctions with a fluorescent microscope and LED (blue) light source. This method of staining is more specific and it is possible to scan all fields because the smears are observable by low power lense(*10). Two major problem facing this method , first the stained should be freshly prepared and second cells debries and protienous particle may floursce with these fluochrome dyes. Laboratory safety in mycobacteriology M.tb is highly virulent with a low infectious dose. aerosoles and splash may contain M.tb and contaminated sharp(needle) can transfer M.tb in to the body of lab-workers, and annually there are reports of this occupational disease worldwide. Mycobacteriolog lab can be divided in to 3 levels : Level 1: which is subdivided to 1a and 1b in 1a lab. Only specimen are collected and sorted in 1b with a class IBSC, smeares can become ready and stained – instruction of BSL 1 should be considered . Level 2: in this level smears are stained, fluochrome staining is allowable ,concentration decontamination and culturing can be done. A class 2 BSC in room with negative pressure and locked door. All BSL 1,BSL 2 recommendation should be considered. In level 3: presence of a class 3 BSC,N9S mask face shield and all disciplines of BSL1 ,BSL2 and BSL3 should be considered. In level 3 laboratory can do antibiogram for highly resistant M.tb and culture bottles can be stored for a long time for further investigations.

Keywords: M.tb, XDR-mtb, BSC
The value of biological markers with focus on ADA and IFN-γ for diagnosis of tuberculosis

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Globally, there are 8 million new tuberculosis (TB) cases and 2 million deaths per year. Once infected, active disease develops in about 10% of cases, usually within 1–2 years after exposure. Remaining individuals enter into a state of latency [latent tuberculosis infection (LTBI)], which can reactivate at a later stage, particularly if the individual becomes immunocompromised. Active TB is mostly manifests as a pulmonary in nature and contagious while LTBI has no clinical manifestations and is not contagious. There are several tests for diagnosis of active TB. Nucleic acid amplification test (NAAT) has high specificity when applied to body fluids, but its sensitivity is poor, indicating that these tests cannot be used reliably to rule out TB. Adenosine deaminase (ADA) test is used to diagnose pleural TB and to a lesser extent for TB meningitis. Fully automated liquid culture methods were superior to culture on solid media. Interferon-γ release assays (IGRAs) for rapid identification of active TB is another useful test. Regarding latent TB infection, interferon-γ releases assays based on specific antigens, ESAT6 or CFP-10, correlated better with intensity of exposure, and therefore are more likely than tuberculin skin test (TST)/purified protein derived (PPD)-based assays to detect LTBI accurately. An additional advantage is that they are more likely to be independent to BCG vaccination status and HIV status. But, due to the lack of a golden standard for LTBI, it is impossible to calculate the accurate specificity and sensitivity of IGRA.

Keywords: Tuberculosis, ADA, ESAT6, BCG, IGRA
O75

Quantitative assessment mRNA of mycobacterium tuberculosis by Real time RT-PCR during specific anti-tuberculosis treatment

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Introduction: Tuberculosis is an infectious bacterial disease caused by Mycobacterium tuberculosis, which most commonly affects the respiratory system. Currently, about one-third of the human population is infected with TB worldwide. The rapid diagnosis and treatment of infected patients is considered crucial for the effective control of TB, because one patient is known to transmit the disease to 12–15 people/year on average. Therefore, it is very important and crucial for global public health protection to detect, identify, and quantify M. tuberculosis. Currently, nucleic acid amplification tests for detection of Mycobacterium tuberculosis complex in respiratory specimens have the potential to provide a more rapid diagnosis of pulmonary tuberculosis (TB) than is currently possible by conventional stain, culture, and identification tests.

Materials and methods: In this project, we have optimized an in-house Real Time RT-PCR for amplification of Mycobacterium tuberculosis complex SenX3-RegX3 gene and clinically evaluated the treatment of 23 patients. The bacterial RNA was extracted from sputum samples decontaminated with N-acetyl-L-cysteine. Real Time RT-PCR was carried out on samples. Results of this assay were subsequently compared with results obtained with the smear and culture methods.

Results: Twenty-three patients with newly diagnosed TB were evaluated at week 2 and at months 1, 2, and 4 after therapy in itiation. With regard to culture results for 92 samples, Real Time RT-PCR assay (99% positive) was better than standard Ziehl-Neelsen staining techniques (91%) for detecting M. tuberculosis in culture-positive sputum samples. The overall agreement between culture and Real Time RT-PCR results for all 92 sputum samples was 96%, and compared with culture, the Real Time RT-PCR assay’s diagnostic sensitivity and specificity were 99% and 89%, respectively. For monitoring efficacy of therapy, Real Time RT-PCR results paralleled those of culture and smear methods at the follow-up time points. Results with Real Time RT-PCR assay agreed with culture results at every time point after the initiation of therapy.

Keywords: Mycobacterium tuberculosis, Real Time RT-PCR assay, Therapeutic Monitoring

O76

Improved Laboratory diagnosis of Tuberculosis

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The rapid diagnosis of TB is essential to initiating treatment in patients and controlling disease transmission in the community. Although culturing of the etiologic agent is the gold standard for TB diagnosis, it is rarely used to initiate treatment because of the slow growth rate of mycobacteria which take several weeks. Therefore, newer and reliable diagnostic methods are needed for early and precise detection of TB. The most popular amongst all laboratory diagnostic TB methods is the direct smear of the clinical samples because of its simplicity, speed, low cost and minimal requirement for equipment and technical skill. Recently, the phenol ammonium sulfate (PhAS) method for sedimentation of sputum was suggested and offered various advantages such as lost resemblance to sputum samples, safety and reduction of the time taken to read smears. Even though the conventional culture media requires a long time for the growth of mycobacteria, more rapid methods based on liquid culturing, such as BACTEC, MGIT etc., are expensive and less extensively used. In this context, a relatively rapid, low cost and safe bilayered medium produced rapid growth of mycobacteria. There is a rapid culture method applicable directly to clinical samples that are based on susceptibility to para-nitrobenzoic acid that difference between the M.tuberculosis complex and non-tuberculosis mycobacteria (NTM). PCR tests have revolutionized the diagnosis of infectious diseases owing to their speed, accuracy and sensitivity.

Keywords: TB, Laboratory diagnosis, Improved
Determination of Mycobacterium tuberculosis drug resistance patterns in Pasteur institute of Iran

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Objectives: Tuberculosis (TB) is a considerable public health problem due to its high risk of person-to-person transmission, morbidity, and mortality especially in developing countries. It is the remarkable antibiotic tolerance of the Mycobacterium tuberculosis to many commonly used antibiotics that is the root cause of all treatment failure. The goals of this study were to identify first-line drug resistance in TB isolates.

Methods: All patients with culture-confirmed TB diagnosed at the mycobacteriology laboratory in Pasteur institute of Iran over a 22-months period (Mar2010-Jan2012) were included in this study. Drug susceptibility testing on all Mycobacterium tuberculosis isolates was performed by the proportion method on Lowenstein-Jensen media according to CDC guidelines for Ethionamide, Rifampin, Isoniazide, Ethambutol, Streptomycin and Kanamycin.

Results: Among 270 MTB, resistance to at least one drug was identified in 73(27%), two drug 44(16.3%), three drugs 11(4.1%), four drugs 22(8.1%) and five drugs 5(1.9%). MDR-TB was detected in 7(2.6%) of cases. One MDR isolate belongs to 4 drug resistant groups, two MDR isolates belong to 5 drug resistant groups and four was from 6 drug resistant ones.

In the developing countries, lack of resources hinder regular drug resistance surveys, hence the magnitude of this problem remains largely unknown. Rate of first-line drug resistance is high. This underscores the need for an improved control program, coupled with early diagnosis of MDR-TB, to reduce the spread and development of resistance.

Keywords: Mycobacterium Tuberculosis, MDR

The examination of effective factors on the results of tuberculosis microspic.

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The examination of effective factors on the results of tuberculosis microspic. Ozra Haghani Nasimi (Microniology expert) Fatemeh Tashtifi (laboratory responsible expert) Mehdi Abdollahi (lanraratory technician) Abstract and aims Tuberculosis is a persistent and sthenic epidemic bacterium infection which it’s caused by tuberculosis microbacterium microb. of the world population which contain more than 2 miliard people tuberculated by this microb. Last year about 9 milion and four thousand of tuber culated patients were diagnosed in the world which 10 thousand and six hundred of them were from Iran. Most of these tuber culous patients were in seistano balouchestan. There for the exact and on time diagnosis of this disease will have an important role to control and prevent it. This research tried to express the effective reseans of sent test results to Esfarayen health care center. Materials and methods : This experimental research has been done in 1386-1389 in three times, when the patients went to the health care center, technicians and behvarzs taught them different things about accurate and correct sampling and finding patients. Findings: 4217 samples which were prepared during four years from 1638 doubtful patients who went to the health care centers examined with microscopic test, then about 30 phthisis were determined. In 56, 57, 88 and 89 the number of patients were 9,8,10 and 3 orderly. According to these findings 1367 samples out of 4217 were not suitable to test because lack of quality 408 samples of 1233 in 86, about 183 samples without quality out of 1167 in 87, 466 members out of 1077 in 88, and 310 of 740 samples were in 89 year. Conclusion and By asessiting these results separately during four years, we understand the number of doubtful people were 481, 460 , 278 orderly. According to the following statistic, finding (diagnosing) the patients in 89 decreased about 50%. Finally because of two reasons (41% samples without quality and (50% reduction of diagnosing patients) the number of positive tuberculosis patients decreased to lower than , which it should be pursued and asessed by experts which can remove these weak points because if these doubtful patients are not diagnosed, discriminated and reffered on time, they will be resistant toward and they can also distribute this disease in that area and threat the other tuberculous lives

Keywords: tuberculosis, a sample without quality, control, preventing
O79

The diagnostic value of gyrB RFLP PCR test in differentiation between pathogenic Mycobacteria in patients with clinical suspicions of tuberculosis in Mazandaran

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Introduction: Mycobacterium tuberculosis complex (MTBC) members are causative agents of human and animal tuberculosis. Differentiations of MTBC members are required for appropriate treatment of individual patients and reduce the drug resistances. Material & Methods: 1345 samples were collected of patients with clinical suspicions of tuberculosis that referred to health care center of Mazandaran from July 2010 to June 2011. The specimens were stained by the Ziehl-Neelsen staining technique and were cultured on Lowenstein-Jensen medium to detect the mycobacteria. For recognition of Mycobacterium tuberculosis complex were used MTUB-f and MTUB-r primer (gyrB-PCR1). For differentiation of Mycobacterium tuberculosis complex members were used MTUB-756-Gf and MTUB-1450Cr (gyrB-PCR2) and RFLP PCR using RsaI restriction enzyme.

Results: Of 1345 specimens, only 65 (4.83%) isolates were positive culture. Out of 65, 59 (90.76%) were MTBC and 6 (9.24%) identified as Mycobacteria other than tuberculosis. All of 59 isolates were M. tuberculosis and to be showed the typical RsaI pattern.

Conclusion: The gyrB-RFLP PCR and using the RsaI restriction enzyme is a rapid and easy technique to perform for differentiation of the members of M. tuberculosis complex and it is useful for rapid treatment of patients and avoids fatalities.

Keywords: gyrB- RFLP PCR- RsaI - Mycobacterium tuberculosis complex

O80

CHALLENGS OF TB DIAGNOSIS

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Tuberculosis is a curable infectious disease, but continues to kill individuals world wide. Weak systems for laboratory-based diagnosis have resulted in under, over and delayed diagnosis of disease leading to increase morbidity, mortality, resistance to drugs and transmission.(1)

In this article we are trying to review old and new diagnostic methods for mycobacterium tuberculosis. The sensitivity, specificity, advantages and disadvantages of all the present tests have been noted in one table.

Classic methods for TB diagnosis are the main stay of TB diagnostic since 1882. They are: 1. TB skin testing(TST) 2. Acid fast staining of clinical material(smear microscopy) 3. Mycobacterium culture 4. chest-x Ray. Other new tests are: Serological diagnosis of TB, NAAT(Nucleic Acid Amplification Test for Tuberculosis), PCR, Interferon-γ assay(INF-γ) test, Adenosine deaminase(ADA) test. In review of studies The sensitivity and specificity of tests are estimated as follow:

- TST: 74%(3)& 83%(3), SSM(Sputum smear microscopy) Conventional microscopy: 32% 94%(5,6,7)& 98%(5,6,7),
- M ycobacterium culture: 68.4%(8)& 89.7%(8), chest x-ray: 78%(10)& 51%(10), PCR: 74.1%(11)& 96.1%(11), NAAT: 66% 95%(12)& 98%(12), Serological diagnosis of TB: 59% 76%(13)& 91% 92%(13), INF-γ: 83%(17)& 74%(17),
- ADA: 90-100%(14)& 89-100%(14). TST is the standard method of determining whether a person is infected with Mycobacterium tuberculosis. In vaccinated persons, the skin test can be falsely positive due to Proteins that are shared in BCG vaccine and other mycobacterium. SSM is available and inexpensive. Cultures of specimens are sensitive and specific, and they are still the gold standard for both diagnosis and drug sensitivity testing in both HIV negative and HIV positive persons.(2) About chest x-ray, In HIV infection due to immune suppression radiological findings decreases. It can also make the interpretation of findings more difficult.(2,3) PCR techniques can detect DNA material of bacteria. The main use of PCR is to rule out other types of infections in a sputum smear positive patients(3). TB genetic material can be detected using NAAT within 3-5 hours while cultures take weeks!

Keywords: challenges, TB, Diagnosis, mycobacterium tuberculosis
Extrapulmonary tuberculosis and diagnostic challenges

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Tuberculosis is an infectious and Contagious disease Which can be seen in all organ systems. Although pulmonary tuberculosis is the most prominent feature tuberculosis in Genitourinary (GUTB), Gastrointestinal System (GITB), Central nervous System (CNS TB) are increasing Worldwide. Diagnosis of GUTB in pregnant is the most challenging because in these cases radiologic and biopsy (surgical intervention) is Contraindicated and if the disease is misdiagnosed chance of miscarriage and newborns with low apgar score is very high. In CNSTB if is not diagnosed early. Morbidity and mortality it is the outcome. In clinical diagnosis these types of TB it is recommended to use the Followings. a). molecular methods PCR, RT. PCR (NAATS) b). Adenosine deaminase (ADA) especially in peritoneal Pleural, and pericardial tuberculosis is beneficial. C) use of blue light of LED Microscope and flour chrome dyes is helpful especially in specimens with low number of tubercle bacilli. d) γ.interferon (Eli spot) and other immunologic method although not yet standardized but can be helpful in Diagnosis of Latent TB Extar pulmonary tuberculosis and diagnostic ch Tuberculosis is an infection and contagious disease which contaminate and infect All organs and body systems. Pulmonary tuberculosis is the most prominent feature but genitourinary gastrointestinal Tract skeletal system and central nervous system may also be involved. Mycobacterial infection in pregnant women may lead to miscarriage and newborns With low apgarscore. In pregnant radiologic and biopsy is contraindicated and any surgical allenges intervention may lead to abortion. In diagnosis of tuberculosis in such situation nucleic acid amplification (NAATS And immunologic tests such asIFNGAMMA and IGRASA are recommended. Although these methods have their disadvantages. In tb peritonitis pericarditis and tb pleuritis inthem effusions are present Adenosine deaminase test which is both sensitive and specific is beneficial. Nowadays LED microscopy help too much especially in specimens with low number Of mtb bacilli. Co-infection of tuberculosis and HIV infection is another challenges and add to it Infection with MDRTB and XDR TB are the main katastrophy in diagnostic area. In our situation it seems that there should be centers with advanced technologies which are able To diagnose mycobacterial infections fast and reliable.

Keywords:

Interferon ELISPot Study Immune Response Against Mycobacterial ESAT6 and PPD Mr. Mohammad Taheri

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Introduction: Vaccination with BCG hampers Mycobacterium tuberculosis infection detection by skin test due to false positive and inconsistent results. Alternative techniques which use M. tuberculosis specific antigens may help to compensate this problem. In this study, cellular immune response against ESAT-6 of M. tuberculosis and PPD in different groups was examined. Methods: Gamma interferon (IFN- γ) production by 2 X103 PBMC of 80 cases, divided in groups of patients with active disease, treated healed persons, TB suspicious and normal individuals, was analyzed by ELISPot assay after an overnight stimulation with ESAT-6 and PPD. Spot-forming units of each individual was counted and photographed which used to determine the frequency of Ag-specific lymphocytes. Results: Neither of healthy control persons showed significant reactivity against ESAT-6 Ag. Moreover, only a moderate reactivity (up to 15 cells/106) against PPD Ag was seen in 25% of this group. Recognition of both Ags by all patients with active disease and those healed after treatment was seen. The frequency of the reactivity against ESAT-6 and PPD were 5-200 and up to 25 cells/106 lymphocytes, respectively. Only 20% of TB-suspicious patients had reactivity of> 15 cells/106 against ESAT-6. Conclusion: Lack of reactivity of normal individuals against ESAT-6 and response of almost all patients toward this Ag reconfirms published results from similar patients from other places and emphasizes the need for such accurate, rapid and specific diagnostic method in our health care system. Discrimination of patients will prevent un-necessary antibiotic therapies in suspicious patients and direct therapies to the actual TB patients.

Keywords: TB, Rapid Diagnostic, ESAT 6, ELISPot Test
The value of biological markers with focus on ADA and IFN-γ for diagnosis of tuberculosis

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Globally, there are 8 million new tuberculosis (TB) cases and 2 million deaths per year. Once infected, active disease develops in about 10% of cases, usually within 1–2 years after exposure. Remaining individuals enter into a state of latency [latent tuberculosis infection (LTBI)], which can reactivate at a later stage, particularly if the individual becomes immunocompromised. Active TB is mostly manifests as a pulmonary in nature and contagious while LTBI has no clinical manifestations and is not contagious. There are several tests for diagnosis of active TB. Nucleic acid amplification test (NAAT) has high specificity when applied to body fluids, but its sensitivity is poor, indicating that these tests cannot be used reliably to rule out TB. Adenosine deaminase (ADA) test is used to diagnose pleural TB and to a lesser extent for TB meningitis. Fully automated liquid culture methods were superior to culture on solid media. Interferon-γ release assays (IGRAs) for rapid identification of active TB is another useful test. Regarding latent TB infection, interferon-γ releases assays based on specific antigens, ESAT6 or CFP-10, correlated better with intensity of exposure, and therefore are more likely than tuberculin skin test (TST)/purified protein derived (PPD)-based assays to detect LTBI accurately. An additional advantage is that they are more likely to be independent to BCG vaccination status and HIV status. But, due to the lack of a golden standard for LTBI, it is impossible to calculate the accurate specificity and sensitivity of IGRA.

Keywords:

Automated Systems in Mycobacteria Culture

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The recent report by the World Health Organization (WHO 2010) reveals that one third of the world’s population is currently infected with tuberculosis. The diagnosis of TB and other mycobacterial infections in the early stage of the disease is of utmost importance to decrease the incidence. Therefore, it is necessary for clinical microbiology laboratories to detect and identify mycobacteria from human clinical material rapidly. Microscopy and culture are generally considered to be the authoritative methods for the laboratory diagnosis of TB. However, smear microscopy is limited due to low sensitivity in paucibacillary specimens. On the other hand, culture remains the gold standard for diagnosis of mycobacterial infections, although it is time consuming and prone to contamination. Rapid, sensitive, and accurate detection of these organisms in clinical specimens can hasten the administration of appropriate antimycobacterial therapy and prevent the spread of infection to susceptible contacts through the use of effective infection control practices. A variety of manual and automated systems have been developed specifically to reduce the time to detect and identify mycobacteria in clinical specimens. Examples of the manual approach include the biphasic Septi-Chek AFB (Becton Dickinson, Sparks, MD) and the MB-Redox (Biotest AG, Dreieich, Germany) systems. Advances in automation and novel growth detection methods have led to the development of the radiometric BACTEC 460TB (Becton Dickinson), the fluorometric BACTEC MB9000 and BACTEC MGIT (Mycobacteria Growth Indicator Tube) 960 systems (Becton Dickinson), the carbon dioxide–sensing MB/BacT ALERT 3D System (Organon Teknika, Durham, NC), and the pressure-sensing ESP Culture System II (Trek Diagnostic Systems, Westlake, OH). The BACTEC MGIT 960 system is one of the more recent automated detection systems designed for the rapid detection of mycobacteria in all types of clinical specimens except blood. The system consists of a culture tube containing modified Middlebrook 7H9 medium with a fluorescent growth indicator embedded in silicone on the bottom of each tube. This compound is sensitive to the presence of dissolved oxygen in the broth medium. Clinical specimens are processed and inoculated into the MGIT tube. As microorganisms grow, the oxygen in the medium is depleted with a subsequent increase in the fluorescence of the indicator.
Posters
P1

Formulation of strategic planning for promote health and safety in medical laboratory

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Methods: This study in a medical diagnostic laboratory in Gorgan by using the checklist of quality system in medical diagnostic laboratories, edit2/2/1388 Department of Health and Safety in Laboratory that involved 26 questions, by An expert who conducted the audit was completed. After examining the factors and laboratory status and monitoring results in terms of strengths and weaknesses and Determinate The gap between existing and desirable to provide appropriate and effective solutions in line defined paid standard.

Results: The questions before the intervention Despite with the sufficient awareness but there is poor perception and performance. The results of this study in table form in problems and executive programs offered. After compiling and running a plan of 26 questions, answered 24 questions (92.4%) was yes, and answer a question (3.8%) was Requires a corrective action and response a question (3.8%) almost was yes. Significant different and tangible improvement in current problems in Establishment of quality in laboratory is seen after Program execution. Conclusion: Significant different and tangible improvement in current problems in Establishment of quality in laboratory after Formulation and perform strategic planning show the importance of Identify existing problems and careful perform breeding program with the knowledge of targeted management principles.

Keywords: Strategic planning, medical laboratory, safety
Laboratory standards for Transport of infectious Substances

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Infectious substances are transported for a variety of different reasons, within countries and across international borders. It is incumbent upon shippers to ensure packaging and shipping conditions meet regulatory requirements to preserve the integrity of materials, and facilitate their timely arrival at destination. The following guidelines provide information for classifying infectious substances for transportation and ensuring their safe packaging. They stress the importance of developing a working relationship between those involved – the sender, the carrier and the receiver – in order to provide for safe and expeditious transport of these materials. These guidelines provide practical guidance to facilitate compliance with applicable international regulations for the transport of infectious substances and patient specimens by all modes of transport, both nationally and internationally, and include the changes that apply from 1 January 2011. They replace the guidelines issued by the World Health Organization. This publication, however, does not replace national and international transport regulations. Today, thousands of samples of infectious substances need to be shipped and are shipped daily around the world. Human and animal specimens are collected and shipped for a variety of reasons, including disease investigations, clinical trials, surveillance studies, anti doping testing, routine analyses, etc. Regular and occasional shippers consign infectious substances for transport on a daily basis. These include the pharmaceutical industry, health care facilities, diagnostic and research laboratories, medical practitioners, and individual patients. In the interest of global public health, human and animal specimens need to be transported safely, timely, efficiently and legally from the place where they are collected to the place where they will be analyzed. Regardless of the presumed infection status of the patient, specimens of human and animal origin should be packaged and transported in such a way as to protect those engaged in transportation from the risk of infection. Risks of infection of personnel involved in transport may not be fully eliminated. However, they can undoubtedly be kept to a minimum. In addition, damage to packaging also means that samples dispatched for urgent tasks like analyses are unlikely to arrive to destination on time. In order to make appropriate decisions, shippers must understand their need and obligation to be familiar with regulatory requirements. Dangerous goods regulations require all personnel involved in transport to undergo appropriate training. Appropriate training and education, commensurate with the shipper’s responsibilities, will provide the shipper with the necessary degree of familiarity with applicable requirements, addressing identification, classification, packaging, marking, labeling and required documentation for the transport of infectious substances. This document will familiarize the reader with current international and modal requirements for the shipment of infectious substances.

Keywords: Laboratory standards, Transport of infectious Substances
Process of Correct Identification of Specimen in Laboratories According to Clinical Governance

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Introduction: Over than 70% of the information that is used to diagnose and treat patients by the physicians, based on laboratory results. So ensuring of the correct identification of specimen is the most important item. In order to achieve the above mentioned process, the bellow items are suggested: 1- laboratory policies and principles about handling of specimen should be written and be available to clear duties of service, office and healthcare personnel. -2 When an error occurs, it’s necessary the wrong process be determined and personnel to be justified to prevent the occurrence of similar cases. 3- Labels would be better in the barcode form to facilitate the process of specimen ID. 4 – If using barcode is impossible, labels should contain the name, surname, age, ID No. of patient and section name. In addition, an specific code for each section is recommended to prevent similar names errors. 5- Phlebotomist should compare the labels and identification items of patient. 6- Avoid sticking the label on the moving lids or covers that might be separate from specimen container. 7- All Tubes must Labeled Immediately after blood specimen is vacated. 8-If there are any ambiguities and misunderstanding in relation to label of specimen, sampling should be repeated again and errors caused by wrong process should be analysed and evaluated. Conclusion: Considering the above items, the probability of specimen identification errors will be minimized and an effective step will be taken toward laboratory accreditation and clinical governance.

Keywords: clinical governance, Process, Correct Identification, Specimen

Ten Challenges of Establishing Medical Ethics in Medical Laboratory

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The priority of providing welfare, health and patients’ interests is a general principle in medical ethics. The medical laboratory services should be presented regarding the ethical principles. This study is aimed to describe a clear picture of the present status of medical ethics in medical laboratories and the challenges related to the establishment of them. In order to achieve this goal, the following three research questions were addressed in this study: 1- Are the criteria concerning the medical ethics in medical laboratories regarded for the patients refer to medical laboratories appropriate in terms of the theoretical and practical considerations including real tariffs for medical laboratory services, professional competitions amid medical laboratories and validity or accuracy of the tests from the viewpoints of the patients and of the heads of the medical laboratories participated in the study? 2- What are the overall impressions of the patients and of the heads of the medical laboratories regarding the present status of administration of the medical ethics in the medical laboratories? 3- Is there any significant difference between the patients’ viewpoints and those of the heads of the medical laboratories? A quantitative design inclusive the questionnaire was utilized to carry out the present research. The questionnaire contained 10 criteria for fundamental challenges relating to establishing the medical ethics in medical laboratories. One hundred patients and thirty head medical laboratory, as available samples, participated in this study. The results demonstrate that the patients and the head medical laboratories were not satisfied with the present status for most of the criteria which the medical ethics should fulfill. Moreover, the results show no significant difference between the viewpoints of the patients and the head medical laboratories. Despite, the overall impressions of the participants reveal that they are satisfied with the present status of administration of medical ethics, it seems essential that the improvement in establishing the medical ethics is given peculiar consideration by providing the solutions to the challenges examined in the study.

Keywords: Medical Ethics, Medical Laboratory, Challenges
**Audit of Transfusion Related Practices and Equipments in 102 Hospitals**

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Background: Blood banks are connection sites between blood centers and hospitals. Blood transfusion organization emphasizes on applying SOPs, using and calibrating of blood bank equipments and preventive measures for probable risks and mistakes. To evaluate the practices and blood banks equipments, the present study was designed. Methods & Materials: In two separate domains including practices and equipments, 102 hospital blood banks, were evaluated. Blood banks were categorized in three groups based on scoring method. Data were analyzed by SPSS version 19.5 using descriptive statistics. Results: 31% of hospitals had independent space for blood banks, however, the rest had to share with another part of labs. In equipment domain of the study, it was found that 88% hospitals had serofuge, 63% had separated water bath for throwing plasma, 67% had blood banking refrigerator, 42% had plasma freezer and 22% had platelet shaker Incubator. In practice domain it was revealed that 88% of hospitals had SOPs, 82% meet standard practice for cross match and just 8% did antibody screening. Conclusions: Majority of hospitals (70%) were categorized in good and acceptable condition for transfusion related practice and equipment. This finding could be introduced education and repeatedly audits.

**Keywords:** blood bank equipment, Related Practices, Audit

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**A study on observing standards based on evaluation checklist of quality system in private medical laboratories in Yasouj University of Medical Science.**

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Introduction and objective: Now a day laboratories play an important role in prevention and diagnosis of diseases and trend of community health. Therefore special attention to observing standards provide a great contribution to upgrade the quality of results and satisfaction of patients. Therefore our objective is to study the level of observing standardization obligations announced by the ministry of health based on checklist in private medical laboratories, Yasouj University of Medical Sciences. Method: In this sectional-analytical study is a concentration of the results of surveys performed during the past on year in the laboratories under supervision of Yasouj University of Medical Science, based on the 164 case checklist of the ministry of health, with emphasis on the cases asterisked by the expert of provincial office of laboratory’s affaires. Results: in consideration of surveyws performed, the most cases of obligation established were pertaining to rooming and installation(92%), personnel (80%), post test proest(79.5%) and least established cases were in process of doing tests (42.3%) recognition and investigation of mistakes (50%) and quality control (55.5%). Also the most cases which needed reformatory measures were in the quality control sector (13.7%). Discussion: some obligation are more effective in upgrading quality in comparison to other, therefore reforming process and removing it’s challenges will provide a great contribution to quality upgrade. Therefore with respect to the obtained results. Planning for accelerating the level of establishing obligations in quality control, process of performing tests and giving value to questions. With respect to their effectiveness also permanency and continuous survey will provide a great contribution to quality upgrade in the medical diagnosis laboratories.

**Keywords:** checklist standard, quality control, observing standard
P7

**The prevalence of in vitro hemolysis in the specimens sent to an academic hospital laboratories of Shiraz University of Medical Sciences.**

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Objective: In vitro hemolysis is the leading cause of preanalytical errors in the clinical laboratories. The objective of this study was to identify prevalence of in vitro hemolysis in the blood samples that sent from different departments of an academic hospital to the hospital laboratories for diagnostic testing. Methods: 225 specimens were collected by nurses or clinical technicians from hospitalized patients. Blood samples were processed and assessed for hemolysis using standard procedures by laboratory technicians. Results: The total percent of hemolyzed specimens was 19.9% - 77% small degree (50-100 mg/dL free Hb) 16% intermediate degree (100 to 200 mg/dL free Hb) - 7% by high degree (>200 mg/dL free Hb). The percent of hemolyzed specimens was different in the intensive care units (23%), the department of neurology (10%), the department of emergency (26%), the department of internal medicine (35%) and the department of surgery (6%). Conclusion: This study demonstrates that in vitro hemolysis is relatively common in the specimens sent from different departments to the hospital laboratories. Keywords: Preanalytical error, In vitro hemolysis,

**Keywords:** Preanalytical error, In vitro hemolysis,

P8

**Evaluation of reproducibility of differential leukocyte count among laboratory staffs**

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Introduction: Complete blood count test along with differential leukocyte count (CBC and Diff) makes the basis for the diagnosis of hematological disorders through a qualitative and quantitative (morphologic) analysis of blood cells. Manual and microscopic CBC test is very time consuming and laborious, and while requiring high cost and experienced staff, is prone to various errors. The results of differential leukocyte count can be different according to the person doing the test. Materials and Methods: To this end, during a 60 day period, two blood films were kept daily after microscopic differential count of leukocytes. The next day, these two films were given to two other laboratory technicians for further evaluation. For each leukocyte subgroup the reproducibility among the four persons evaluating was calculated among 58 pairs. Findings: For each leukocyte subgroup, the coefficient of variation (CV) among the persons evaluating was as follows: Neutrophils 7.6%; metamyelocytes 73.6%; myelocytes 132.5%; monocytes 63%; lymphocytes 28.5%; eosinophils 8.55% and basophils 295.2%. Discussion: Knowledge of the factors causing day to day inaccuracy in differential leukocyte count and their follow-up can be useful in deciding on corrective measures (such as staff education).

**Keywords:** hematology, differential leukocyte count, reproducibility
P9

**Polymorphism of Exon 1,3 Bcl-10 Gene in Paraffin Blocks with Non Hodgkin’s Lymphoma Diagnosis and Blood Sample of ALL in Northwest of Iran**

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Background and Aims: Bcl10 is a gene that recently identified in B-cell lymphomas of mucosa-associated lymphoid tissues. It has been suggested as a target for mutation in multiple types of tumours. The recently described Bcl10 gene has been suggested to be a major target gene for inactivation in a variety of human cancers. Methods: EDTA blood from 20 patient with ALL, 20 paraffin block with non hodgkin’s lymphoma diagnosis and 45 blood sample as controls were collected and DNA was extracted. The gene was amplified with PCR and product for exon 1,3 of BCL-10 gene were sequenced. Results:after sequencing of PCR product of exon 1,3 there is n’t any meaningful mutation in BCL-10 that could be caused diaease. Conclusion:mutation in BCL-10 could n’t be caused of malignancy and extracted DNA of paraffinic block could be used as a source of cellular genomic matter in molecular studies.

**Keywords:** acute lymphoblastic leukemia(ALL), sequencing, paraffin block
P10

The rapid detection of vibrio cholerae by PCR based on nanotechnology

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Introduction: Rapid detection is important in epidemics and bioterrorism wars. And detection based on traditional methods is time-consuming and costly. The aim of this study is to create a rapid, specific, and efficient method for bacterial DNA capturing and detection by PCR and Dynabeads. Material and Method: In this study, we used a capturing sequence (biotinylated probe) for binding extraction DNA of V.C or other bacterial and separation by magnetic field then use of specific primers (Hly) for detection by PCR. Result: In the result of PCR only V.C gave a band (positive) therefore the designed probe specific for V.C is sensitive to PCR by the biotinylated probe high than bacterial cell as template for PCR.

Keywords: magnetic nanoparticle, detection, vibrio cholerae, PCR, biotinylated probe

P11

Paramagnetic nanoparticles can be used in conjunction with PCR to fast detect of Vibrio cholerae

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Abstract: Background and Objective: Cholera infectious disease is caused by Vibrio cholera O-1& O-139. The current procedures for the detection of V. cholerae bacteria can often be costly in labor, materials, and time. The aim of this study was the separation of V. cholerae O-1 using Immunomagnetic separation and detection by PCR. Methods: Firstly, the polyclonal antibody against bacterial surface antigen (ompW) was immobilized on iron oxide nanoparticles and this approach was used to isolate bacteria from the environment. PCR from the IMS precipitate using the CTX primer was accomplished. Bacterial strains from two medical centers of Tehran clinical samples were collected and identified using biochemical methods. Results: To confirm the immobilizing process, two methods (FTIR spectroscopy and Brad Ford protein assay) were used. PCR from precipitate using the special primer confirmed the accuracy Isolation and particular detection of V. cholerae Sps. This method can isolate V. cholerae bacteria up to 1 CFU from buffer samples. Conclusions: The results showed this technique is more powerful in comparison to the other separating methods. At last, it is notable that in time usage of ompW antibody with CTXB gene can be detect all of the cholera caused bacteria.

Keywords: Vibrio cholerae, PCR, Surface proteins (omp), Polyclonal antibody, Cholera, Immunomagnetic separation
Genotype analysis of Giardia lamblia isolated from children in Ahvaz, South west of Iran

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Giardia lamblia is an enteric protozoan parasite that infect human and a wide range of vertebrate hosts. The aim of this study was to investigate genotypes of Giardia lamblia from children fecal samples in Ahvaz, South West of Iran by PCR-RFLP method. Fecal samples were collected from 58 children who were positive for Giardia lamblia. DNA extractions were performed by QIAamp Stool Mini Kit. DNA were evaluated by semi nested PCR-RFLP assay, targeting the glutamate dehydrogenase (gdh) gene, that was used to distinguish within and between genotypes A and B. Fifty samples (86%) were confirmed by semi-nested PCR. Genotype analysis among 50 isolates indicated 5 (10%) and 8 (16%) assemblages AII and B, respectively. Mixed Infections with both assemblages AII and B were also detected in 37 (74%) cases. This is the first study of molecular characterization of Giardia lamblia in South west of Iran. Postulated sources of contamination by accidental discharge of sewage effluent and faecal contamination from animals may contribute to this high rate of mixed infection in current study. Further study are needed to better understand the source and route of infection.

Keywords: Giardia lamblia, Glutamate dehydrogenase (gdh), Semi-nested PCR-PCR-RFLP, Ahvaz, Iran

The frequency of pap gene in urinary tract isolated E.coli

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Escherichia coli is the major causative agent of urinary tract infection and its adherence to uroepithelial cells seems to be important in pathogenesis of this bacteria. The pap operon encodes the p fimbriae adhesion which has been shown to mediate attachment to specific cell surface glycopeptides and facilitate colonization. The aim of this study is to detect pap adhesion-encoding operon using polymerase chain reaction (PCR) in E.coli isolated from urinary tract infection in Gorgan, north of Iran. Method: DNA extraction for 204 E. coli isolated from patients with UTI were carried out by boiling method. The presence of pap adhesion-encoding operon was detected by specific primer using polymerase chain reaction (PCR) method. Result: 94(46.1%) out of 204 E.coli isolates had pap gene. We found that pap positive isolates in cephazolin(%55.8) and ESBL strains(55%) was significantly higher than cephazolin sensitive(%34.2) and non ESBL(42.4%)strains Frequency of pap gene in patients with dysuria and frequency were significantly lower than patients without this symptoms .(p< 0.005) . There was no relation between pap gene existence with sex, occupation , residency on town or village and ethnicity. Discussion:.Frequency of pap gene in our region was in predicted range between 40 and 60 %. ESBL isolates and/or resistance to first generation of cephalosporin increase possibility of pap gene presence.

Keywords: Eschercia coli, Urinary tract infection, P fimbriae
P14

Yet established whether the genetic data bank for people at risk, is not he?

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Background: Molecular human identification is one of the most important tests performed in forensic laboratories. These tests are applied for identification of human remains from natural disasters, wars, etc. Methods: Bone remains from the so called 8 years of Iran-Iraq war (1980-1988) were selected for molecular analysis. The skeletal remains of bodies obtained by using Qiagen kits, cellular DNA was extracted using kits Minifiler. Results: In many cases, despite of observing large amount of DNA after extracting from cleaned bone powders, no profile or PCR products could be observed when human specific primers have been applied. Two problems may occur as a result of PCR inhibitors and lack of reliable database DNA feature is the target population. Conclusions: Our observation indicated that Preparation of a genetic database of all employees in high risk jobs can be very useful for possible future security incidents. Keywords: Molecular human identification, Bone remains, DNA database.

Keywords: Molecular human identification, Bone remains, DNA database.

P15

A method development for serum lipoprotein zeta potential measurement by zetasizer instrument

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Serum lipoproteins play a central role in transporting hydrophobic molecules through the bloodstream and between specific tissues. Lipoprotein molecules have a distinctive electrical charge and changes in electrostatic properties directly affect the metabolism of the lipoprotein. Considering the vital role of zeta potential in lipoproteins structure, their interaction with apolipoproteins and enzymes and finally in plasma lipid metabolism and with regard to the changes in lipoprotein zeta potential in different physiological and pathological conditions, determination of lipoproteins zeta potential can help to better understanding of pathogenesis and prognosis of lipid metabolism related diseases. There are some methods such as agarose gel electrophoresis and spin-probe technique to evaluate the lipoprotein zeta potential, but these methods are complicated and not quiet reliable and their reported values are variable in different articles. The aim of this study is to develop a reliable and repeatable simple method for lipoprotein zeta potential measurement. In this method after isolation of plasma lipoproteins by sequential ultra-centrifugation, the lipoproteins zeta potential were detected by laser doppler velocimetry (LDV) technique by zetasizer instrument. The effects of dispersant buffer, ionic strength, temperature, lipoprotein concentration and pH on zeta potential values were evaluated for each lipoprotein and the best condition was determined and considered as a standard operating protocol (SOP) for VLDL, LDL and HDL separately. The detected values for VLDL, LDL and HDL zeta potential separated from a pooled plasma of 20 volunteers with 10 separate analysis were -36 ± 5, -25.2 ± 1 and -36 ± 4 respectively. With the use of this method the zeta potential of the same lipoprotein sample can be evaluate before and after exposure to different agents in vitro. Also the mean values for lipoprotein zeta potential in different populations and their changes in pathological conditions can be determined.

Keywords: zeta potential, lipoprotein, zetasizer
Detection of atypical mycobacterium from surface water and importance of molecular diagnostic methods

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Abstract: Backgrounds: study of mycobacteria family due to its importance and effects in public health is seems to be critical and esstential. On other hand, water as a critical factor in human life, have a large impact as the transport mediating of this environmental microorganisms to human bodies. Our target in this research was the diagnosis and detection of this bacterial family staffs in Esfahan’s surface waters. Material and methods: After sampling and transport to the lab, we performed the filtration and disinfection processes using NaOH 1% and SDS 3%, then sediments cultured on LJ medium and providing positive Acid fast test, biochemical tests profiles such as Paranitrobanzoic acid, catalase, urease and others performed for each that has been isolated. Molecular identification of atypical mycobacteria based on hsp65 is a reliable and rapid approach which can identify NTM mycobacterial strains from mycobacterium tuberculosis. Results: From totally 70 surface water samples, 24 (36%) isolates was detected that including: 5 (14%) isolates relevant to park waters, 1 (2%) isolate relevant to private home canalization water, 6 (17%) isolates relevant to city plazas, 3 (17%) isolates relevant to hospitals samples, 3 (10%) isolates relevant to agriculture waters, 1 (6%) isolate relevant to spring waters, 2 (13%) isolates relevant to well waters and 3 (12%) isolates relevant to river waters. Conclusion: Due to elevated rang of the surface water sources contamination to the different types of mycobacteria, in effect of factors such as not considering of standard protocols in disinfection as well as exposing of city sewages, and on other hand extend of human exposures with this water surfaces and oppotunistness of mycobacteria species for creation of infectious in humans, and deficits of traditional diagnostic approaches, propagation of novel and molecular diagnostic protocols seems very critical to elevate of accuracy and delicacy as well as reduce of time and charges of the infectious diseases treatment and management.

Keywords: environmental mycobacteria, surface waters, hsp65 gene
P17

Measurement of Serum Procalcitonin in patients with swine flu (H1N1) in the hospital Hajar in Shahrekord 2010-2011

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Background: A new influenza virus type A H1N1 flu virus emerging is that sudden changes in the structure of the virus is and can cause pandemic. Procalcitonin a laboratory test that measures the consumption of antibiotics and antibiotic helps prevent side effects. This study measured serum levels of Procalcitonin in patients with swine flu (H1N1) in the hospital Hajar in Shahrekord from 2010 to 2011 was performed. Material and methods: 140 patients with suspected swine flu specimens were obtained bronchus. They are using the swine flu was confirmed by PCR. Serum samples from patients using chromatography kit German Company Brahams (sensitivity 95% and specificity 85%) levels were measured Procalcitonin it. Results: PCT

Keywords: Key word: Swine flu (H1N1), Procalcitonin, Respiratory disease
P18

**Comparative survey of Influenza types and subtypes in susceptible respiratory samples in the years 2010 and 2011 in 5 provinces of Iran**

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Introduction Influenza viruses are a causative agent of epidemic and sometimes severe and mortal pandemic in industrial as well as developing countries. To investigate the prevalence of the disease, the suspicious respiratory samples from 5 provinces of Iran sent to Influenza research lab, Pasteur Institute of Iran, were assessed for molecular diagnosis of type and subtype of the virus.

Research method In the year 2010 and 2011, respectively 476 and 1243 Pharyngeal secretion samples from susceptible patients with seasonal influenza were collected from 5 provinces of Iran (Tehran, Zanjan, Semnan, Qom, and Markazi). The samples were transported in viral transport media at 4°C to Influenza research lab, Pasteur Institute of Iran. The samples were centrifuged, aliquoted and stored at -76°C. Real Time PCR was performed using specific primers.

Results

In the year 2010, 168 pharyngeal samples of susceptible patients were Influenza A positive from which 98 cases were Novel A/H1N1. In the year 2011, 151 cases were Influenza A positive from which 13 cases were Novel A/H1N1, and 99 cases were A/H3N2 positive. Only one case was Influenza B positive.

Conclusion

Because of early prevalence of seasonal Influenza in south hemisphere, the centers of disease and surveillance should have an appropriate program to prevent and manage an epidemic.

**Keywords:** Influenza virus, epidemic, Novel A/H1N1, H3N2

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P19

**Survey frequency of isolated Bacteria from tracheal aspirated in patients admitted to intensive care unit at BESAT hospital, Sanandaj**

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ABSTRACT Background: Nosocomial infection are nearly the most important health in the world. The high costs of treatments and The great number of patients with high mortality and morbidity rates and also increased incidence of these infections are suggestive of the importance of these infection. The aim of this study was prevalence determination of bacteria isolates from tracheal aspirated in intubated patients admitted in ICU of besat hospital. Material and methods: This is a prospective descriptive study that included 90 specimens of secretion respiratory tract admitted to ICU during a period of 18 month (89/1/1 – 90/6/1). In order to isolation bacterial source of nosocomial infection the specimens were cultured in enrichment and differential media. The data analyzed by means of spss – win soft ware. Results: 78 of 90 specimens of secretion respiratory Tract were culture positive. 57.7% was man and 42.3% was female. The leading prevalent microbial agent that cause most of nosocomial infection in gram negative bacteria respectively were including: Acinetobacter13(16.6%), klebsiella11(14%) , enterobacter7 (8.9%), pseudomonas5(6.4%) . The highest sensitivity was imipnem in gram negative bacteria and vancomycin in gram positive bacteria. CONCLUSION The present study shows that gram negative bacteria have high prevalence in patients admitted to ICU. The increased of these species in most cases due to the administration of inadequate and irrational antimicrobial therapy. To overcome this problem it needs increasing compliance with infection control issues.

**Keywords:** Nosocomial infection, ICU, Tracheal Tube
P20

The Role of Quality Control Management in Accurate Identification of Respiratory Tract Infection

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Introduction and aims: The clinical microbiology laboratory plays an important role in the management of patients with respiratory tract infections. It is essential that the microbiologist be familiar with the quality Control Management in pre-analytical, analytical and post-analytical process in clinical microbiology laboratory which is needed to timely and accurate information to help establish a specific etiologic diagnosis and to guide therapy. The aims of this study were introduction, using of standard methods and quality control management performance in detection and lowering of errors in above mentioned process. Research procedure: In 5 years period, from 1386 to 1390 all requests and submission of specimens to clinical microbiology laboratory (pre-analytical process), carring out of standard tests with performing of their quality assurance (analytical process) and test reports with regard to their critical values (post analytical process) were accurately surveillanced. All of errors were recorded and corrected, immediately by using of standard quality assurance programs. Results: This study revealed that the majority of errors were related to pre-analytical process and the minority to the others, especially to post analytical process. Accurate and specific etiologic diagnosis and therapy, on the other hand lowering of the errors were achieved by using of standard quality assurance programs in study time (The details of the results will be mentioned in present time). Discussion and conclusion: accordant to other studies, all of errors were related to pre-analytical process. The role of quality control management is undeniable in detection of probable errors, their accurate surveillance and control, too. This important will be true by performing of quality control management, continuously in all of above mentioned process and by documentation of the all of important and necessary defecteds. All errors and disadvantages will be reduced rely on accurate sources and references, directions, standard operation procedure (SOPs), enhancing of personnel knowledge, their finesse and competency by planning of educational programs for achieving to accurate and specific etiologic diagnosis and therapy.

Keywords: Quality Control Management, Respiratory Tract Infection

P21

Relationship between CRP test and respiratory pneumonia from Streptococcus pneumonia

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Abstract Introduction: One of the most important factors causing respiratory pneumonia, septicemia, and meningitis is Streptococcus pneumonia which is a major cause of death among children and adults. On the other hand, incorrect and untimely diagnosis leads to bacterial resistance and unwanted complications. One of the important and cheap tests to rapidly diagnose and control this disease is the CRP test, thus, our aim was to investigate acquired pneumonia from the society and to determine its relationship with CRP. Material and Method: After finding patients and completing the questionnaires, 126 samples of Sputum and blood were gathered from the patients. All the samples were exposed to CRP and Gram Staining. Result and Discussion: Out of the 126 samples, 35.7 %were male, 64% were female, and the mean age was 44 years. 20.6% (26 people) were Positive CRP, 79.4 (100 people) were negative, from which 69.2% were female and 30.8% were male, 76.9% (20) had fever. Also, all of the Positive CRP samples in Gram staining for were positive for Streptococcus. Conclusion: With regard to the obtained results and also the positive CRP samples which simultaneously revealed clinical and laboratory results including Gram Staining and cultivations confirming Streptococcus pneumonia, the importance of the pneumonia in the research area is revealed, and using CRP as a cheap and rapid way of diagnosing pneumonia can have positive results in treating pneumonia.

Keywords: Streptococcus pneumonia, Respiratory pneumonia,CRP test
A review on the methods of diagnosing Pneumocystis jirovecii pneumonia

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Background: Pneumocystis jirovecii pneumonia (PCP), a common opportunistic infection, has historically been a leading cause of morbidity and mortality in individuals with HIV infection. It cannot be cultured, and bronchoscopy with bronchoalveolar lavage is the gold standard procedure to diagnose PCP, but noninvasive diagnostic tests and biomarkers show promise that must be validated. Method: Since pneumocystis cannot be cultured, identification requires staining methods a highly sensitive one of which is immunofluorescent staining. This is a replacement to direct staining techniques; the methenamine silver and the difficult-to-read Giemsa. A number of other techniques for PCP diagnosis include polymerase chain reaction (PCR), blood S-adenosylmethionine, LDH, serum (1-3)-b-D-glucan test and Merifluor-Pneumocystis direct fluorescent antigen (MP-DFA) test. In this review a comparison of these techniques has been presented and the most successful method has been selected. Result: A large number of studies have shown that PCR can be used for early and accurate diagnosis of PCP in HIV-infected patients. Using real-time PCR it is possible to locate the organism genome and measure the number and mass of the organism in clinical specimen (like BAL, serum) before and after treatment. It is also possible separate the DNA from environment. Key words: Pneumocystis jirovecii-PCR- bronchoalveolar lavage- opportunistic infection

Keywords: Pneumocystis jirovecii,PCR, bronchoalveolar lavage, opportunistic infection

Comparison of pleural fluid cytology and pleural biopsy in the diagnosis of benign and malignant lesion.

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Title: Comparison of pleural fluid cytology and pleural biopsy in the diagnosis of benign and malignant lesion. Authors T. khamechian -T. Mazuchy - Maryam Farzanegan - Elham Sadat Sadeghian - Department of Pathology, University of Kashan. Introduction: Fluid in the pleural cavity is caused due to various reasons. Conditions such as trauma, infection and inflammation, systemic disease and cancer cause fluid in the pleural cavity. Exudate or transudate fluid can accumulate. The fluid exudate, mostly in malignant diseases and chronic infections and transudate accumulation in benign conditions. Most malignant effusions associated with metastatic carcinoma such as breast, lung and gastrointestinal and ovarian carcinomas are less. In dealing with patients with exudative effusions of the important things whether it is malignant. pleural biopsy and pleural fluid for cytological diagnosis in many cases can confirmed whether the lesion is malignant. The aim of this study is matching between pleural fluid cytology and biopsy in the diagnosis of pleural malignant and benign pleural effusion. Methods: In this study 54 patients with pleural biopsy, pleural fluid cytology were also compared of these numbers 20 patients were females (37%) and 34 were males (63%) and their age range was 17-84 years. The cytological diagnosis of malignant or benign nature of the liquid was determined. The pleural biopsy was performed with the patient and their match or mismatch was investigated. Results: Cytology of pleural malignancy was diagnosed in 22 cases of which 19 cases (5/86%) in the biopsy diagnosis of malignancy had been and two cases (9%) were mismatch and one case (5/4%), microscopic description without a definite diagnosis was made. Conclusion: Pleural cytology is a Noninvasive method to distinguish benign and malignant pleural lesion especially infection and inflammation but following the diagnosis of malignant diseases such as type of diagnosis and initial organ can be affected More advanced techniques such as tumor marker.

Keywords: pleural effusion, cytology, pathology
Investigate cases of suspected bird flu in Kermanshah Province during 1386 - 1387

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Avian influenza viruses of birds other than birds and pigs naturally in other species have not been able to establish infection. But in 1997 the first human infection with influenza type 1N5H / A in Hong Kong and with proven infection 18 people were killed 6 of them. It seems most serious threats to the bird flu has not come. If the virus spread easily from human to human shape and ability to learn can lead to a global pandemic and probably affected the result of billions and tens of millions will die. Study of human cases of suspected bird flu with symptoms of fever over 38 ° C, lower respiratory symptoms and exposure history at locations approved by 1N5H / A bird that is 86-87 years - care centers in the province province referred Kermanshah has been checked. Methods: retrospective and descriptive and statistical data collection and analysis is the study of form. Results 86-87 years, 36 patients with suspected symptoms of avian influenza referred to health centers have been occurring treatment for women 0.14 (39%) and 22 men (61%). Of age groups: under Year 2 (5.5%),1-10: 1 person (2.8%),11-20 years: 6 cases (16.6%), 21-30 years: 11 patients (30.5%), 31-40 years: 5 (14%),41-50 years: 6 cases (16.6%),51-60: 0 and above 61 years, 5 patients (14%). 27 patients infected by direct contact with birds (pigeons, domestic, native village poultry and poultry) have. 2 patients have died. (5 months and 87 years old) Throat swab samples obtained from 36 patients, the results of all samples 1N5H / A has been declared negative. Conclusions: According to the type of conflict that lead to disease, severe pneumonia and ARDS in patients who are ultimately the areas where there are confirmed cases of bird flu in 1N5H is necessary that all severe pneumonia cases and review of all human cases of avian influenza Contact The positive birds were found to be under active care.

Keywords: Birds, Kermanshah, Influenza

Diagnoses of aspergillosis fungal infections in patients with asthma.

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Introduction: Over 150 aspergillus species, Aspergillus fumigatus is responsible for about 95% of aspergillosis infections in human. As fungi are very common against in the envirment, exposure to these airborne spores in specific conditions can lead to allergic illnesses in atopic and asthmatic individuals. The prevalence of mold allergy has been reported from6 to 24% in the public population, up to 44% among atopic patients and up to 80% among asthmatic patients. The Aspergillus-associated respiratory disorders may be classified into three clinical categories, allergic brochopulmonary aspergillosis(ABPA), aspergilloma and invasive aspergillosis. Prevalence of ABPA is estimated to be about 1-13% in patient of asthmatic in the world, but about 16-50% in India, among workers with asthma. The aim of this study was isolate aspergillus spp from sputum of asthmatic patients. Method Material: Between asthmatic patients that were referred to center of asthma allergy in Tabriz, 22 patients were selected by the clinicians, who had positive skin test to aspergillus antigens and the antibodies of IgG, IgE specific aspergillus were high level in their serum. Sputum specimens of these patients were sent to mycology laboratory for mycological examinations. Positive isolates were identified by slide culture and study of fungi morphology. Results: From 22 sputum specimens, 4 sample were positive for Aspergillus fomigatus,(18/15%),by both methods, culture and direct examination. Also Candida albicans were isolated in 2 samples. Discussion: Among aspergillus spp, A.fumigatus because of its antigen/allergen (over 18 antigen/allergen), and ability to colonize the respiratory tract of patients with asthma, is the most common against due to aspergillosis infections in asthmatic patients. As early diagnose with aggressive treatment may prevent further lung damage and end -state fibrosis, it is suggested that the need for routine screening of all asthmatic patients with an aspergillus skin test. Finally, there is a need to update and revise the criteria for diagnosis.

Keywords: aspergillosis polmonanery, Aspergillus fumigatus, asthma
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The Study on Methods of Diagnostic Allergic bronchopulmonary aspergillosis

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Background: Allergic bronchopulmonary aspergillosis (ABPA) is a frequent complication in patients with cystic fibrosis that causes significant respiratory morbidity. It is a hypersensitivity reaction to Aspergillus fumigatus. Method: ABPA distinct by a group of clinical, laboratory, and radiographic criteria include repeated finding of Aspergillus species in sputum samples, prick test, serum eosinophilia, an high total IgE level, bronchiectasis, and chest radiographic infiltrates. Despite these criteria, diagnosis of ABPA in cystic fibrosis patients remains mainly difficult. So Serological testing is recommended. A number of techniques for ABPA diagnosis include ELISA (for Total IgE and specific IgE against A. fumigatus recombinants), ELISA (for specific anti-A. fumigatus IgG, immune electrophoresis (for precipitin detection), sandwich enzyme-linked immunosorbent assay (for Galactomannan antigen) and PCR. In this review an evaluation of these techniques has been presented and the most effective method has been selected. Result: A large number of studies have shown that recombinant allergens can be used for early and exact diagnosis of ABPA. Detection of Aspergillus DNA in serum samples by nested PCR had the highest sensitivity than other methods tested for the diagnosis of pulmonary aspergillosis. Key words: Allergic bronchopulmonary aspergillosis, recombinant allergens, IgE, IgG, PCR

Keywords: Allergic bronchopulmonary aspergillosis, recombinant allergens, IgE, IgG, PCR

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Survey of Antibiotic Resistance of gram negative bacilli Isolated from pulmonary Infection In ICU Rajaee hospital (2011)

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Introduction: Nosocomial infection are one of the most important health problems in admission patients in ICU. Pneumonia is the most common nosocomial infections in ICUs. Incidence of nosocomial pneumonia in ICU is about 10-20 percent and in patients with trachea tube are reporting 80 percent. The goal of this study is to determine drug Resistance Pattern of gram negative bacilli isolated from hospitalize patients with pulmonary infection in ICU. Material and Methods: This study is during 10 months (2011), the 82 samples of trachea tube or pulmonary fluids of patients. Samples were transported into TSB medium, and incubated for 24 hours. Then subculture on Blood agar, chocolate agar, EMB. After 24h growth, differential and microbiological specific tests were done for determining of bacterial pathogens. Antibiotic resistant testing was performed on Muller Hinton agar by using disk diffusion (Kirby-Bauer) method, according to CLSI. Results: of the 82 cultures, isolated microorganisms in order of frequency included: klebsiella 37 (45.1%), Pseudomonas 19 (23.1%), Enterobacter sp 22 (26.8%), Citrobacter 5 (6%), Acinetobacter 1 (1.2%). Drug sensitivity testing performed, results indicate the highest sensitivity Amikacin 94.3%, Imipenem 69%. Conclusion: The present study shows high prevalence of antibiotic resistance in gram negative bacilli isolated from patients admitted in ICU. It seems that irregular usage of antibiotics is the reason of high resistance. To overcome this problem it need to develop new antimicrobial agents, limiting the unnecessary use of antimicrobial and increasing compliance with infection control issue.

Keywords: Antibiotic resistance, respiratory infection, ICU, Qazvin
Aknowleg of Medical of Law In Medical Lab

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cal laboratory diagnosis of some medical errors that occurred. For control the quality of care accreditation undesirable undesirable patient health community has moral. Respect to law and order the medical rights of communities to essential health human social life and especially in this are safe. This descriptive study – an analysis efforts has developed concepts of rights decisive to medical diagnosis.

Conclusion: Medical law sets the rules and regulations governing medical issues and medicine, laboratory, pharmaceutical and other similar roll is depended and field studies such as medical Ethics is very broad and extensive. So that among the various of disciplines of Medicine, found that the string can not be excluded from the study of law. Ethical and human dilemmas and challenges faced over on its complexity has increased, and this awareness commitment and implement them in precise and accurate determination of their professional career and will become more and with the regal principles governing these jobs are mainly composed of legal protection.

And the sacredness and sanctity of the holy profession of the ancestors of the great heritage of this land is to maintained.

Keywords: Medical Rights, Laboratory errors, Ethics, Accreditation

Studying of Ethical and legal values of modern laboratory science

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Despite being thousands of years before methods New Laboratory Sciences has been using to get more products, In recent years, molecular and atomic nano -biothecnology methods used in laboratory science is enormous. nanobiotechnolgy new valves are opened to researchers on the precise facts of scientific discovery, has a considerable share. With regard to this important goal of this study is to determine ethical values and legal New Laboratory Sciences. New Laboratory Sciences of new growth in our country during the past two decades has been very slow and the challenges It seems that one of the most serious challenges due to legal and ethical rules of this technology in Iran. The emergence of international Rsh New Laboratory Sciences has created many concerns that have led to the formation of national and problems. Bioethics and human rights history is thousands of years. In fact, we can say that since human history, also began to respect his rights. Words Advanced human rights has emerged since the creation of man. Bioethics is one of the newest and most important areas that need addressing New Laboratory Sciences of the parallel developments in science and technology increases. Scientists knowledgeable and compassionate thinking and efforts in this direction of the path is paved.

In this study the views of scholars, experts and researchers in national and international level is widely used. The results of the Meetings, Conferences, Congress has enjoyed national and international level in this research, new strategies in the field of bioethics and law at the global level is expressed. And. Ethical values and legal status of current efforts is the new and future outlook New Laboratory Sciences it possible to be raised.

Key words: bioethics, law, science, New Laboratory Sciences
The Role of Lactobacillus reuteri in Reducing Renal Fibrosis in streptozotocin Induced Diabetic Rats

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Background and Purpose: Diabetic nephropathy is the most important factor in causing hyperglycemia, which is usually &quot;25% of diabetic people are affected. This study investigated the effect of probiotic Lactobacillus router as a factor in reducing renal fibrosis in in streptozotocin- induced diabetes rats. Methods: In this study 12 weeks Wistar rats weighing approximately 200±30 g were used. Animals were injected with mg / kg 50 in streptozotocin-diabetic. After two days, the blood glucose was measured in rats studied by glucose oxidase method. Animals were divided into 5 groups. The control group received a standard diet, the diabetic group were fed with standard diet. Diabetic group that received standard diet and were treated with insulin. Diabetic group fed with Lactobacillus and normal group were fed with Lactobacillus. After 4 months, mice were killed and their kidneys were examined for histopathology. And a significant decrease in the rate of kidney fibrosis in diabetic rats was seen. Conclusion: the results of this study show that consumption of a probiotic Lactobacillus reuteri can prevent fibrosis of the kidney in diabetic rats. While the bacteria by inhibiting production of reactive oxygen species and antioxidant properties.

Keywords: Lactobacillus reuteri, Rats, Diabetic nephropathy
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Survey of incident rate in diabetic on pre diabetic and relationship blood sugar with high risk diabetic disease in Sarvabad city in 1389

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Introduction: Diabetes mellitus is a major health problem in chronic diseases with sever complications. Researches deduced that hyperlipidemia is an effective complication. Otherwise, obesity is one of the main factors in progress of NIDDM diabetes, obesity, can it be under control. Body mass index (BMI) could be use as an index of obesity, which is more representative of person’s appropriate body weight. Of course a large of the cost resulting from diabetes from diabetes complications, was spend on controlling blood glucose. Therefore, this study aims at estimating survey relationship rate of blood sugar with other high risk in prediabetic morbidity to diabetes disease. Materials & Methods: this study is descriptive – Analyze, among 437 pre diabetics in our health center 302 volunteers attended in our research then clinical and laboratory examinations were performed, and entered data to computer with spss 16 software, and for analyzing data we used T test. Results: In this study in prediabetic population 31 diabetics patients diagnosed. Incidence rate of diabetes in our prediabetic population were 10.26%. The findings showed among cholesterol, BMI and diastolic blood pressure with blood sugar have significant differences but with triglyceride and systolic blood, pressure have not shown. Conclusion: findings of this research shown that prediabetic population have more high risk factors and it needed education and intervention plans to control and prevention it.

Keywords: Incident rate, prediabetic, diabetic.

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Study of Diabetes and Reduction factors Diseases Non-communicable at Personnel Health Center Kermanshah Province 1386-1389

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Currently, cardiovascular heart disease, diabetes, cancer, causes of mortality and disability worldwide are most. Cause diseases, many of these lifestyle changes, poor nutrition, inactivity, and on. The aim of reducing non-communicable causes factors Diseases Non-communicable. Materials and Methods: All staff in health centers of Kermanshah census method were studied. Tool collects data World Health Organization questionnaire (SuRF-Questionnaire), respectively. In this study, dietary patterns, physical activity, and tobacco use. ! Were studied. The height, weight and waist circumference, blood pressure was measured. Data for biochemical measurements, blood samples were taken. After determining the risk factors in employees necessary interventions were designed according to the type of risk factor interventions by the various committees: education, nutrition, exercise, smoking and ... After three years of re-distributed-do environment was measured hematologic indices, anthropometric data were and this information before deata intervention were compared. Results: Health Center who were obese pre intervention 19.8 at Personnel Health Center Kermanshah Province fell to 14.4 percent. 59.3 percent before the intervention during the week more than 5 servings of fruits and vegetables were taking to 76.7 percent 71.8 percent of people surveyed before the intervention of liquid oil, as oil consumption originally they After the intervention compared to 84.4 percent 12.1 percent intervention at Personnel Health Center Kermanshah Province Health Center prior to blood pressure had dropped 4.4% to 11.1% After the intervention persons are equal before the intervention has a blood sugar of 126 mg dl (diabetic) who After the intervention this percentage to 1.2 percent at Personnel Health Center Kermanshah pre intervention 83.5 to 70 percent of this number has dropped to 31 After the intervention agent. Discussion: The results indicate poor nutrition, lack of exercise, smoking, lipid disorders, hypertension and Diabetes important risk factors that Diseases Non-communicable at Personnel Health Center Kermanshah Province health department after they intervened in the number of employees decreased and this decrease. So simple, low-cost interventions in the workplace can improve employee health, increase, reduce treatment costs and reduction of cardiovascular disease in the community.

Keywords: factors Diseases Non-communicable, Kermanshah
P33

The correlation between albuminuria level and serum myeloperoxidase activity in diabetes mellitus (DM) patients

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Introduction and objectives: Normally, serum albumin molecule is unable to pass through glomerular base membrane because of its molecular size. Therefore, albumin is found in very small amounts (less than 30mg/24h) in urine. Damages to the glomerular base membrane would change its permeability and would cause more albumins to enter the urine. An increase in the amount of albumin in urine is called albuminuria. Myeloperoxidase (MPO) is an oxidant enzyme, mainly being produced and secreted to blood serum by neutrophils; the majority of peroxidase activity of blood serum has been attributed to this enzyme. Myeloperoxidase has been known as a biomarker in inflammatory disease, especially cardiovascular disease. The purpose of this study is to investigate the correlation between albuminuria level and serum MPO activity in diabetes mellitus patients. Methodology: 57 of people known as having diabetes who had referred to the laboratory and 41 of the people without any background of diabetes were participated in this study. The amount of microalbuminuria and the enzyme activity of the people being study studied were determined. The mean and standard deviation of albumin in urine was 21±3mg/24h for healthy people and 59±7mg/24h for diabetic ones. MPO activity in healthy people and diabetic patients was 107±6U and 148±9U, respectively. Discussion and conclusion: Result of this study indicated that there is a direct correlation between albuminuria level and serum MPO activity in diabetes mellitus patients.

Keywords: Albuminuria, Myeloperoxidase, Diabetic patients.

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The correlation between serum MPO activity and oxidized low density lipoprotein level in diabetic patients

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Introduction and objectives: Serum peroxidase activity is due to oxidizing factors in blood serum. The most important group of these factors are peroxidase enzymes, including, myeloperoxidase (MPO). MPO is an oxidant enzyme, mainly produced and secreted to blood serum by neutrophils, and the majority of peroxidase activity of blood serum has been attributed to this enzyme. Low density lipoprotein (LDL) molecules can be easily oxidized by peroxidase enzymes in normal conditions. The role of these peroxidase enzymes on rate of LDL oxidation in diabetic patients having abnormal glucose metabolism is not clearly known. The purpose of this study is to investigate the correlation between serum MPO activity and oxidized LDL levels in diabetes patients. Methodology: 94people known to have diabetes who had referred to the laboratory and 56 people without any previous record of diabetes were participated in this study. Serum MPO activity and oxidized LDL levels of the people under study were determined. The mean and standard deviation of serum MPO activity was 107±6U for healthy people and 148±9U for diabetic patients. Oxidized LDL levels in healthy people and diabetic patients were 29±4mg/dl and 57±6mg/dl, respectively. Discussion and conclusion: Results of this study indicated that there is a direct correlation between serum MPO activity and oxidized LDL levels.

Keywords: Myeloperoxidase, low density lipoprotein, diabetic patients.
The effect of high level blood sugar on urine microalbumin lost

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Abstract Albumin is a kind of protein that can not be filtered by kidney and leak in to your urine but in the early stage of kidney disease some of albumin lost. Because the amount of albumin is low that named microalbumine. Some parameters such as blood pressure, the amount of sugar in blood and… are related to this disease. In this research the effect of high level of blood sugar on leak of microalbumine in urine were analyzed. Material & method This research was done on two group of patient (insulin consumer and no consumer) referred to laboratory. We measured FBS in this patient with using of auto analyzer and microalbumine in urine with specific kit. Then the results analyzed. Results The blood sugar level has a linear relationship with urinary microalbumine excretion. Albeit more doctors has a little notice to this parameters. We study the urine protein in patients with high level of FBS or remedy by insulin with helping sulfonosalicylic acid reagent that in a lot of patients was negative. But the amount of microalbumine in urine with using special kit was positive and meaningful. In patient with long remedies, the amount of microalbumine was reduce but was near to high level of normal level. Then we propose, measuring of urine’s microalbumine can study as a effective parameters for kidney function and we can prevent of destroying kidney in the early stage of disease.

Keywords: Key word: fast blood suger, albumin, microalbumin, kiney disease
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Seroepidemiological study of toxoplasma infection among highschool girls Jolfa city using indirect immunofluorescence of assy

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Introduction: Toxoplasmosis is a worldwide zoonotic disease cauesed by toxoplasma parasite. Congenital infection may cause death, pathological of embryo. Acquired infection with Toxoplasma in immunocompetent persons is generally and symptomatic.

Materials and methods: A period time(2009) Blood samples were collect from 1000 school girls in Jolfa city and examined by indirect Immunofluorescence Test (IFAT), and SPSS stistical soft ware was used to analyze the data.

Results: Anti toxoplasma antibodies were detected among 21.8% of the study populations. The number of the people with antibody titer with the amount of 1/20 to 1/100 were (%19.1) and the number of the people who had antibodies titer with the amount of more than 1/100 were 20(%2). The rate of infection was more prevent among households who kept cat (%37.5). Discussion: Negative, meaning that these people lack any immunity against these infections are acquired. Therefore, children who are likely to be toxoplastic. Proposed Toxoplasmosis is a test to become one of the tests required before pregnancy to prevent birth mothers and health education for children with congenital anomalies emphasized the sink.

Keywords: Antibodies, Toxoplasmosis, Oocyst
Relationship of Preeclampsia With Angiotensin-Converting Enzyme Intron 16 Insertion/Deletion and Angiotensin II Type 1 Receptor A1166C Gene Polymorphisms in South East of Iran

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Introduction: Preeclampsia is a multifactorial and multisystemic disorder that a variety genetic factors have been known that contributes in pathogenesis of this disease. The aim of this study was to assess the association between polymorphisms in the angiotensin-converting enzyme (ACE) I/D gene and angiotensin II type 1 receptor A1166C gene with preeclampsia. Study design: This study was performed in 125 preeclamptic pregnant women and 132 healthy controls. Genomic DNA was extracted from peripheral blood. The I/D Polymorphism of the ACE gene was assessed by polymerase chain reaction, and the A1166C Polymorphism of the AT1R gene was determined by digestion with restriction enzyme endonuclease DdeI. Results: The genotype and allele frequencies of I/D Polymorphism of the ACE gene differed significantly between the two groups (P=0.001 and P=0.002 respectively). The risk of preeclampsia was 3.2 fold in pregnant women with D allele (ID+ DD) contrast to control women without D allele. (OR, 3.2 [95% CI, 1.1 to 3.8]; P=0.01). The distribution of the AT1R A1166C polymorphism was similar in affected and control groups. Conclusion: We conclude that the presence of the I/D ACE gene polymorphism is a marker for the increased risk of preeclampsia, but there was no association between AT1R A1166C polymorphism with preeclampsia.

Keywords: Angiotensin-converting enzyme, AT1 receptor, olymorphism, Preeclampsia

Effect of PPARγ His447His polymorphism on oocytes and fertilization in IVF

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Background: Genetic factors play an important role in women fertility and embryonic development which may contribute to the efficacy of assisted reproduction techniques. Objective: The aim of this study was to investigate the effect of peroxisome proliferator-activated receptor γ (PPARγ) His447His polymorphism on oocytes and fertilization in women undergoing IVF. Methods: Blood samples were obtained from 98 IVF patients referred to Tabriz Alzahra Hospital. Samples were analyzed for the PPARγ gene polymorphism using polymerase chain reaction restriction fragment length polymorphism-based methods. Multivariate analyses were used to test the independence of associations between the number of mature oocytes and the number of oocytes fertilized as outcome variables and polymorphism of PPARγ gene. Findings: Correlation analysis showed a significant inverse correlation between the age of women and the number of mature oocytes retrieved (r=-0.37, P=0.001) and oocytes fertilized (r=-0.25, P=0.015). The ratio of the number of mature oocytes to oocytes fertilized was significantly (P<0.05) increased in carriers of the rare alleles than homozygous wild-type genotypes. The association of His447His polymorphism (P=0.003) remained statistically significant after adjustment for confounding factors in the multivariate analyses. Conclusion: This study presents evidences that the His447His polymorphism of PPARγ plays an important independent role in fertilization in vitro and thus possibly in female fertility.

Keywords: in vitro Fertilization, PPAR, His447His Polymorphism
The effect of Ureaplasma species on men infertility

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Introduction Ureaplasma urealyticum is a causative agent of non-gonococcal urethritis and is implicated in the pathogenesis of prostatitis, epididymitis and infertility. The organism is more common in partners of infertile than fertile marriages. U. urealyticum infections not only jeopardize fertility but also pose a risk for infertility treatment and resulting pregnancies. The aim of this study was to determine the prevalence of U. urealyticum and U. parvum in semen of infertile and healthy men by polymerase chain reaction (PCR).

Materials and Methods Semen samples were obtained from infertile patients and healthy control and were subjected to the routine andrological analysis and PCR. DNA was extracted by Cadieux method, and analyzed by PCR protocol with specific primers for urease and Multiple-Banded antigen (MBA) genes. Results Ureaplastas were detected significantly by PCR in 12 of 100 (12%) semen specimens from infertile patients and in 3 of 100 (3%) healthy men. The volume of semen fluid, concentration of sperm cells, and sperm cell with normal morphology were significantly decreased in infertile men. In the group of infertile patients with PCR positive for Ureaplastas the volume, count and morphology of semen samples were lower than in the infertile patients with PCR negative results. U. urealyticum species in semen of infertile men was found high (9%) than healthy controls (1%). Detection rate for U. parvum was 3% in infertile group and 2% in healthy men.

Discussion The results indicate that U. urealyticum species is more common in specimens of infertile men. Percentage of normal sperm cells, volume of semen, and the percentage of sperm cells with motility in the group of PCR positive for U. urealyticum species were lower than in the group of PCR positive for Parvum species. These results showed that the urealyticum species is the main species that can be effect on men infertility.

Keywords: Infertility, Semen, Ureaplasma urealyticum
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**Antisperm Antibody and the Risk Factors of Its Formation in Infertile Men**

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Abstract: Background and objectives Several studies have demonstrated that antisperm antibody (ASA) can interfere with fertilization. ASA can be detected in the serum or semen by different tests. In this study the percentage of ASA-IgG was determined by the direct mixed antiglobulin reaction (MAR) test in men from infertile couples in Khorramabad city. Furthermore the risk factors of formation of ASA were evaluated to determine the correlation between these factors and presence of ASA. Methods 200 men were tested for ASA as a part of the infertility evaluation. Patients were grouped according to percentage of ASA of < 10% or ≥ 10%. Risk factors for ASA (varicocele, hernia and genitourinary infections) were considered for each group. Statistical analysis was performed using Fishers exact test. Results ASA was detected in 18.5% of the studied cases. Prior varicocele was significantly associated with presence of ASA detected by direct MAR. Prior hernia was not associated with presence of ASA detected by direct MAR. Prior genitourinary infections were significantly associated with presence of ASA detected by direct MAR. Conclusion These findings suggest that manipulation of cord structures including vas deferens is not associated with formation of ASA; however varicocele and prior genitourinary infections are significant risk factors for the development of ASA.

**Keywords:** Key Words: Antisperm antibody, mixed antiglobulin reaction, Infertile men

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**The study of relationship between chromosomal abnormality in lymphocyte cells of infertile men with intra cytoplasmic sperm injection outcomes**

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Background: Chromosomal abnormality is one of the main reasons of male infertility, but there has been no report in Iranian population about the relationship of lymphocyte chromosomal abnormalities of infertile men and ICSI outcome. Aim: determining the frequency of lymphocyte chromosomal abnormality of infertile men and the study of the relationship between frequency of chromosomal abnormality and ICSI outcome. Methods: In this research 80 oligosperm and 30 azoosperm patients’ karyotypes analyzed. To do so, heparinated blood samples were cultured in RPMI-1640 medium, then after chromosome spread preparation, At last 20 metaphases were examined by trypsin (GTG) banding. Finally, we compared the results of chromosomal analysis with the results of ICSI outcome. Results: Chromosomal abnormality was seen in 11.7% of samples. The majority of chromosome abnormalities were numerical sex chromosome changes in azoosperm samples. The frequency of oocyte failed fertilization rate in patients with chromosomal abnormality was 25% but in samples without chromosomal abnormality was 9.2% with significant difference (P<0.05). The analysis of pregnancy frequency in patients wives showed that pregnancy frequency in patients with chromosomal abnormality was 11% but in samples without chromosomal abnormality this frequency was 21.6% with significant difference (P<0.05). Discussion: Considering the elevated frequency of failed fertilization rate and loss of pregnancy among the chromosomal abnormality patients, it seems advisable to perform chromosomal analysis in lymphocytes of men undergoing ART.

**Keywords:** male infertility, chromosomal abnormality, assisted reproductive techniques
Semen analysis with regard to sperm number, sperm morphology, shahrekord 2011

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Objectives: Semen analysis as an integral part of infertility investigations is taken as a surrogate measure for male fecundity in clinical andrology, male fertility, and pregnancy risk assessments. The aims of this study were to identify the seminal fluid pattern among men with infertility. Material and methods: 506 seminal fluid specimens from men investigated for infertility over a period of 1 year were analyzed according to standardized method. Subjects were patients referred to the lab. The patients group was subdivided by sperm concentration into azoospermia, oligospermia. Those were seminal fluids of patients referred to the laboratory from the fertility clinics. The data were analyzed by SPSS16. Results: The results were shown age between 20-47 years (mean 33.25±6.6) that 84 (16.6%) of the subjects had abnormal liquefaction, azoospermia 48 (9.5%), oligospermia 250 (49.4%) and 138 (27.3%) with motility less than 40%. The prevalence of leukospermia was 38.3%. Rising in leukospermia has shown decreasing in motility and increasing liquefaction. Patients also demonstrated multiple abnormalities in seminal fluid parameters. Discussion: our finding were shown negative correlation between leukospermia and motility. The proportion of patients with oligospermia was significantly higher than other groups. Our results are also in agreement with another studies who found that the mean age for infertile men. Although the results are not closely linked with subsequent pregnancy, semen analysis continues to be the main diagnostic test for infertile men. It is concluded that the prevalence of abnormal sperm cells indices and leukospermia is high.

Keywords: Seminal fluid, Infertile, sperm

The effect of smoking on the sperm and male infertility

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Introduction and Objectives: Male infertility due to various reasons including hormonal abnormalities, chromosomal abnormalities, structural abnormalities in the testes and impaired spermatogenesis, toxins, environmental factors, kidney disease, liver or blood, Varicocele, congenital or acquired diseases, obstruction of sperm transport route and finally is sperm dysfunction. In this study the effects of smoking on semen quality of infertile men referred to infertility clinics of Shiraz were studied. Materials & Methods: Case - control study on 108 infertile men and 161 healthy men without the problem of infertility was performed. Information through interviews and completion of the laboratory was evaluated. Relationship of smoking and infertility in two groups of infertile and fertile men were compared. The relationship between smoking duration and number of cigarettes consumed per day with sperm count, abnormal sperm motility and number of them were determined. Results: The study indicated the possibility of infertility in men, smokers 1.7 times higher than non-smoking men (OR =1.5). Performing linear regression term effects of cigarette smoking on sperm shape were observed. It was found that with an increase smoking, decrease in rates in 800,000 sperm count and an increased consumption of cigarettes per day can decreases 1% sperm motility is created. Discussion: Dangerous habit of smoking every day in the young generation will expand. Smoking could also harmful effects, including heart diseases, Respiratory diseases and ulcer. Smoking effects on sperm concentration, and reduce the number and the motility of sperm and male infertility will result. The results of this study can be effective in training programs.

Keywords: Smoking, Male infertility, Case - Control study, Sperm
High glucose level associated with a low serum uric acid

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Objective: Serum uric acid (UA) is an important marker of metabolic syndrome, cardiovascular disease, and diabetes. The relationship between UA and fasting plasma glucose (FPG) and HbA1c in type 2 diabetic patients is not well known. It seems that diabetic subjects have low UA levels. This study was investigated in type 2 diabetic populations. Methods and materials: 1276 patients with type 2 diabetes without history of other systemic disease and usage of drugs that interfere with serum uric acid measurement were selected. Blood biochemical parameters including FBS, HbA1C, lipid profiles, creatinine and uric acid were determined by standard laboratory procedures. The correlation between uric acid level and laboratory variables was determined then we stratified uric acid to four quartile and variables compared in quartiles with other. Results: Mean patients age was 52.4±10.2 year. The mean uric acid concentration was 4.5±1.3 mg/dl. 320 of patients(25.1%) were in first quartile of uric acid (uric acid < 3.5 mg/dl), 320 patients(25.1%) in second quartile (uric acid between 3.5-4.3), 323 of patients(25.3%) in third quartiles (uric acid between 4.3-5.3) and 313 patients(24.5%) had uric acid more than 5.3 mg/dl. An inverse correlation was found between uric acid and FBS (P<0.001, R=-0.14) and between uric acid and HbA1C (P<0.001, R=-0.15). Mean FBS level was 206.8 ± 68.4 mg/dl in first quartile versus 182.7 ± 64.3 mg/dl in fourth quartiles (p<0.001). HbA1C level was significantly higher in first quartile compared with fourth quartile (9.09 ±1.9 % Vs 8.4 ±1.9 %, p<0.001). Conclusion: Serum UA levels tended to decrease with increasing FPG levels and HbA1C in type 2 diabetic patients and UA may serve as a potential biomarker of deterioration in glucose metabolism.

Keywords: uric acid, diabetes, HbA1C
A study of CD4+Foxp3+Treg and CD8+Foxp3+Treg cells in patients with rheumatoid arthritis

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Abstract Two subsets of effectors TCD4+ cells are categorized; TH1 and TH2 which differ in their cytokine profile. RA is defines as a TH1 dominant diseases. Tregs are a rather new group of T cells that are demonstrated to adjust other immune cells including TH1 and TH2. Foxp3 is a lineage-determining factor for Treg cells. Several subsets of Foxp3+regulatory T cells have been ever identified; CD4+Foxp3+Treg and CD8+Foxp3+Treg are the main cell population in circulation. Material and methods: Peripheral blood mononuclear cells (PBMC)c were obtained from 31 patients with rheumatoid arthritis (RA) and 21 healthy controls. Monoclonal antibodies including anti-CD4 and anti-CD8 and anti-Foxp3 were used and the staining process was performed. Flow cytometry were applied for evaluation the markers. Results: The percentage of CD4+Foxp3+Treg cells was 1.03% ± 0.28 % in RA group and 1.25% ± 0.3% in control group (P=0.010). The percentage of CD8+Foxp3+ Treg cells in RA group was 0.79% ± 0.18 %, and 0.63% ± 0.16 % in control group (P=0.002). The WBC and Lymphocytes population in RA group were higher than control group (P=0.001). In addition the percentage of TCD4 Lymphocytes was 31.8 ± 5.6 % in the RA and 34.46 ± 3.6% in control group (P=0.064) and TCD8 was 22.97±4.1% in RA and 20.99±2.47% in control group with (P=0.054). Conclusion: These data demonstrate that altered frequency of Treg cells might be involved in the pathogenesis of RA. This may be a contributory factor in the susceptibility to RA (TH1 dominant), or it may achieved during the progression of the disease.

Keywords: Regulatory T cells, Rheumatoid Arthritis, Foxp3, CD4, CD8

Study epidemiological (brucellosis) in Kermanshah Province in 1388 based on Wright test

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Summary: a detailed estimate of the prevalence of brucellosis in the world does not exist.Direct contact of the conjunctiva or through skin abrasions and wounds with the waste discharge is also another way of transmission. This study epidemiologic study of brucellosis cases were reported in Kermanshah province in 88 years. Methods: This study is a cross-sectional data from the offices of patients; forms of and the software has been extracted. Results: In 88 years the total number of patients with brucellosis were reported to the Health Center of Kermanshah province, 840 persons (Update 4/43 in one hundred thousand population, respectively). 401 female patients (7/47%) men and 439 (3/52%) Age: 10-1 years: 35 women, 20-11 years: 177 people, 30-21 years: 179 people, 40-31 years: 139 people, 50-41 years: 130 people above 51 years: 180. Occupation of patients: 356 patients were housewives (42%) -4 patients Butcher (4/0%) -262 people farmer (6/31%) students were -97 (5/11%) - 22 workers (3 %) -14 children (5/1%) -85 patients (10%) is the other. 8/93% of patients (n = 788) consumed unpasteurized dairy products have been mentioned, and 62 patients (2/6%), no consumption of unpasteurized dairy products are not mentioned. 100% of patients diagnosed based on serological test Wright has not reported any positive culture Conclusions: The most important and most common way of getting a gastrointestinal disease in Kermanshah province and unpasteurized dairy products are consumed. 100% of patients diagnosed based on serological tests and Wright has been tested.The necessary coordination with the Department of Veterinary eliminate infected animals must be done

Keywords: Brucellosis, Kermanshah
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**ANA Negative but FANA Positive Patients: the Suggestion for Clinicians**

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Nowadays, autoimmune diseases, are considered as a main problem in medical communities and diagnosis, management and treatment of these disorders, are very important. Anti Nuclear Antibody (ANA) is one of the common assays for screening of Rheumatic diseases which is determinant in diagnosis of these diseases treatment. Materials and Method: This study, was formed due to the misconception about ANA test, that frequently is performed with methods based upon solid phase as ELISA. This experiment was conducted on 215 patients, with clinical symptoms, that are likely affected with rheumatic diseases, simultaneously, by means of ANA and FANA. Results: 18 cases (8.37%) of patients, despite positive ANA, have demonstrated negative results via Indirect Immunofluorescence Assay (IIFA), (false positive). On the other hand, 58 cases (27%), have demonstrated negative ANA result, by means ELISA technique, although, they had positive IIFA results. Conclusion: In addition to the above contents, other advantages of IIFA, is antibody titration and specific pattern detection that has the capability of distinguishing positive dsDNA results. Therefore, according to the restrictions and false negative cases, in patient, IIFA test is highly recommended for these diseases diagnosis.

**Keywords:** Rheumatic Disease, ANA, IIFA, Sensitivity, Specificity

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**The influence of the HLA-DRB1 and HLA-DQB1 allele heterogeneity on disease risk and severity in Iranian multiple sclerosis patients.**

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Abstract Multiple sclerosis is a common autoimmune disorder of the central nervous system. Recent studies have shown that the HLA-DRB1 and DQB1 alleles are associated with MS susceptibility and severity. However, this is controversial in different population studies. In the present study, the roles of HLA-DRB1 and DQB1 alleles and the amino acids were investigated on disease risk and severity in 120 Iranian MS patients and 120 controls. Our findings indicate that the DRB1*1501 allele (p=0.001), the DRB1*1501-DQB1*0602 haplotype (p=0.003) and the DRB1*1501/0701- genotype (p=0.006) and amino acid Leu26 (p=0.005) and Phe9 (p=0.009) on the DQβ1 chain are significantly associated with MS susceptibility. The DRB1*1001 was only allele which had a protective effect against MS (p=0.0004). We also found that the DQB1*0303 allele was significantly associated with disease severity (mean MSSS difference=1.979, p=0.002). However, association of DQB1*0303 allele with MS severity needs to be confirmed by larger sample size.

**Keywords:** Multiple sclerosis, DRB1, DQB1, Amino acid polymorphism, MSSS

Laboratory and thyroid Diseases
Prevalence of congenital hypothyroidism in the Torbatheydariyeh city in 1390

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Introduction: congenital hypothyroidism is on of the most common preventable cause of mental retardation in the world which with timely diagnosis and treatment until the fourth week can be prevented of irreversible complications. This study determined the prevalence of risk of congenital hypothyroidism in the. Materials and method: in this cross-sectional study according to the public screening of newborns for congenital hypothyroidism in the Torbatheydariyeh city in 90, in all areas covered by the School of Medical Sciences Torbatheydariyeh infants at 3 to 5 days after birth were monitored. Heel blood samples collected and filtered using Whatman BFC180 paper for serum TSH levels and then it was assayed. The data were analyzed using the SPSS19. Results: 2500 newborns were screened, which 62.5% was covered of infants. Incidence of congenital hypothyroidism was 1.5 in every 100 live births respectively. There was no significant relationship between sex and risk. The delivery type was not having a relationship. Serum TSH levels in 92.1% of infants with hypothyroidism were 5 to 9.9 and 5.26% of infants 10 to 19.9 and the 2.63% of infants were over 20. Conclusion: In accordance with the high rate of transient hypothyroidism in the monitored population, it is better in the original sampling, amount of T3, T4 were assayed for reducing false positive results.

Keywords: congenital, hypothyroidism, tsh, newborn

Evaluation the number of false negative cases in thyroid screening tests on early birth days by heel foot blood screen on paper

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Introduction and objectives: Thyroid hormones are very important in body metabolism and critical on body growth and proper growth of brain and nervous system. Because body has more much rate in metabolism and nerve system growth in early period of life, therefore body need enough and proper amount thyroid hormones. Decrease on thyroid hormones level, especially in newborns, it will cause mental and physical growth retardation and some of these will present lifelong. congenital hypothyroidism is most known cause of newborn mental retardation, but fortunately we can prevent this disease on early birth days with precision laboratory methods. Today congenital hypothyroidism is tested by imprecision method of heel foot blood on paper and confirmed only positive cases with precision laboratory method and false negative cases who they have congenital hypothyroid are missed and they will encountered with uncompensative health damage, therefore we have afforded evaluated this important topic at this study. Method and materials: 1960 newborns who they were on third to fifth days of born, between years of (2005-2009), were chosen to study. TSH was measured on serum samples of these newborns with ELISA method, the results more than 10 µg/ml were selected and compared with TSH positive by blood heel foot paper screen. Results: The results showed 8% of negative results by screen paper method on heel foot blood were positive by ELISA method and they had TSH>10 µg/ml. Conclusion: Compare of results between two mentioned methods show that 8 percent of negative results on paper screen method (heel foot blood) were positive by ELISA method and these newborn considered normal newborn, unfortunately, and they did not follow up to treatment, these newborns will be faced uncompensative damage on their body growth and nervous system, therefore it is essential has been taken place like this study and if confirmed these results it must be done newborn thyroid tests by laboratory precision methods like as ELISA and so on, instead of paper screen method. We hope, if we could use precision laboratory methods, specially for newborn screening tests we will have health society and it will be reduced the wasting of heath budget.

Keywords: Key words : Hypothyroidism, Laboratory, Newborns
The role of various antidepressants on serum thyroid hormone levels in patients with major depressive disorder

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Introduction & Objectives There is substantial amount of evidence to suggest that alterations in the hypothalamic-pituitary-thyroid (HPT) axis are associated with major depressive disorder (MDD). Our goal in this study, comparing the effects of various antidepressants, acting in three different mechanisms on thyroid hormones. Methods A total of 62 patients (men) with major depressive disorder were analyzed in the study. Patients were evaluated for 11 weeks in an open label design to investigate the differential effects of reboxetine, sertraline and venlafaxine on thyroid hormones. Results & Conclusions Serum thyrotrophin (TSH) and thyroxine (T4) were measured before and after treatment. TSH level significantly reduced and T4 level significantly increased in the reboxetine group; however TSH level significantly increased and T4 level significantly reduced in the sertraline group. Interestingly we found no significant alterations in any thyroid indices in the venlafaxine group after treatment. In the whole study, We conclude that reboxetine, sertraline and venlafaxine may have different effects on thyroid hormone indices in depression. This indicates a complex relationship between neurotransmitter systems and HPT axis. The role of HPT axis and its relation with neurotransmitter system in depression may enable us both to clarify the pathogenesis of depression and different options for its treatment in the future.

Keywords: Depression, Reboxetine, Sertraline, Thyroid hormone, Venlafaxine

A Study of Congenital Hypothyroidism Screening Project in Kermanshah – 1389 -Kermanshah University of Medical Sciences and Health Services Health Department

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Summary Congenital Hypothyroidism is one of the major causes of mental retardation in children which can be prevented if treated immediately. The incidence of the disease is estimated to be 1 in 3000-4000 live births in the world, 1 in 3801 live births in Europe and according to available statistics 1 in 1000 live births in Iran. The aim of this study was to evaluate the recall rate in Congenital Hypothyroidism Screening Project using the standard method of measuring TSH and T4 levels and comparing the results with each other and other societies. Materials and Methods: From Farvardin to Esfand 1389 the heel blood samples of 3-5 day old newborns, referred from all maternity wards in Kermanshah. Were collected for the first TSH level measurement and in the next step venous blood samples were taken to measure TSH and T4 levels both using ELISA method. Newborns with TSH = 5-10 IU/ML in first measurement or TSH>20 IU/ML in second measurement recalled and with TSH>10-20 in first test and T4 20 According to the above figures the incidence rate of Congenital Hypothyroidism is 1 in 1000 in kermanshah. Conclusion: The results indicate nearly the same incidence rate in comparison with the nationwide average rate. Regarding some delay referred cases causing a newborn to show symptoms of the disease, an effective surveillance system to check the quality of the laboratory methods seems crucial.

Keywords: Hypothyroidism, Kermanshah.
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**Prevalence of Congenital Hypothyroidism in Mazandaran Province Iran**

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Background and purpose: Although congenital hypothyroidism is a preventable cause of mental disabilities, less than 10% of newborns are diagnosed based on clinical symptoms in the first month. If the diagnosis is not made based on screening programs, it would be delayed and irrepairable cerebral and auditory complications will occur. The purpose of this study was to determine the prevalence of congenital hypothyroidism in the Mazandaran province.

Materials and methods: The study is a descriptive (screening) survey. From infants born from January 2007 to January 2008 in Mazandaran province heel blood samples on filter paper were obtained. TSH values were measured by ELISA method and TSH > 5 mlu/L was considered as the recall criterion. Diagnosis of neonatal hypothyroidism was made based on TSH > 10 and T4.

**Keywords:** Congenital hypothyroidism, neonatal screening, T4, TSH

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**Quality Control Of Filter Papers USE In New Born Screening**

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Quality Control of filter papers in newborn screening program Introduction and Aim: Regarding the usage of filter papers as a device for New born screening and other application. It is important to complete sure about Absorption characteristics of filter papers. So the Reference laboratory as an IVD Regulation center has decided to provide a quality control Protocol. For Producers and Consumers. The Aim of this study is providing acceptability & practical QC protocol based on International standards for filter papers from FDA- cleared sources Whatman grade 903 & Ahlstrom Grade 226. Although Now in Iran New born screening Program, Use only whatman papers. Material & Methods: This study Based on Radio Immuno Assay method and we used Human Whole Blood (55±1% Hct) enriched with Radio label Thyroxin(125I-Thyroxine). Two lot Number filter papers of whatman Grade 903 were evaluated in this study and one previously measured production lot of Ahlstrom filter used as a control lot. (Absorption characteristics of this lot measured in one study by CDC) Published NOV 2010 in Future science and May 2009 in CDC/APHL) Results: Absorption characteristics that evaluated in this study include: 1-Absorption time 2- Aliquot Diameter 3- Serum volume 30 Spots provide from each lot filter papers. We observed that the results of control lot exactly According to with the results of CDC study. This demonstrated the accuracy of this study. Approximately 95% the Results of two lot Nomber Whatman filter papers that evaluated in this study were in CLSI Reference Range. Reference range of Absorption time 5 - 30 sec Reference range of Aliquot Diameter 15 -17 mm Reference range of serum volume 1.54 ± µl Conclusion: Regarding the compatibility of this study with available qualification in Iran laboratories it seems that designing a QC protocol for comparing production lots of filter paper is possible. In order of necessity of evaluating the quality of filter papers used in DBS – based methods and assuring the compatibility of their characteristics with reference standards we recommend all the imported lot numbers of different brands of filter papers being evaluated based on the introduced protocol which is feasible in the health care network of the country. Filter paper, New Born Screening, Quality Control

**Keywords:** Filter paper, New Born Screening, Quality Control
**Evaluation of Prevalence of Congenital Hypothyroidism in Neonates at Birth in Karaj Health Center Number 1 in 1389**

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Introduction: Congenital hypothyroidism is an important preventable cause of mental retardation in neonates. Few and nonspecific signs & symptoms of congenital hypothyroidism during early infancy lead to delay diagnosis and consequently irreversible cerebral side effects specially intelligence quotient. Due to important effects of this disorder and in order to diminish it is social load, civil project of neonatal screening is doing since 1389. During these years many cases of congenital hypothyroidism have been diagnosed and underwent treatment and consequently health indicators have been increased.

Method & Material: This study is a descriptive evaluation of frequency of definite cases of congenital hypothyroidism in screened neonates in Karaj health center number 1. In order to performance of project of neonatal screening, necessary tools & forms delivered to personnels of health centers and also they trained for blood sampling from lateral side of heel in neonates (by lancet & guttery paper). Blood samples with identifying data of neonates send to reference laboratory and diagnosis is on base of laboratory tests (TSH&T4 in heel blood samples, TSH&T4&T3RU in venous blood samples).

Results: Karaj is located in west part of Tehran province and subordinate of Alborz University of Medical Sciences. This study evaluate laboratory finding of 11909 screened neonates during year of 1389. In these, 6187 neonates (52%) were male and 5722 neonates (48%) were female. 70% of neonates (8303 cases) in 3-5 d/o & 27.5% (3304 cases) in 6-21 d/o & 2.5% (302 cases) in more than 21 d/o were screened. In 173 neonates laboratory findings of heel samples were suspicious so, venous sampling was done for them and finally 24 cases had definite diagnosis of congenital hypothyroidism. In involved cases (24 cases): 58% were male & 71% had less than 28d/o & 25% of them underwent treatment in second month of life.

Covering of neonatal screening project in Karaj is 79%, since Karaj is neighbourg to Tehran and also some childbirths are done in Tehran, this coverage is desirable.

Discussion and Conclusion: Due to important effects of diagnosis and treatment of congenital hypothyroidism in early infancy and in order to increase coverage of project, it seems to be necessary that training of personnels of urban & rural health centers (especially midwiferies) & maternity hospitals and teaching of people especially pregnant women should be extended.

**Keywords:** Neonatal screening, congenital hypothyroidism, Karaj Health Center Number 1, Alborz University of Medical Sciences.

**The role of difference antidepressants on serum thyroid hormone levels in patients with major depressive disorder**

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Introduction & Objectives: There is substantial amount of evidence to suggest that alterations in the hypothalamic-pituitary-thyroid (HPT) axis are associated with major depressive disorder (MDD). Our goal in this study, comparing the effects of various antidepressants, acting in three different mechanism on thyroid hormones. Methods: A total of 62 patients (men) with major depressive disorder were analyzed in the study. Patients were evaluated for 11 weeks in an open label design to investigate the differential effects of reboxetine, sertralin and venlafaxine on thyroid hormones. Results: Serum thyrotrophin (TSH) and thyroxine (T4) were measured before and after treatment. TSH level significantly reduced and T4 level significantly increased in the reboxetine group; however TSH level significantly increased and T4 level significantly reduced in the sertraline group. Interestingly we found no significant alterations in any thyroid indices in the venlafaxine group after treatment. In the whole study, We conclude that reboxetine, sertraline and venlafaxine may have different effects on thyroid hormones in depression. This indicates a complex relationship between neurotransmitter systems and HPT axis. The role of HPT axis and its relation with neurotransmitter system in depression may enable us both to clarify the pathogenesis of depression and different options for its treatment in the future.

**Keywords:** Depression, Reboxetine, Sertraline, Thyroid hormone, Venlafaxine
Disorders of glucose challenge test (GCT) among pregnant women referred to Gerash Amir almomenin hospital in 1388-89

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Introduction: The gestational diabetes is a disorder at tolerate of carbohydrates that for the first time has diagnosed in the gestational period. Early diagnose and management of GDM can decrease prenatal, neonatal and long – time infant problems. Incidence of glucose challenge test (GCT) disorders in verified diabetics pregnant women, to take into consideration of GCT≥140 and GCT≥130 mg/dl, 80% and 90% were shown, respectively. Incidence of gestational diabetes in IRAN, variable between 1.3-8.9%. The aim of this study is to evaluate the disorder of glucose challenge test (GCT) among pregnant women referred to Gerash Amir almomenin hospital.

Methods: A cross sectional study was carried out on 214 referred pregnant women to Amir almomenin hospital for pregnancy period surveillance during 12 – 24 weeks of pregnancy in 1388 – 89. To 214 clients were eaten solution of 50 gram glucose in 5 min. Then after 1hr later were catch blood for GCT examination, measurement glucose with autoanalyser Prestide24i. Data were analyzed by SPSS version 15.

Result: The average age of referred pregnant women are 27.12 ± 6.02 (14 - 43) years. According to cut off point of GCT, 57 of pregnant women’s GCT were more than 140 mg /dl (26.63%) and were abnormal GCT. The average of GCT in all individuals was 126.69 ± 46.15 mg / dl. DISCUSSION: In the mention of diabetes complications, especially in the first trimester, like abortion, glucose test is suggested. More researches are necessary for reducing the complications of diabetes.

Keywords: Gestational diabetes, glucose challenge test (GCT), Pregnant women

Keywords: Gestational diabetes, glucose challenge test (GCT), Pregnant women
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Anetnatal Screening for Down’s syndrome

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Anetnatal Screening for Down’s syndrome  Advantages of the integrated test Down’ Syndrome is the most common cause severe learning disability in children .in the absence of antenatal screening ,about 1 in 500 babies born would be affected. The purpose of screening is : identify women with an increased risk of having a pregnancy with Down’s syndrome or an open neural tube defect. Integrated test is the most effective ,safe and cost effective method of antenatal screening for down’s syndrome using nuchal translucency (NT) maternal serum and urine markers in the first and second trimester of pregnancy , and maternal age in various combination. The integrated test detects 9 out of 10 cases of Down’s syndrome and measurement identifies 4 out of 5 cases of open spina bifida and nearly all cases of anencephaly. About 1 to 2 % of women screened are offered a diagnostic test. Advantages of the integrated test: 1-safest and most effective screening policy 2- AFP screening for open NTDs. 3-Cost containment 4-Avoid confusion from several result 5-low false positive rate with high detection rate.

Keywords: Down’s syndrome - Anetnatal Screening-integrated test

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Globular index in +1cap sit mutation B-thalassemia gene

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Abstract Although B-thalassemia is a monogenic disease, its underlying genetic basis is often complex, reflected by a large spectrum of phenotypes. These are very heterogeneous and can range from silent mutations which are asymptomatic. One of the silent mutation in B-globin gene that located in 5’UTR is Cap site mutation . This mutation can not be effect on globular index and hematologic change is not obscure. Coopperation between cap sit mutation and other B-thalassemia mutation can be danger and lead to major B-thalassemia.

Keywords: +1Cap site mutation, B-thalassemia-Globular index
hCG and pregnancy

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hCG is a complex glycoprotein that is produced by the trophoblastic cells of the placenta during pregnancy and in gestational trophoblastic diseases. Concentrations of hCG rise very rapidly during early pregnancy and peak at approx 8 and 12 wk. Numerous quantitative and qualitative assays for detecting hCG in serum or urine are available. All of these assays are two-site “sandwich”-type immunoassays. Although immunoassays for hCG have existed for more than 25 yr, many problems still exist, causing considerable interassay variation. The problems can be traced to two fundamental factors: (1) differences in assay specificity, and (2) standardization material. Assay specificity problems are caused by the use of a variety of different antibodies that recognize any combination of the different molecular forms of hCG. To further compound the problem, good standardization material does not exist, and the material that does exist is not available in sufficient quantities. Pregnancy detection is itself problematical because of variation in the timing of initial hCG production by individuals, wide variation in the extent of hCG production, and hCG production by early pregnancy losses. Further limitations of the hCG assays themselves include manufacturing defects, the hook effect, and heterophilic antibodies. Considering these observations, great care is needed in the use and interpretation of pregnancy tests. Home pregnancy tests and point-of-care pregnancy tests should be considered as indicators of pregnancy, and confirmation of pregnancy should be obtained using a quantitative serum assay.

Keywords: hCG, pregnancy, trophoblastic, heterophilic
P61

**Design of Internal Amplification Control for PCR Detection of Mycobacterium tuberculosis**

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Introduction: Mycobacterium tuberculosis (MTB) is an acid fast, slow growth bacteria. There are different methods for detection of this bacteria, but molecular methods such as PCR are more appropriate for detection of slow growth bacteria like MTB. But different results in laboratories which happen because of lack of standard methods, are the disadvantages of molecular methods. For solving this issue in this study designing of competitive Internal control(IC) through PCR-cloning has been attempted. Matherial & methods: By using of specific primers for IS6110 target, PCR test was optimized. Besides, the composite primers for IC-MTB were designed then the PCR was optimized. The IC-MTB which amplified in nonstrigent condition, was ligated in pTZ57R plasmid, transformed in E.coli JM107 and was cloned. Specificity and sensitivity of test wese determind. Results: PCR amplicon for MTB and IC-MTB with specific primers were 245bp and 662bp respectively, so there was a significant different between their size. Sensitivity of PCR for MTB DNA was 10 bacteria and the IC amplified in the ranges between 10-10,000,000 bacteria. Discussion: Despite of high speed and accuracy of PCR, false positive and negative results which are caused because of PCR inhibitors, are the important problems of this technic that can reduce its efficiency. Using another DNA as an internal control can detect these inhibitors. Indeed, amplification of this DNA shows correct amplification and detection steps.

**Keywords:** Mycobacterium tuberculosis, PCR, Internal control
Effect of opium on lipid profile and expression of liver x receptor alpha (LXRα) in normolipidemic mouse

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ABSTRACT Many people believe that opium has beneficial effects on lipid profile which results in reduced atherosclerosis. Opium contains several alkaloids and biological active components, which some of them are used for atherosclerosis treatment. The liver x receptor a (LXRα) is an important regulator of cholesterol and glucose homeostasis that belongs to the nuclear receptor superfamily. This study aimed to investigate the effects of opium on glucose, lipid profile and LXRα expression. Sixteen N-mary mice randomly were divided into two groups (control and addict), and were studied for one month. Serum lipid profile, Fasting blood sugar (FBS), Aspartate aminotransferase (AST) and Alanine aminotransferase (ALT) were determined. Also LXR mRNA and protein levels were determined by Reverse Transcription PCR and western blotting. This study showed that opium significantly reduced total cholesterol (P<0.05), While the difference in blood glucose, triglyceride (TG), High-density lipoprotein cholesterol (HDL-c), Low-density lipoprotein cholesterol(LDL-c) and Very low-density lipoprotein cholesterol(VLDL-c), as well as AST and ALT between addict and control groups were not significant. More importantly, LXR protein and mRNA levels significantly increased (P<0.05) in intestine of addict group in comparison with control, while the change in LXR protein and mRNA in the liver were not significant compared with control. The results of this study showed that opium addiction reduced total cholesterol and increased LXR expression in intestine. Further researches need to determine effective components.

Keywords: Opium, Cholesterol, Atherosclerosis, LXR

Construction of Internal Control of Hepatitis B Virus by PCR Cloning

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Approximately 2,000,000,000 people in the World have been faced with HBV and more than 350,000,000 people are carrier of this virus. For detection of this virus there are different serologic & molecular methods. Sensitivity & speed of PCR are very high but false positive and negative results are the disadvantages of this method. In this study design of an Internal Control have been tried for solving this problem. Method & Material: Special primers for HBV DNA and I C – HBV were designed then the PCR test was optimized. This I C was ligated in pTZ57R plasmid and then transformed in E Coli JM107 and cloned. Specificity & sensitivity were determined. Results: The PCR amplicon for HBV and I C – HBV were 262 bp & 660 bp respectively. The sensitivity of PCR for HBV was 40 particle and I C was optimized in acceptable ranges. Discussion: Observing false positive and negative results reduce efficiency of PCR, causes of this results are inhibitors of PCR, the existence of I C in amplification and detection process can detect these inhibitors.

Keywords: Internal Control, HBV, PCR
P64

Survey of prevalence and antibiotic susceptibility of Klebsiella pneumoniae strains possess genes mag A (mucoviscosity-associated gene A), from Clinical specimens of the Clinical Hospital in Shahrekord 2010

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Background: Klebsiella pneumoniae is a common gram-negative pathogen causing both community and nosocomial infections. In the past two decades, a new type of invasive K. pneumoniae disease has emerged in Taiwan that typically presents as a community acquired primary liver abscess. Metastatic septic meningitis and endophthalmitis are severe complication of K. pneumoniae liver abscess. A new virulence gene magA (mucoviscosity associated gene) was recently identified in pathogenic strains from Taiwan causing liver abscess. We investigated the prevalence of the mag A gene in klebsiella pneumoniae strains isolated from clinical samples of Shahrekord hospitals using PCR in 2010.

Material & Methods: This research was performed on 173 klebsiella pneumoniae strains and 20 klebsiella oxytoca strains isolated from hospital clinical samples. Identification of the isolates was according to standard clinical microbiologic methods. The prevalence of mag A was detected using PCR methods. Results: The mag A gene was detected in (2.3%) of klebsiella pneumoniae isolates. None of isolates of k.oxytoca were presented mag A gene. Conclusion: According to our results, it appears that this gene plays an important role in increasing the morbidity rate of patients infected with k.pneumoniae strains containing mag A gene. Then detection of this gene in isolated k.pneumoniae strains in clinical isolates as a routine lab procedure is recommended.

Keywords: Key words: magA (mucoviscosity associated gene), klebsiella pneumonia, PCR

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The most Prevalent cause of UTI and antibiotic resistance to it in patients on torbat heydariye hospital

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Background and aim: Urinary tract infection (UTI) is the most common bacterial infection that can cause important complications as renal failure and hypertension if not properly diagnosed. Continuous determination of local prevalence of bacterial strains and their antimicrobial resistance is required to prevent unnecessary and ineffective use of antibiotics and drug resistance. The aim of this study was to determine the common bacterial strains causing UTI and antibiotic resistance to it in nohome dey Hospital. Material and methods: Midstream urine samples of patients referred to Hospital were analyzed for isolation and identification of bacterial isolates as per standard methods. Susceptibility tests were performed by disc diffusion tests using the Kirby-Bauer method. Results: In the present study, 272 out of 276 patients’ urine samples had UTI (10000 CFU/ml). The most common isolated bacterial uropathogen was E. coli (74.6%), followed by Klebsiella (10.2%), staphylococcus coagulase negative spp, proteus, pseudomonas, enterobacter and serratia. E. coli was most resistant to co-trimoxazole (57.2%), nalidixic acid (56.8%) and cefalexin (42%). Ceftriaxone and nitrofurantoin were the next in order. The most effective antibiotics for E. coli were amikacin (895), ciprofloxacin (73%) and gentamicin (56%). Conclusion: This study suggests that in nohome dey Hospital, the best choices for empiric treatment of UTI are amikacin, ciprofloxacin and gentamicin. Co-trimoxazole, nalidixic acid and Ceftriaxone are ineffective for treatment of UTI.

Keywords: E. coli, Urinary tract infection (UTI), Antimicrobial resistance
Molecular typing methods for E. coli

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E. coli is the most common gram-negative bacillus isolated from human infections that can cause intestinal and extraintestinal diseases. Typing is performing for differentiating bacterial strains based on their phenotypic and genotypic differences. The typing methods are useful in hospital infection control, epidemiological studies, and understanding the pathogenesis of infection. Typing methods fall into two categories: phenotypic and genotypic methods. Phenotypic methods are differentiatetrastrail based on biochemical profiles, bacteriophage types, antigen present on the cells surface, and antimicrobial susceptibility. Genotypic methods are those that are based on an analysis of the genetic structure of an organism and include polymorphism in DNA restriction patterns based on cleavage of the chromosome by restriction enzymes and the presence or absence of extrachromosomal DNA. Phenotypic typing methods for differentiating E. coli strains include biotyping, serotyping, bacteriocine typing, protein typing and Multilocus enzyme electrophoresis (MLEE) and …. Genotypic methods include ribotyping, Pulsed field gel electrophoresis (PFGE), Multilocus sequence typing (MLST), Randomly amplified polymorphic DNA (RAPD), Probe hybridization array typing (PHAT) and phylogenetic typing and …. Molecular methods have shown that E. coli strains fall into four main phylogenetic groups (A, B1, B2 and D). Now phylogenetic typing is applying which uses PCR based on the presence/absence of two genes and a specific DNA fragment (TSPE4.C2) which showed excellent correlation with reference methods (ribotyping and MLEE). Since both of above methods are complex and time-consuming techniques and require a collection of typed strains, PCR is using as a rapid and simple method in phylogenetic grouping studies. Also PCR has more reliability, sensitivity and specificity. Other advantages of this method are only with few genotypic features to discriminate between phylogenetic groups requires. Also that genes are not deleted from a phylogenetic groups or horizontally transferred between phylogenetic groups and that recombination in the genes is very rare. It seems that the simplicity of this approach, it is necessary that phylogenetic expriments will be performed in Iran for grouping pathogenic intra-intestinal and extra-intestinal E. coli strains that part of this work has been done by authors.

Keywords: E. coli, molecular methods, typing.

Molecular typing of Salmonella enteritidis isolates in Tehran

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Background and Aim: Salmonella enteritidis is currently the most frequent serovar causing Salmonellosis in humans. In the last decade the incidence of gastrointestinal infections caused by S. enteritidis has increased. The aim of this study was to evaluate the genetic diversity of S. enteritidis isolated from Tehran hospitals using ribotyping method. Methods: Clinical samples such as fecal and blood specimens of the cases having symptom of Salmonellae infection were collected from different hospitals in Tehran. Salmonella isolation was carried out by bacteriological and serological characterization. The relationship between the strains was determined using ribotyping. Results: Of 29 salmonella enteriditis strains, 21 isolates were divided into 3clusters (1d to 3d). Most strains (21) were in cluster 1d. Recovered isolate are mainly belonged to a limited clones. Conclusion: Both molecular ribotyping and serotyping are valuable techniques for studying the epidemiology of S. enteriditis. Our results indicated that S. enteridis strains circulating in Tehran, are mainly belonged to a limited ribotype.

Keywords: Salmonella enteritidis, Serotyping, Ribotyping
Detection of new hemoglobin variant in Kermanshah province

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Introduction: Alpha thalassemia is the most common inherited disorder of hemoglobin synthesis in the world. Single nucleotide mutation in α1 or α2 genes produce abnormal α-chain hemoglobin. Hb Q disorders are regarded as rare Hb variants. Several Hb Q have been reported so far including Hb Q-Iran, Hb Q-thailand, Hb Q-india. This is a report on the molecular basis of Hb Q-Iran. Materials & Methods: In this study one couple referred from primary health care (PHC) centers to Pasteur institute of Iran with MCV>80, MCH>28, HbA2=2 and Hb variant=14. Genomic DNA was extracted by salting out method. DNA sequencing using Big Dye from ABI was used. Result: A total of 1000 individuals with microcytic hypochromic anemia were screened for the most common type of α-thalassemia. We investigated molecular basis of Hb variant in the couple using multiplex gap PCR, MLPA & direct DNA sequencing. No deletion was found. DNA sequencing revealed codon 75 G>C, Asp>His in α2 gene mutation in both couple. Discussion: Heterozygous individuals for Hb Q-Thailand generally present with moderate red cell microcytosis due to the association of the mutation with deletion –α4.2 Kb, but those carrying Hb Q-Iran or Hb Q-India are hematologically normal and no association with α-thalassemic phenotype has been reported. Since Hb Q-Iran is usually associated with normal CBC, it may not be detected through routine National Screening Program, therefore it’s true frequency can not easily be determined.

Keywords: Hb Q-Iran, Thalassemia, α-globin variant.

Molecular Mechanisms of Hemoglobin F Induction

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Hemoglobin F (α2γ2) is a major contributor to the clinical heterogeneity and ameliorating agent observed in patients with the β-globin disorders including β-thalassemia and sickle cell disease (SCD). During fetal life, hemoglobin F is the major hemoglobin but is largely substituted by adult hemoglobin (HbA, α2β2) following a switch in birth. Increased γ-globin expression can ameliorate the clinical severity of SCD or β-thalassemia, respectively. Therefore, increase of HbF production has served as a longstanding goal. The progression of target-based therapeutics has been confused by limited comprehension of molecular mechanisms of gamma globin gene expression. However, recent discoveries of regulators of HbF level represent a major advance and provide opportunities for novel rational therapeutic strategies. In this review, we discussed about molecular mechanisms of hemoglobin F induction.

Keywords: Hemoglobin F, β-thalassemia, Expression, Induction
P70

Investigation of fluconazole resistance among patients with candida species co-infection

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Introduction and Objectives: Vulvovaginal candidiasis is the second most common vaginal infection. The increasing of drug resistance has generated the focus of recent research to antifungal susceptibility testing. The candida species have shown significant decrease of susceptibility to fluconazole. The purpose of this study was to examine the co-infection between four candida species (C.alb, C.gla, C.tro, C.par) which were detected by Multiplex PCR and investigation of fluconazole susceptibility among these isolates. Materials and Methods: Samples were obtained from 62 volunteered women with confirmed vulvo-vaginitis by clinical exam. Swabs were cultured on the SDA and CHROMagar Candida. DNA was extracted directly from vaginal swabs and used as template for Multiplex PCR. The antimicrobial susceptibility of Candida isolates were evaluated by disk diffusion. Result: Culture on SDA (Sabourou Dextrose Agar) and CHROMagar Candida was positive for 38 samples surprisingly the PCR assay was positive in 42 samples. (69% C. albicans, 16.6% C. glabrata, 21.4% C. tropicalis, and 7.1% C. parapsilosis). Moreover there was a mixed growth of yeasts on 9 CAC (ChromAgar Candida) that verified by PCR results. There was synergism (co-infection) between C.albicans and C.glabrata in 2 samples, C.albicans and C.tropicalis in 6 samples and C.albicans and C.parapsilosis in 1 sample showed synergism. In conclusion 27 isolates were detected as C.albicans that 18 isolate were resistant to fluconazole in addition 6 of 7 C.glabrata isolates were resistant to fluconazole. Furthermore 10 C.tropicalis isolates and 3 C.parapsilosis were detected which 7 C.tropicalis and 3 C.parapsilosis were resistant to fluconazole. Conclusion: CAC can be used as screening test for detection of candida species co-infection that can be followed by Multiplex PCR as a sensitive and specific test. Also in this study the high percentage of resistance candida isolates showed that the correct detection of candida species is required. Moreover we found synergism between candida species (e.i C.albicans had synergism with C.tropicalis and C.glabrata). This synergy may be get into difficulty with treatment among recurrent infections.

Keywords: Candida Species, Multiplex PCR, Fluconazole

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Investigation of β-thalassemia carrier with normal HbA2

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Introduction: Beta-thalassemia is characterized by reduced synthesis of the hemoglobin subunit beta that results in microcytic hypochromic anemia. In β-thal carriers with normal HbA2, the presence of mutation in δ-globin gene should be considered and the cases should be differentiated from α-thalassemia and δβ-thalassemia. Here, we report a β-thal carrier with normal HbA2 and elevated HbF. Materials & Methods: We found an individual with low hematological indices, normal HbA2 and elevated HbF. Genomic DNA was extracted by salting out method. The suspected subject of having β- globin gene mutation was analyzed by ARMS method, common deletions of α-globin gene by gap-PCR and sequencing of δ-globin gene. In addition XmnI Gγ -158 C>T polymorphism was analyzed by PCR-RFLP method. Results: For this individual the mutation in β globin gene was indentified as being CD39 in compound heterozygous with CD27 (Hb Yialousa) in δ-globin gene. The Gγ XmnI was -/+ . No deletion in α-globin gene was identified. Discussion: The phenotype of increased Hb A2 typical of beta-thalassaemia (beta-thal) carriers can be reduced to normal or borderline values because of the co-inheritance of a delta-globin gene (HBD, MIM #142000) mutation, which may lead to misinterpretation of diagnostic results. In addition the cause of increased HbF could be the polymorphism in Gγ XmnI . However the increased HbF production can not be related only to Gγ XmnI polymorphism and other genetic factors may have contribution.

Keywords: Codon 27, Codon 39, delta globin gene, beta globin gene, Gγ XmnI
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Misdiagnosis in prenatal diagnosis of thalassemia in application of polymorphic markers

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Thalassemia is the most common genetic disease in Iran which is classified into two main classes as alpha and beta. The most suitable approach to control the disease is prenatal diagnosis and termination of pregnancies with affected fetuses. Two methods were applied for including direct and indirect diagnosis using polymorphic markers. Analysis of different cases of prenatal diagnosis indicated that in cases that the gametic phase is unknown, there is a possibility of misdiagnosis. Moreover, the presence of a hotspot in the 5’ region of the beta globin gene results in loss of linkage disequilibrium between markers and the gene. In the present study, we report data on prenatal diagnosis in which there was misdiagnosis. The data could help standardization of prenatal diagnosis methods for beta thalassemia.

Keywords: Thalassemia, Prenatal diagnosis, Polymorphic markers

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Design of Internal Amplification Control for PCR Detection of Herpes Simplex Virus

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Introduction: Herpes Simplex Virus (HSV) is a member of the herpes virus family, Herpesviridae, which infect humans. There are different methods for detection of this virus like cultural ways which is so time consuming, but molecular methods such as PCR are more appropriate for detection of HSV. Although nowadays molecular assays are using in laboratories but different results are achieved because of lack of standard methods which are counted as disadvantageous of molecular methods. For solving this issue in this study, designing of competitive Internal control (IC) through PCR-cloning has been attempted. Material & methods: primers for PCR test was optimized. Besides, the composite primers for IC-HSV were designed then the PCR was optimized. The IC-HSV which amplified in nonstringent condition, was ligated in pTZ57R plasmid then transformed in E.coli JM107 and was cloned. Specificity and sensitivity of test were determined. Results: PCR amplicon for HSV and IC-HSV with special primers were 454bp and 660bp respectively, so there was a significant different between their size. Sensitivity of PCR for HSV DNA was 10 particles of virus even 5. Discussion: Despite of high speed and accuracy of PCR, false positive and negative results which are caused by PCR inhibitors, are the most important problems of this technique that can reduce its efficiency. Using another DNA as an internal control can detect these inhibitors. Indeed, amplification of this DNA shows correct amplification and detection steps.

Keywords: herpes simplex virus, PCR, internal control
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Using single tube multiplex ARMS/RFLP in recognition of the most common β globin polymorphisms

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Introduction: β- thalassemia is an autosomal recessive disease that involve the decreased and defective production of hemoglobin. For PND we used direct detection with amplification refactory mutation system (ARMS) and indirect detection by using polymorphism markers (RFLP) with restriction enzymes. In this study we developed a single –tube multiplex –PCR for ARMS/RFLP, faster and less expensive method instead ARMS/RFLP method for three sites RFLPS (HincII3’ψβ, AvaIIβ and HinfIβ). Material and Methods: In this study we screened several DNA from β- thalassemia carriers with informative pattern for three polymorphic sites(HincII3’ψβ, AvaIIβ and HinfIβ) that were confirmed by ARMS/RFLP method or digestion technique previously. Genomic DNA was extracted by using salting out method. In this study we have developed single tube multiplex ARMS/PCR for three sites RFLPS that could be easily identified by size. Results: Multiplex PCR producted differing from each other could be conveniently separated on 2% agarose gel. We used two separate of mutant and normal primer and control sample for each sites. For mutant set control samples contained -/-,-/+ for each site and for normal set +/+ or -/+ . Comparison ARMS/PCR and PCR digestion showed 100% concordance. Discussion: The simplicity and university of this multi ethnic multiplex PCR assay significantly reduce the cost and complexity of RFLP techniques. Multiplex polymorphic markers determine whether family members have inherited a normal or mutation-harboring chromosome in one test.

Keywords: Key words: PCR digestion, ARMS/RFLP, Multiplex ARMS/RFLP.

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Relation of lipid profiles with cholesteryl ester transfer protein MSP1 polymorphism in Iranian primary hyperlipidemic patients

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Background & objectives: Primary hyperlipidemia, characterized by hypercholesterolemia and/or hypertriacyl glycerolemia, is considered to be a major risk factor for atherosclerosis and coronary major risk factor for atherosclerosis and coronary heart disease. We studied the effects of cholesteryl ester transfer protein MSPI polymorphism on serum lipid levels and CETP activity in Iranian primary hyperlipidemic patients. Methods: The study included 102 patients with primary hyperlipidaemia and 214 health individuals. Polymerase chain reaction and restriction fragment length polymorphisms were used for genotype detection. Genotype distribution and allelic frequencies of polymorphism were determined and compared in primary hyperlipidaemia and normolipidemic subjects. To determine the relationship between D442G polymorphism and lipid levels, lipids and CETP activity were measured in primary hyperlipidemic and normolipidemic subjects. Results: Plasma CETP activity was significantly (P<0.001) higher in primary hyperlipidaemic individuals than in controls. The genotype and allelic frequencies for this polymorphism were not statistically different between primary Hyperlipidemic patients and controls. Plasma HDL-C was higher in both groups, in the AA genotype than in the GA and GG genotypes, whereas the serum CETP activity was lower in AA genotype compared with other genotypes (GA and GG). In addition Plasma TC was higher in both groups, in the AA genotype than in the GA genotypes. Interpretations & conclusions: The results showed that MSP1 polymorphism of CETP gene was associated with changes in lipids profile and plasma CETP activity in the selected population and might have a role in contributing to genetic risk of developing coronary artery disease.

Keywords: CETP – HDL– primary hyperlipidaemia – MSP1
Evaluation of LAMP (Loop-mediated isothermal DNA amplification) for Molecular Detection of Salmonella

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Introduction: Salmonella Bacterium is not only a causative factor of typhoid fever, enterocolitis, and salmonellosis, but it is also a zoonotic infection. This bacterium is a major health problem throughout the world, and is especially prevalent in developing countries. Therefore, rapid diagnosis of salmonella can prevent its outbreak. Different techniques are used for the diagnosis of Salmonella bacteria, such as; culture, biochemical, serological, ELISA, Widal, immunofluorescence and molecular methods like PCR and Real time PCR, all of which are difficult, time-consuming, and expensive. Thus, our study was designed to evaluate the LAMP (Loop-mediated isothermal DNA amplification method) for detection of salmonella bacteria. Materials & Methods: In this study, we examined 7 different strains of salmonella. The DNA was extracted by standard methods and amplified with specific primers by PCR and set of primers for LAMP in single temperature in very simple thermal block made in Iran. The amplified products were detected by gel electrophoresis and LAMP products were visualized by their turbidity with naked eye. Findings: Conventional PCR method for detection of Salmonella needs standard thermocycler and takes 3 hours, but using LAMP method, we were able to amplify and detect salmonella in simple thermoblock, taking much less time. After optimization of the process, it was, soon, possible to detect and identify Salmonella typhi bacteria within 90 minutes. This method is also 10 times more sensitive than that of the PCR. Discussion & Conclusion: According to the results, comparing LAMP method for detection and identification of Salmonella with conventional PCR, we have been able to determine the simplicity, speed and the superior sensitivity of the LAMP method. This Method is more simple, faster and cheaper. Non-dependence of cycle’s temperature and thermo-cycling and replacement with one thermo block which is very simple, inexpensive and made inside the country, can be considered another advantage of the LAMP method.

Keywords: Salmonella, molecular detection, PCR, DN, LAMP

Detection of Brucellosis in high risk individuals referred to medical diagnostic centers in Khodabandeh city with using PCR

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Background: Brucellosis is a worldwide zoonosis with a huge economic impact on animal husbandry and public health. The diagnosis of human brucellosis can be prolonged because the disease mainly shows great variability with vague clinical signs and symptoms. Therefore, requires fast and accurate diagnosis. The aim of this study was to identify of Brucella in sera high risk individuals in Khodabandeh city by polymerase chain reaction (PCR)-based method. Materials and Methods: A total of 180 patients suspected to have Brucellosis (farmers, Butchers, Animal husbandry, Worker) were examined by serologic tests. 128 patients were positive in standard tube agglutination (Wright, STA) test and complementary test including Coombs, while 52 subjects were negative in Wright test. To establish a PCR technique for diagnosis of active brucellosis, DNA was extracted from serum samples with using a commercial kit. A pair of primers B4/B5 that amplifies a gene encoding a 31 kDa immunogenic outer membrane protein (bcsp31) of Brucella species was used for PCR amplification. Results: The PCR assay showed that an amplicon of 223 bp was obtained in 73/8% (133/180) of tested sera using primers (B4/B5) derived from the nucleotide sequence of a gene encoding the 31-kDa Brucella abortus antigen. PCR technique was able to detect 10 bands in Wright negative subjects. Conclusions: We report a robust and rapid PCR assay to facilitate routine laboratories and effective diagnosis of brucellosis, which allows for the development of Brucella genus-specific PCR assay.

Keywords: Brucellosis, PCR, Wright, High risk patients
Design of Internal Amplification Control for PCR Detection of Salmonella typhi

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Introduction: Salmonellae have general characteristics of Entrobacteriaceae family. Diagnostic methods for detecting this microbe which routinely used in laboratories are time-consuming and are not hundred percent reliable. Molecular methods such as PCR are new and powerful techniques that provide more accurate diagnosis. But different results in laboratories which happen because of lack of standard methods, are the disadvantages of molecular methods. For solving this issue in this study designing of competitive Internal control(IC) through PCR-cloning has been attempted. Material & methods: But using of special primers for IS6110 target, PCR test was optimized. Besides, the composit primers for IC-SAL were designed then the PCR was optimized. The IC-SAL which amplified in nonstrigent condition, was ligated in pTZ57R plasmid, transformed in E.coli JM107 and was cloned. Specificity and sensitivity of test were determined. Results: PCR amplicon for SAL and IC-SAL with special primers were 2845bp and 662bp respectively, so there was a significant different between their size. Sensitivity of PCR for SAL DNA was 12 bacteria and the IC amplified in the ranges between 10-10,000,000 bacteria. Discussion: Despite of high speed and accuracy of PCR, false positive and negative results which are caused because of PCR inhibitors, are the important problems of this technic that can reduce its efficiency. Using another DNA as an internal control can detect these inhibitors. Indeed, amplification of this DNA shows correct amplification and detection steps.

Keywords: salmonella typhi, PCR, Internal control

High Frequency of O6-methylguanine DNA methyltransferase as a prognostic marker in patients with polyp

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Introduction: Point mutations in the K-ras gene are the most common genetic features of colorectal cancers (CRCs). Regarding molecular pathways of carcinogenesis, epigenetic regulation of gene expression is attracting increasing attention, and aberrant methylation of various genes has been established as important for human cancers. CpG island methylation of promoter regions of genes results in their transcriptional silencing, and frequent methylation of O6-methylguanine DNA methyltransferase (MGMT) has been reported in colon adenocarcinoma. MGMT is a DNA repair protein which absence of MGMT activity, G-to-A transition may accumulate in the specific genes such as K-ras. Patients with polyp are at risk of colorectal cancer and no report has been published regarding the methylation status of MGMT in patients with polyp in Iran. So, in the present study, we decided to analyze the methylation status of MGMT gene in patients with polyp in Iran. METHODS: MGMT methylation status was examined on 44 tumor samples and 20 normal samples. For methylation analysis, a methylation specific PCR (MS-PCR) method was used. RESULTS and CONCLUSION: MGMT promoter methylation was found in 85% of polyp tissues. There was no statistically significant difference between MGMT methylation with respect to sex, age and smoking status. There was no methylation in normal tissues. The frequency of MGMT methylation in our patients is high. Our data suggest that methylation of specific locus of MGMT gene could have a prognostic marker in patients with polyp.

Keywords: Polyp, Colorectal cancer, MGMT
Amino acid mutation in plasmodium vivax dhfr and dhps genes in the border of Sistan and Baluchestan province- Iran

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Background and Aim: Molecular markers are useful approach for recognition of mutation in P. vivax. The aim of this study was genetic analysis of the dihydrofolate reductase-thymidylate synthase and Dihydropteroate Synthetase Genes in P. vivax in the border of Sistan and Baluchestan province for recognition of mutation at codons 33, 57, 58, 117, 173 and 382, 383, 512,553, 585 related to antifolate drug resistance. Materials and Methods: Clinical isolate of P. vivax were collected from endemic areas of malaria in the border of Sistan and Baluchestan province in Iran, from June 2008 - November 2010 . All 40 collected isolates were analysed for pvdhfr and pvdhps gene using PCR, Semi-nested PCR and sequencing methods. Results: The mutant pvdhfr alleles were seen in 26 (65%) samples in three positions. Mutation was found in 14 (35%), 25 (62.50%) and 33 (7.50%) isolates in 58, 117 and 33 codons respectively. No mutations were observed in 57 and 173 codons. Among 26 mutant isolates, double mutations in the forms of S58R-S117N (30%) and P33L-S117N (2.5%) were seen in 13 (32.5%) isolates. Triple mutations in codons 33, 58 and 117 were observed in 1 (2.5%) of the isolate and two novel mutation were found at codons 50 and 196. Mutation in pvdhps gene in codon 383 in 7 (17.50%) out of 40 P. vivax isolates was seen. Two of the mutant isolates showed mutation in codon 383 and 459 codon. Therefore, of the 40 isolates, 5 isolates (12.50%) were single mutant and 2 (5%) were double mutant. Conclusion: In spite of this fact that the antifolate drugs are not prescribed for P. vivax malaria, observed mutant alleles in pvdhfr and pvdhps gene of P. vivax is probably due to expose of P.vivax with fansidar drug.

Keywords: Dihydrofolate reductase-Thymidylate synthase gene, Dihydropteroate synthetase gene, Plasmodium vivax, Hormozgan province.
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Evaluation of the effect of temperature and time of incubation on complete blood count (CBC) tests

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Background: The complete blood count (CBC) is one of the most common tests requested by physicians. The results of this test are affected by different factors such as temperature and time of incubation. Therefore, the aim of this study was to evaluate changes in CBC results at room temperature (RT). Methods: In a cross-sectional study, 32 K2 EDTA (Dipotassium ethylenediamine-tetraacetate)-anticoagulated blood specimens were processed for CBC testing after blood-taking and incubation for 24 hours at RT. Specimens were selected from routine laboratory workload. Results: Among the CBC parameters, there were no significant differences in WBC, Plt and Hb results before and after incubation at RT (p>0.05). However, there were significant differences in RBC, Hct, MCV, MCH and MCHC results before and after incubation (p<0.001). Conclusion: The findings of this study show that some CBC parameters can change after incubation at RT. Testing should therefore be performed on blood samples as soon as possible.

Keywords: CBC, WBC (White Blood Cell), RBC (Red Blood Cell), Plt (Platelet counts), Hb (Hemoglobin) and Hct (Hematocrit), incubation

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Epidemiological study of fungal infections of elderly referred to Medical Mycology Laboratory in Kermanshah – Iran between 1993 and 2009

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Background: Elderly or people over 65 population are increasing constantly, and improving the quality of their health status and its continuous control is a concern for healthcare institutions. Aging causes changes in immune system and other functional body systems due to weakness of which microbial colonization including fungi takes place on the surface of skin and mucosa of these people. The effect of culture, hygiene and geographical factors in the rate of colonization of microbial agents in elderly community has been emphasized in previous studies. Living in crowded environments causes increased incidence of many fungal diseases. Many human fungal diseases identified belong to the group of superficial and cutaneous diseases of the skin affecting skin and its appendages such as nail and hair. Evaluation of fungal skin diseases such as dermatophytosis, candidiasis, pityriasis and erythrasma are important in view of Public Health in any geographic area, and non-compliance with health tips along with predisposing factors cause prevalence of such diseases in the community. Identification of pathogens in superficial and cutaneous infections is useful toward recognizing sources of infection and community training to realize complications of infections due to contact with infected people and animals. Fungal infections of the aging people are different with those of middle age, adolescence and infancy periods. Method: In a descriptive study using Medical Mycology Laboratory archives of KUMC Clinic, all the data of elderly patients (65 years and older) visiting between 1993 and 2009 were extracted and analyzed. The patients were examined by dermatologist and were referred to laboratory where samples were taken from them that were subject to direct microscopic study and culture on SDC medium containing Cycloheximide and Chloramphenicol and differential biochemical tests. Results: There were a total of 352 patients from 1993 to 2009 of which 136 patients (38.64%) were women and 216 men (61.36%). The highest age group was 65 to 74 years (78.29 %) and the most common subjects were housewives, farmers and the retired. The most common affliction sites were feet (24.5%), hands (18%) and nails (15%). In this study, it was determined that the most common fungal diseases of the seniors were dermatophytosis (25.28%), candidiasis (13.35%), erythrasma (6.81%) and pityriasis (1.99%) and the rest (52.55%) had no fungal infection. It was also found that the most common fungal agents isolated were Candida albicans (10.51%) and Candida species (2.84 %). Conclusion: Dermatophyte infections are a major health problem in different countries of the world, and epidemiological studies are required for health planning for their control. Therefore, just as this study has shown, fungal diseases of seniors often appear in hyperkeratosis areas of the body such as legs, hands and nails, and indicate different results from those of childhood where most of the infections are focused on head with different care and treatment requirements.

Keywords: Seniors, mycosis, Kermanshah
Evaluation of serum lipids, lipoproteins and apolipoproteins in psoriatic patients from kermanshah

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Psoriasis is a chronic, inflammatory skin disease with an approximate 2-3% prevalence in the general population and an etiology based on both environmental and genetic factors. Psoriasis is a chronic inflammatory skin disease characterized by excessive cellular replication. High serum lipid levels and apolipoproteins has been suggested in the pathogenesis of atherosclerosis in psoriatic patients. Our purpose was to evaluate the plasma lipids (TG & Ch) and lipoproteins ( HDL, LDL & VLDL) and apolipoproteins(A1, B) and Lp(a) in order to compare the lipid profile in psoriatic patients with control group in kermanshah. We determined serum concentrations of lipids, lipoproteins and apolipoproteins in 100 patients with psoriasis and 100 age matched controls. Serum Lp(a), apo A1 and apo B were measured by immunoprecipitation assays, and the lipids and lipoproteins were measured by enzymatic methods. The mean levels of triglyceride, cholesterol, HDL, LDL and VLDL in patients with psoriasis were 123.4 , 167.7, 44.1, 123.3 and 25.6 mg/dl and in control group were 113.3, 156.7, 45.5, 102.4 and 24.5 mg/dl, respectively. The mean levels of ApoA1 , ApoB , Lp(a) in psoriatic patients and controls were 139.2, 107.6, 19.2 and 151.5, 99.7, 17.1 mg/dl , respectively. The mean levels of total cholesterol, LDL and apo B in patients with psoriasis were found to be significantly higher than those of healthy subjects(P 0.05). On the other hand we found that the mean levels of HDL and ApoA1 in psoriatic patients were lower than that of the control group but not significant. This study shows that high serum lipid level is significantly more common in psoriasis. It may be useful to do early screening and treatment of hyperlipidaemia in psoriasis to prevent the atherosclerosis and its complications.

Keywords: Psoriasis, Lipids, Apolipoproteins

Liver effects of pesticides commonly used among agricultural workers in southwest of Iran

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Introduction: Pesticides produce adverse biological effects through the active ingredients and associated impurities(1). Agricultural workers are at greater risk of pesticide exposure more than non-agricultural workers(2). Few studies has been performed among Iranian workers. This study was designed to study the biochemical effects of the pesticide pollution among agricultural workers. Methods: It was a case-control cross-sectional study that 54 healthy male farmers exposed to different class of pesticides for 3 to 40 years were compared with 54 controls matched for age. Aspartate Amino Transferase (AST), Alanine Amino Transferase (ALT), Alkaline Phosphatase (ALP), total Bilirubin and direct Bilirubin were measured in both groups. Results: Significant increase was observed in serum total Bilirubin, AST. However, there were not any significant changes in direct Bilirubin, ALT and Alkaline Phosphatase (ALP) among farm workers compared to control group. Conclusions: These results suggest that the long term exposure of various pesticides affect at least important organ such as liver.

Keywords: pesticides, liver effects, agricultural workers
Onychomycosis due to non dermatophytosis mould

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BACKGROUND: Onychomycosis, a common nail disorder results from invasion of the nail plate by a dermatophytes, yeasts or mould species. These fungi give rise to diverse clinical presentations. The present study aimed to isolate the causative pathogens and to determine the various clinical patterns of onychomycosis in the population in Tehran, Iran

METHODS: Totally nail materials of 504 patients with prediagnosis of onychomycosis during 2005, were examined both with direct microscopy observation of fungal elements in KOH preparations and culture to identify the causative agent. All samples were inoculated on (1) Sabouraud dextrose agar (SDA, Merk) (2) SDA with 5% chloramphenicol and cycloheximide in duplicate for dermatophyte and(3) SDA with 5% chloramphenicol triplicate for mold isolation. 

RESULTS: Out of a total of 504 cases examined, 216 (42.8%), were mycologically proven cases of onychomycosis (144 fingers, 72 toenails). Among the positive results, dermatophytes were diagnosed in 46 (21.3%), yeasts in 129 (59.7%) and non dermatophytic mold in 41(19%). Trichophyton mentagrophytes was the most common causative agent (n=22), followed by Trichophyton rubrum (n=13), Candida albicans (n=42), C. spp. (n=56) and Aspergillus spp. (n=21) 

CONCLUSIONS: non dermatophytic mold is responsible for 19%of the onychomycosis in Iran.

Keywords: onychomycosis-dermatophytosis-mould

Evaluation of the serum changes of Cyctatine C levels and lipid profiling in menopause women in pre and post aerobic aquatic training

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Abstract Introduction: cardiac disease is the main cause of death in many countries and cause of about 50% of death numbers in menopause women. The purpose of present study was evaluating influence of in water aerobic training on Cyctatine C and some other cardiac factors including fasting blood, triglyceride (TG), cholesterol, lipoprotein sand body fat percent in menopause women. Subjects: subjects of study included menopause women who participated in study voluntarily and randomly were divided to two groups of exercise (age:57.06 ±5.71 Years & BMI: 44.88±7.66kg/m2) and controls (age: 58.40±3.81 Years & BMI: 68.30±6.97 kg/m2) Method: study variables were measured before and after training sessions. Blood samples were taken in fasting state. Training sessions included aerobic exercise , 3 times a week and intensity of 50 to 70 maximal heart rate. Data were analyzed using statistical method of covariance analysis. Findings: study findings indicated that Cyctatine C, cholesterol, body fat percent, systolic and diastolic blood pressure, FBS and lipoproteins did not change significantly after training sessions in exercise compared to control group. but TG reduced significantly in exercise compared to control group. Conclusion: we can conclude that exercise training as in present study can be useful for reducing cardiac disease by reduction of TG.

Keywords: key words: Cyctatine C, cardiac risk factors, lipid profiling
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The Study of the effect of Zataria multiflora extract on methicillin resistant Staphylococcus aureus  Motevasel

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One of the common nosocomial infections of infectious disease is methicillin resistant Staphylococcus aureus (MRSA). Today, using herbal extract like Zataria multiflora from Lamiaceae family, is increasing. In this study the antibacterial effect of Z.multiflora on 75 strains of MRSA were evaluated. 232 strains of Staphylococcus aureus were examined for detection MRSA strains. 75 MRSA strains were detected by oxacillin 6µg /ml screening method from mentioned bacteria. The MRSA bacteria were affected with the extract of Z.multiflora. The extract of Zataria was prepared from dried leaves with maceration method. The antibacterial activity of the extract with initial concentration of 200 µg /ml was determined by micro broth dilution method. Results obtained showed that minimum inhibitory concentration (MIC) varied from 2 to16µg /ml for MRSA strains. It inhibited the growth of S.epidermisids, S.saprophyticos and meticillin sensitive S.aureus (MSSA) from 8 to16 µg /ml. The minimum bactericidal concentration (MBC) of the extract that could destroy 62.2% MRSA strains and the other examined bacteria was 512 µg /ml or more. In conclusion it seems that Zataria extract could inhibit the growth of all of mentioned bacteria. We noticed that the bactericidal effect of Zataria extract was less than its bacteriostatic effect.

Keywords: ethanolic zataria extract, meticillin resistant Staphylococcus aureus, MRSA

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Study of effect of centrifugation speed on platelet aggregation activity and its yield during platelet rich plasma preparation

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Background The method of platelet preparation is one of the factors which affect the quality and yield of platelet during its storage. Previous studies have shown that the use of high and low centrifugal speed during preparation of platelet concentrates can change platelet aggregation activity. In this research, effect of high and low centrifugation speed on platelet aggregation activity in responding to various agonists and platelet yield were studied. Methods Totally 38 units of whole blood were donated by donors in Tehran Blood Transfusion Center. At the first step for determination of yield in platelet rich plasma, 11 units of whole blood were centrifuged at 2160 g (method I) and also 11 units were centrifuged at 2050 g (method II) with a constant time of 4.0 min and mean platelet yield of two methods were determined. Again for evaluation platelet aggregation, at the second step, 8 units of whole blood were centrifuged at 2160 g and another 8 units were centrifuged at 2050 g similar to above conditions and for these 16 samples, aggregation tests were performed at the presence of ADP, arachidonic acid, collagen and ristocetin agonists. Results Mean platelet yield of first and second method was found 52% and 69% respectively. Percentage of mean platelet aggregation activity of platelet rich plasma samples with responding to ADP, arachidonic acid, collagen and ristocetin agonists in the first method were found 42.2, 26.9, 28.4 and 72.2, whereas at the second method were observed 66.6, 85.6, 83.3 and 84.4 respectively. Conclusion The results showed that the use of low speed at 2050 g in comparison with high speed at 2160 g can significantly increase platelet yield and platelet aggregation activity with responding to ADP, arachidonic acid, collagen and ristocetin agonists and thus it can improve quality of platelet rich plasma preparation.

Keywords: Platelet rich plasma (PRP), centrifugation speed, platelet aggregation, platelet yield.
Detection of Chlamydia Pneumoniae and Helicobacter pylori by PCR in Patients Undergoing coronary artery bypass grafting

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Background&objective: Atherosclerosis is one of the most important causes of morbidity and mortality in industrial and developing countries such as Iran. In recent years, the role of infectious agents such as Chlamydia pneumoniae & Helicobacter pylori as risk factors to initiat and/or accelerate for atherosclerosis were suggested. The aim of the study was to investigate the presence of Chlamydia pneumoniae & Helicobacter pylori DNA in atherosclerotic Plaques in Patients suffering from coronary artery disease. Material and methods: This cross-sectional study was performed on 85 Patients (42 male & 43 female) referred to coronary artery bypass grafting (CABG) in Shahid Mohammadi hospital of Bandar abbas in 2011. Using standard questionnaire, demographic and clinical chracteristics of patients were recorded. At first aortic atherosclerotic plaque specimens and thoracic biopsies were processed and then polymerase chain reaction carried out. SPSS software was used for analysis. Results: Chlamydia pneumoniae DNA was detected within 25 out of 85 (29.4%) atheroscelerotic plaque and 5 out of 85 thoracic biopsy (p=0.0001). Of these, 9 patient had no risk factor. There was no statistical difference among none of the risk factors and Chlamydia pneumoniae. Helicobacter pylori was also detected within atherosclerotic plaques, in only four out of 85 patients (4.7%), and three out of 85 thoracic biopsy (p=0.72). Conclusion: our results supported the hypothesis that Chlamydia pneumoniae was associated with atherosclerosis while Helicobacter pylori was not.

Keywords: atherosclerosis, Chlamydia pneumonia, Helicobacter pylori, PCR

Comparison of LDL level by two methods: direct enzymatic and Friedwald’s formula

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Objective: Low density lipoprotein (LDL) is an important marker in diagnosis of arthrosclerosis. Since existing strong correlation between LDL levels with coronary heart disease, increase the level of LDL is an important factor in progression of heart disease. Therefore, precision and accuracy of this test are very important. LDL can be determined by enzymatic and nephelometric or Friedwald’s formula. Notwithstanding developed enzymatic and nephelometric methods, in the often medical laboratory LDL calculated by Friedwald’s formula. For a reason contradict in reports, we decided to calculate correlation between direct determinations of LDL whit Friedwald’s formula. Method: This cross-sectional descriptive-analytical study performed in 2011 on the 1141 sample in private medical laboratory in Gorgan. Serum Cholesterol, triglyceride, HDL and LDL assayed by enzymatic method (Parsazmoon, Iran) and Autoanalyser (Mindray BS-200). For samples with LDL less than 400 mg/dl LDL determined by Friedwald’s formula. Ratio of LDL/HDL less than 3.5 was normal. Confidence interval was 95% for all statistical tests. Results: 38.3% samples were from male and 61.7% was from female. Mean of age was 46.3 ± 16.1 years. Mean of cholesterol, triglyceride and HDL to mg/dl was 177.9 ± 41.1, 132.9 ± 73.2 and 45.8 ± 13.2, respectively. Mean of LDL direct and calculated to mg/dl was 82.1 ± 23.1 and 105.5 ± 35.8, respectively. Pierson correlation between two method was 0.869 (p<0.001). Conclusion: Results indicated that calculated method for assay of LDL more than the level of direct method. Therefore, this increase can effect on the judgment of physicians.

Keywords: LDL, Enzymatic, Friedwald’s formula
P91

The studies of prevalence allo antibody of thalassemia in children referred to Blood Transfusion Organization, Tehran database

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Introduction: All tests of blood banks in order to analyze and review immuno serologic patient clinical records and other side laboratory findings be made available. Factors such as past / present medical problems, if her pregnancy being a woman patient history, history of blood transfusion how blood received regarding the time and what type of blood products received, the drugs in the past / present is received immuno serologic patient diagnostic process: the initial, repeat, referral, all these factors increase the speed and efficiency of testing will help. Methods: In this study 43 thalassemic children have been studied. For this purpose on all samples taken antibody screening and examples of antibody screening that were positive, Further tests on the panel were performed. Results: Of 43 patients the studies, 28 patients were positive for antibody screening that after the panel determined that 12 children have E and antibody, 6 children have D and C antibodies, 3 children have E antibody, 1 Child has Jkb antibody, 4 children have Kell antibodies, 1 child has Kpa antibody, 1 child have Kell and Kpa antibody. Discussion: Use of antibody screening test for allo antibody detection is performed appropriate and effective method for cross match test, having experience and knowing there is allo antibody will help to the proper and safe blood for this patients..

Keywords: allo antibodies - children - Thalassemia

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Study of biochemical markers Troponin I and CK-MB in patients with chest pain of Imam Sadegh Hospital in Savojbolagh

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Background: measurement of Troponin I is the important indicator in diagnosis of coronary ischemic syndromes. In addition CK-MB has been a standard test for this disease. Thus this study was performed to assess the biochemical markers due to diagnosis of coronary ischemic syndromes. Material and methods: this was a cross-sectional-comparative study on 150 patients who suffered from chest pain. Following blood collection the samples were analyzed to determine the concentration of Troponin I and CK-MB. Troponin I level was measured by quantitative immunochromatographic test and CK-MB level was detected by kinetic method. Statistical descriptive and paerson test was employed to analyze the data. Results: the results obtained in this study showed that Troponin I and CK-MB level elevated in 40 samples. In these persons coronary disease was confirmed with EKG. Statistical information was indicative of a significant correlation between Troponin I and CK-MB among the patients (p<0.05). Conclusion: measurement of Troponin I in combination with CK-MB could be considered as an appropriate method to diagnose coronary disease in patients suffering from chest pain. Although Troponin I measurement is proposed as a sensitive and special marker for diagnosis of acute heart disease

Keywords: Keywords: Troponin I, chest pain, CK-MB, coronary disease
Infants at risk of AIDS

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The number of infected mothers by HIV is increasing in the world. As the risk of sex transmission disease among girls and women is as four as men , it is important to know how we can control HIV. An infected woman can transfer virus to fetus. The risk of transmission is 35%. Some health interferes help to control HIV in infants: 1) Anti retrovirus consumption at 3-4 months after pregnancy 2) Anti retrovirus consumption at delivery 3) Blood less caesarean section 4) Not breast feeding 5) Short time treatment in infants.

Keywords: infants,HIV,AIDS,retrovirus,caesarean

Certification testing processHeart Imam Reza Hospital Emergency( Clinical Audit)

Rosita Davoudi *

Introduction Laboratory, a fundamental role in diagnosis, treatment and follow up the success of laboratory tests with increasing advances in science and laboratory science and laboratory inventing new ways to be more bold every day. According to the established system of clinical governance (Continual Service Improvement) Clinical Audit Clinical Audit Clinical audit system is in fact what is being done regularly to reflect. Clinical Governance is a key element in that it provides a mechanism to monitor success of treatment and the response to this question that some of the actions and measures taken to achieve the desired result? Clinical audit is a process for improving the quality of clinical services, which is composed of a set of activities related to. In this process, desired standards of care and services provided or to be developed, then the situation has been assessed and there are cases where non-compliance with the standard will be determined. Finally there is a marked difference in the places from which there is the possibility of intervention, intervention took place after an appropriate interval, to evaluate the effectiveness of intervention this audit will be done according to the clinical audit cycle process be. Is a framework for continuous quality improvement of services, in order to carry out activities, responsible and accountable to the health provider organizations to observe the principles of excellence clinical services. Clinical governance program based on the needs and views of patients, legal requirements, staff capabilities, unmet training needs and realistic performance comparison is based on current best practice standards. Methods: The present experiments Audit process (the time of biochemical tests) CBC PT recorded in HIS has since in the laboratory recorded Audit problems Interventions audit New Audit

Keywords: Clinica governance -Clinical Audit
Evaluation of Hepatitis B Virus Antibody (HBV-Ab) titre in Staff of Ayatollah Bahari Hospital, Hamadan Province in 1389

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Introduction and Objective: Studies showed that 30% of people in world are infected with HBV, 6-10% of them lead to chronic infection and ended to cancer and cirrhosis of hepatitis. Also because of contact in personal of health centers with blood and products of it’s, they will be at high risk to infection of HBV. This research has been done to study the rate of immunity to HBV in personal of Ayatollah Bahari hospital. Methods: Blood samples collected from all of staff that employed in different wards of hospital, and tested by ELISA-assay to titration of HBV-Ab. According to recommendation of references and kit the assay of titration higher than 10 IU/ml assume as protective as and lower than 10 IU/ml assume as non protective. Results: Out of 141 samples 11.3% of them had a lower titr.

Keywords: HBV, Ayatollah bahari hospital, HBV-Ab titr.

Quality improvement of coagulation factor VIII concentrate by removing its fibrinogen

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Background: With regard to central role of coagulation factor VIII, to control bleeding of hemophilia patients, nowadays, these patients use factor VIII concentrates. This factor consists of a large glycoprotein with molecular weight of 330 Kda which consist of two light and heavy chains of 80 and 90-200 Kda respectively. Its concentration in plasma is very low about 100 ng/ml. Commonly, fibrinogen is the major impurity in factor VIII concentrates, so the aim of this study was quality improvement of coagulation factor VIII concentrate by removing of extra fibrinogen from the cryoprecipitate.

Methods: Fifty grams of cryoprecipitate paste was prepared from fresh frozen plasma and was crashed and mixed in 400 ml of 0.02 M tris buffer, pH:7 at 30°C, by DRMEX mixer. For removing of fibrinogen and prothrombin complex from the product, aluminium hydroxide gel 30 ml/L was used and centrifuged at 7000 RPM, 10 min then 72 ml of 0.5 M sodium citrate was added to the supernatant. The pH was adjusted to 6.3 with 0.02 M citric acid. Poly Ethylene Glycol (PEG) 4000 with the ratio of %4.8 was added to the product and centrifuged at 7000 RPM, 15 min, 22°C. In this step, the most amount of fibrinogen was removed from the product and purified factor VIII concentrate was prepared. Results: The activity of factor VIII and the amount of fibrinogen in cryoprecipitate solution in tris buffer was found %355 and 1000 mg/dl respectively. In final product of purified coagulation factor VIII concentrate, factor VIII activity and fibrinogen content was indicated %1220 and 50 mg/dl respectively. For further confirmation gel electrophoresis was carried out and indicated that factor VIII migrates to β region, providing evidence of the improved purity of final concentrate as compared to cryoprecipitate solution. Conclusion: The data show that, by adjusting temperature during process and removing of fibrinogen from cryoprecipitate we can improve quality of coagulation factor VIII concentrate as final product by using aluminium hydroxide gel and PEG during its preparation.

Keywords: Quality improvement, factor VIII concentrate, cryoprecipitate, fibrinogen
Prevalence of anemia among Para-medical students, Babol University of Medical Sciences, Babol, Iran (2011)

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Objective: Anemia is one of main problem in public health. Microcytic anemia (IDA and thalassemia) are more frequent among different types of anemia. This study aim to evaluate prevalence of anemia in students. Methods and Materials: This is a cross-sectional study that performed in Para-medical students, Babol University of Medical Sciences. Complete blood count was carried out on 171 samples which randomly selected. Iron indices and Hb electrophoresis were measured in persons who had microcytic anemia. Data were analyzed by SPSS. Results: 24 out of 171 samples (14.03%) were anemic. 21 (12.28%) and 3 (1.75%) cases had microcytic and normocytic anemia, respectively. On the other hand, 18 (10.53%) and 3 (1.75%) out of 171 samples were minor beta thalassemia and iron deficiency anemia, respectively. Conclusion: With regard to the results, prevalence of minor beta thalassemia was high and increased compared with a study which performed ten years ago. Therefore, it is necessary to applied a new strategy in order to reduce the risk of minor beta thalassemia.

Keywords: Anemia, Iron deficiency, Thalassemia, Student

Prevalence of proteinuria and its association with urinary tract infections in pregnant women referred to health centers of bahar city in Hamedan Province

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Introduction and Objective: Proteinuria is common, although it is not the general findings in a urinary tract infection(UTI) it is usually indicative of renal dysfunction that may be caused by disorders of glomerular or tubular. This is called “Tubular Proteinuria or glumerular Proteinuria”. A large number of proteins with molecular weights lower than albumin (lysozyme, immunoglobulin light chain, insulin, growth hormone and beta two micro globulin) are secreted by glomerular and re-absorbed in proximal tubules and proximal disturbance caused rejection them , but disruption in glomerular caused to reject albumin and proteins with high molecular weight. Following the physiological changes of pregnancy due to hormonal changes that relax the urinary tract muscles and eventually stop the urine and increase in volume. Concentrated the chemical compounds such as sugars, amino acids and protein caused to facilitate the growth of microorganisms, besides the progress of pregnancy and increased uterine size and the urinary tract is affected. Methods: This study has done on 377 pregnant women who were in the first trimester of pregnancy that come from urban and rural areas and from middle or lower level of socioeconomic Results: This study has showed that the prevalence of proteinuria is 1.86% , prevalence in infected women was 2.63% and in without UTI was 1.77%. Conclusion: According this cross sectional study the association between proteinuria and UTI was not statistically significant (p.value>0.5). So it seems it is necessary, regardless of the presence or absence of protein in the urine of pregnant women in whom, UTI should be investigated Pregnancy| proteinuria|UTI.
**P100**

**Evaluation of gender effects on serum calcium, phosphorus, and alkaline phosphatase in hemodialysis patients**

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Background and Aim: Has been shown that serum calcium and phosphorus levels more than 11 and 6 mg/dl respectively, in hemodialysis patients are correlated with increased risk of hospitalization and mortality rate of 25% and 60% respectively, compared with other hemodialysis patients with lower levels of this parameters. Also shown that the result of multiplying the serum calcium and phosphorus levels more than 50 in patients is associated with increased risk of hospitalization and mortality. This study were performed to determine the serum levels of calcium, phosphorus and alkaline phosphatase and evaluate the results of multiplying the serum calcium and phosphorus levels in hemodialysis patients. Materials and Methods: In this cross-sectional study, from hemodialysis patients that referred to dialysis ward of Amir-al-momenin hospital of Arak city in 1388, the 5 ml of venous blood was drawn and tests were performed with Mindary BS-300 Autoanalyser and Pars azmun kits. Results: From 44 hemodialysis patients, 22 patients (50%) were men and 22 patients (50%) were women. Mean age in men and women was respectively 67.5±9.3 (29-81) and 64.4±8.7 (26-82). Mean alkaline phosphatase activity in males and females was respectively 444.3 and 423.1 IU/L (p>0.05). Mean serum calcium and phosphorus levels were in men and women 7.62±0.36 vs. 8.42±0.45 (p<0.00001) and 5.53±0.31 vs. 5.03±0.28 (p>0.05) respectively. The average multiplying results of serum calcium and phosphorus levels in men and women, 42.1 and 42.4 respectively. Conclusion: The results of this study suggested that have a higher mean serum calcium and lower mean phosphorus levels in women than men. The difference of multiplying results of serum calcium in phosphorus levels, in the groups of men and women, was not statistically significant, and it seems that is not a role, gender mortality rate due to the consequences of renal failure in hemodialysis patients.

**Keywords:** Calcium, Phosphorus, Alkaline phosphatase, Hemodialysis.

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**P101**

**Evaluation of serum magnesium in type II diabetic patients**

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Introduction and aim: According to some studies, there are relationship between decrease of serum magnesium (Mg) level and resistance to insulin in diabetic type II patients. Therefore, this study design to evaluate of Mg level in diabetic type II patients and comparision of it with non diabetic individuals. Materials and Methods: Diabetic patients (n=35) and control subjects (n=35) were selected randomly from the hospital clinic of Imam Ali Andimeshk city that has more than 35 years of age. For comparison of serum magnesium levels in diabetic patients and control group with each other, was used of the t-student statistical methods and SPSS software. Results: Magnesium levels in diabetic and non diabetic groups were obtained 1.33±0.27 and 1.62±0.21 mg/dl, respectively, that the difference was statistically significant (p=0.000014). Among diabetic patients, reversed significant relationship between FPG and Mg and no significant relationship between Mg with each of the variables TG, Chol and HDL were observed. In non-diabetics group, the only reversed significant relationship between the variables of Mg and Chol were observed. In non-diabetic individuals, wasn’t observed any correlation between each of other variables and the magnesium. Conclusion: In diabetic patients, with increased of FPG, serum Mg levels are decreased significantly and also, serum Mg levels in diabetic patients significantly lower than non-diabetics.

**Keywords:** Magnesium, Diabetes type II, Cholesterol (Chol), Triglyceride (TG), High density lipoprotein (HDL)
Mechanism of probiotics action in the treatment of genitourinary infections

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Urogenital infections, including urinary tract infections, bacterial vaginosis and yeast vaginitis afflict a great number of women around the world. Are involved the parts of bladder, ureters, kidney, uterus and vagina. Recurrent UTIs are important especially for pregnant women's. Antibiotic therapies are not suitable in chronic infections. Probiotics can be beneficial for preventing urogenital infections and recurrent UTIs. They are when administered in adequate amounts, confer a health benefit on the host. Via production of lactic acid and acidification of the vagina or by production of antimicrobial products, such as hydrogen peroxide, bacteriocins and biosurfactants and ability for adhesion the cell can protect the host. Hydrogen peroxide producing strains are believed to be important in vaginal colonization. Lactobacilli are the dominant flora of genitourinary system in pre-menopausal women's and can protect the person against invading infectious bacteria. Replacement the lactobacilli in the vagina are causing excreted ascending pathogenic bacteria to the bladder. The prevention or resolution of bacterial vaginosis is particularly important in women at risk of HIV infection; women with bacterial vaginosis are at significantly increased risk of HIV, gonorrhea and trichomoniasis. Lactobacillus reuteri RC-14 can express viral inhibitors which may potentially lower the sexual transmission of HIV.

Keywords: urogenital infections, Probiotic, Lactobacilli.

Association of platelet glycoprotein Ia C807T polymorphism with premature acute myocardial infarction

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Background and aim: Myocardial infarction (MI) is a major cause of morbidity and mortality worldwide. Epidemiological studies indicate that MI results from complex interactions between long-term environmental influences, concomitant disorders and genetic susceptibility factors. Identification of genetic risk factors, particularly in premature MI, is very important. Since thrombosis plays a critical role in pathophysiology of MI, recent studies focus on coagulation genetic polymorphisms. The critical role of platelets and their surface glycoproteins in the formation of occlusive thrombus that leads to acute myocardial infarction is now well accepted. Platelets have two major receptor for collagen, glycoprotein IIb/IIIa (integrin α2β1) and glycoprotein VI. In the present study, platelet GP Ia C807T polymorphism was chosen with respect to its potential association with altered platelet reactivity. The aim of this study was to determine the association of GP Ia C807T polymorphism with premature acute myocardial infarction. Materials and methods: One hundred patients with premature acute myocardial infarction and 100 controls with normal coronary angiogram were studied. Genotyping was done using PCR followed by RFLP. Statistical analyses were included chi square, t-test and logistic regression model. Result: C807T polymorphism was more frequent in the patient group (65%) than the control group (53%). However, there was no association between this polymorphism and premature acute MI (P=0.08). Logistic regression analysis results also indicated no association between this polymorphism and premature acute MI (P=0.51). Conclusion: there is no association between GP Ia C807T polymorphism and premature acute MI.

Keywords: Premature myocardial infarction, Glycoprotein Ia, Polymorphism
P104

Searching burst of HEPATIT.B and HEPATIT.C & HIV cause of damaging sharp device to hands in among Officer Laboratory Hospital AZARBAYJAN SHARGHI 89&90 YEAR.

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Introduction: The damaging of sharp device in a person, the biggest job damaging for sending Pathogeneses coming from blood way for watchful hygiene employers. On tray ideas control center diseases CDC danger of transmittal putrefaction in watchful watchful hygiene employers against HEPATIT.B didn’t immunization when face to face with virus HEPATIT.B a thing upper is %30. Average of one case in 300 Case with face to face with pathology cause of damaging sharp things with the watchful hygiene employers, cause of sending damaging of HIV. Now, the most of virus diseases with immunization didn’t prevention and series treatment for perfect medicine. It is unknown yet. The 20 disease cause of pathos sending with sharp things. Methods & material: Some of the studies Officer OLOOM AZMAYESHGahi hospital doing and realizing, in year 89(94------41people Damaging), in year First 90 (90---------29 people Damaging), in year Second 90(93-----31 people Damaging), personals of Laboratory hospital with hurt of sharp things medicine in face to face disease sending as ways of blood. Discussion: Now ways and new method in this way for save presetting didn’t use sharp things and we can use gloves for the doctors, we can use one hand for putting door for immunization too, then when getting sample on sick and persons. We must use gloves for getting sample with other person. We must have mood at this job. And need to say this subject must of OLOOM AZMAYESHGahi. We need to care at regard it estimated %52 showing this symposium.

Keywords: HEPATIT.B &amp;amp, C, HIV in put sharp things, immunization

P105

Antibiotic Resistance Of Bacteria Cause Urinary Tract Infections (UTI) To Ciprofloxacin

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Introduction and aim: Urinary tract infections(UTI) in children and adults most common infection is UTI causes a progressive resistance to antibiotics of the show. Ciprofloxacin is a antimicrobial spectrum family fluoroquinolones. This study aimed to determine the antibiotic resistance of bacteria cause urinary tract infections in the community took to ciprofloxacin. Materials and methods: This study for 6 months on 100 patients with urinary tract infections were and patterns of drug sensitivity and resistance to ciprofloxacin against bacteria cause urinary tract infections were and the results were compared with similar previous years. Results: Results showed resistance to the antibiotic ciprofloxacin is increasing day by day. In our study the resistance of bacteria causing urinary tract infections, especially E.coli to ciprofloxacin, compared with previous years shows an increase of about 35 percent. Conclusion: Overall, it seems that the incidence of ciprofloxacin resistance of bacteria causing urinary tract infection, this antibiotic as first line treatment for urinary tract infections continues to be used the recommended treatment is to use an alternative such as Nitrofurantoin. The proper use of antibiotics to reduce the resistance of the main principles that must be paid to hospitals, medical centers, especially in the treatment success for patients, physicians are bound The increasing incidence of resistance to ciprofloxacin and other similar drugs, which interfere with the therapeutic process, especially in nosocomial infections are urinary tract infections

Keywords: Urinary tract infections, Ciprofloxacin ,Antibiotic Resistance
P106

**Comparison of different phenotypic and genotypic methods for detection of methicillin resistant Staphylococcus aureus**

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Abstract: Introduction: Staphylococcus aureus is known as a powerful pathogen that causes various infections. Methicillin-resistant Staphylococcus aureus (MRSA) is one of the most important pathogens that causes nosocomial and community-acquired infections. Nowadays MRSA has acquired multiple resistances to a wide range of different antibiotics including: β-lactams, aminoglycosides, tetracyclines, fluoroquinolones and macrolides. This study was aimed to evaluate different genotypic and phenotypic methods for detection of MRSA. Methods: Examining 186 isolates of Staphylococcus aureus with PCR method (Gold standard) showed that 95 isolates were MSSA and 91 isolates were MRSA. Sensitivity to methicillin was also investigated by oxacillin, methicillin, cefotetan, cefoxitin, cefmetazole disks, adata tab, disk diffusion method and oxacillin strip. MIC of these isolates was determined by using micro-broth dilution. Results: Among the diagnostic methods studied, micro-broth dilution and cefoxitin disk had the most specificity (98.9% and 94.7% respectively) and sensitivity (100% and 98.9% respectively) and concordance with the PCR (98.9% and 93.6% respectively). The cefotetan and cefmetazole disk had the lowest concordance with the results of PCR. Conclusion: Due to the necessity of using simple, reliable and low cost methods in routine diagnostic laboratories it seems use of cefoxitin disk still be considered as one of recommended methods for detecting MRSA isolates.

**Keywords:** Staphylococcus aureus, phenotypic, genotypic, methicillin, cefoxitin

P107

**Evaluation of Antibiotic Resistance of Enterococcus strains isolated from food**

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Introduction: Enterococcus is a PartoNaturalmicrobialflora of some mammals and human that can often exist in Plant and food especially in food products of animal such as dairy products and vegetable origin. Thebacteria canalsoconso- comial infectionsand infectious diseases such as endocarditisandbacteremia. The aim of this study is detection and identification of antibiotic resistance patternsof Enterococcusstrains isolated from food. Method: Some offoods were cultured in broth andthencolonies which consideras enterococcus were selected from Blood Agar and confirmed with biochemical andenzymatic tests then carried out susceptibility of strains to 10 antibiotics of various groups. Result: A total of 30 strains of enterococci were isolated from 120 food materials and all of strains susceptible to Gentamycin, Ciprofloxac and Ciprofloxacin and high resistance to first and third generation Cephalexins and reduce susceptibility to tetracyclin and vancomycin. Discussion: There is Antibiotic resistance among these strains less than clinical strains. But it is important that found multi drug resistance especially third generation of Cephalexins among this strains. This reason is that being used antibiotics for agriculture and animal growth promotion or for treatment and control of animal diseases. This is important that ingestion enterococcus contamination food cause to transfer drug resistance gene to human strains.

**Keywords:** Enterococcus, Antibiotic Resistance, Food
Evaluation of drug resistance and detection of coagulase-negative Staphylococci isolated from the hands of medical students

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Introduction: The human skin is normally colonized with millions of bacteria. It includes a variety of bacteria on the skin microbial flora such as coagulase-negative staphylococci strains and Diphtheroids. Several decades ago coagulase-negative Staphylococci has been considered contamination and will not notice it. The importance of this groups of bacteria are cause of infection diseases such as septicemia, bacteremia, and infections associated with prosthetic use and medical instrument especially in immunocompromise human. because increasing of antibiotic resistance, it is very important we should be evaluated antibiotic susceptibility of these organisms. Objective: This study examined drug resistance to various groups of antibiotics and detection of coagulase-negative Staphylococci isolated from hand of the medical students during their internship at the hospital will have been done. Methods: After sampling the palms and fingers, and cultured on blood agar medium and transferred to the BHI medium, suspected S. aureus colonies were isolated and identified coagulase-negative Staphylococci, biochemical and enzymatic tests and then antibiogram disk diffusion method for 20 antibiotics was performed. Results: different species of bacteria, including Bacillus, Diphtheroids, coagulase-negative and positive Staphylococci and gram negative bacilli were identified and isolated from cultured specimens. Among nearly 100 strains of coagulase-negative Staphylococcus species including Staphylococcus epidermidis, S.hemolitycus, S.saprophiticus, S.warneri, S. hominis, S. capitis and .... The sensitivity of bacteria to 20 antibiotics of different groups were analyzed that with imipenem, chloramphenicol, kanamycin sensitivity of 100% and sensitivity significantly (70%-97%) compared to third generation cephalosporins, vancomycin, ciprofloxacine and rifampin, and the highest resistance to beta-lactam group, including penicillin, ampicillin, and some antibiotics such as cefixime and ceftriaxone was the third generation. About 66% of strains were resistant to methicillin. The amount of 40% of strains were resistant to multiple antibiotics (MDR). Discussion: There are a significant percentage antibiotic resistance among coagulase-negative Staphylococci flora, specially to beta-lactam groups such as methicillin. As regards this group is healthy person in society and yet not go to hospitals, can be spread resistant strains in community. These results are important from two points: 1. due to the bad using of antibiotics in the community, unfortunately, drug sensitivity reduced among microbial flora. 2. The personal training,especially the resident staff in hospitals is very important for prevention nosocomial infections.

Keywords: coagulase negative staphylococci, drug resistance.

Digoxin toxicity: survey of hospital and laboratory records

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Background: Digoxin is a cardiac glycoside drug that most widely used in the treatment of heart failure and certain disturbances of cardiac rhythm. The therapeutic use of digoxin is limited by its narrow therapeutic range and incidence of toxicity can be occurring in 11% to 30% among hospital inpatients. Objective: The risk factors of digoxin toxicity are age, elevated serum/plasma digoxin levels, hypokalemia, renal insufficiency and drug interactions. Methods: This study designed a retrospective survey using hospital and laboratory records at Alborz hospital, Karaj, Iran from 2008 to 2010. Results: The mean age of the 33 patients was 71.3 ± 11.1 years. Mean serum levels of digoxin, potassium and creatinine were 1.4 ± 1.3 ng/ml, 1.6 ± 0.9 mg/dl and 3.2 ± 1.1 mEq/L respectively. Elevated serum levels of digoxin were observed in 6 (13%) patients. Conclusion: Monitoring serum digoxin level as well as other risk factors can provide important information to the clinician to help achieve optimal therapeutic value to these patients.

Keywords: serum digoxin level,heart failure, hypokalemia, renal insufficiency
P110

The effect of pharmacological mobilization of mesenchymal stem cells in treatment of skin Burn injuries in an animal model

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Background Burn injuries are one of the major causes of morbidity and mortality in many countries. Given the importance of cell therapy in the healing of burn injuries and non-invasive and safer methods in this area, we have been investigated the effect of G-CSF on mobilization of BM-mesenchymal cells and skin burn repair. Materials and methods Under vanesthesia hot water was applied to the rats in order to achieve third- degree burn. After burn trauma,they were divided into 2 test and control groups. In test group G-CSF was applied and in control group saline was applied. The number of mesenchymal cells was evaluated with flow cytometry and using anti-CD90 and anti-CD106 antibodies. Histological studies were performed by H & E and Trichrome Mallory stains and fibroblast counting. Results The results indicated an increase in tissue repair processes in the group receiving G-CSF (test group). The rate of synthesis of tissue collagen fibers and fibroblast cells was significantly higher than these in control group. In contrast, the number of inflammatory cells and the inflammatory process period in the test group was lower than these in control group. Flow cytometry analysis showed 4-fold increase in number of Mesenchymal cells in test group than the control group. Conclusion This study suggests that G-CSF increase mobilization of BM- mesenchymal cells into the peripheral blood and thus leads to enhancing healing of burn wounds.

Keywords: G-CSF, Mesenchymal cells, skin burn

P111

Relation between Lymphocyte/Neutrophil Distribution and Acute Coronary Syndromes in male patients with Coronary Artery Disease

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Abstract Objective : Blood cell distribution has been reported to be a risk marker of morbidity and mortality for cardiovascular disease in various study populations. Few studies have investigated the association of Lymphocyte/Neutrophil (Lym/Neu), distribution with Acute Coronary Syndromes (ACS) in patients with coronary artery disease (CAD). Herein, we try to investigate a correlation between Lym/Neu distribution and acute events in patients with CAD. Methods: A cross-sectional study was performed on 200 male patients at afshar heart center in Yazd. Data collection was performed by using random sampling, survey information in patient’s records and analyzed using spss4 software. Results: According to the results, mean value of Neutrophil % in CAD patients was higher > 66%, in compare to those with ACS candidate for CABG, which was ~ 58%. In addition, Lymphocyte counts in CAD group were considerably less than those with ACS, ~ 26 to 33 respectively. Data analysis exhibited mean value of 33% for Lym/Neu percent in CAD group, while increasing to 60% in ACS patients. &nbsp; Conclusion: According to the results, elevated level of Lym/Neu distribution may be related or play a role for occurrence of acute events in CAD patients. &nbsp; Keywords: Coronary artery disease; acute coronary syndrome; Lymphocyte-Neutrophil distribution.

Keywords: Coronary artery disease, acute coronary syndrome, Lymphocyte-Neutrophil distribution
P112

Evaluation of Vascular adhesion protein-1 (VAP-1) and Lp(a) levels in psoriatic patients from Kermanshah

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Background: Psoriasis is a chronic inflammatory skin disease characterized by excessive cellular replication. Vascular adhesion protein (VAP)-1 is an adhesion molecule with an enzymatic activity that partakes in the migration process of lymphocytes. Objectives: The aim of this study was to investigate the Lp(a) levels and VAP-1 in serum of psoriatic patients. Material and methods: Eighty patients suffering from psoriasis aged between 23 and 89 years and Eighty sex- and age-matched healthy volunteers were included in the study. The soluble VAP-1 serum concentration was evaluated by ELISA method and serum Lp(a) levels was assessed by turbidometry method. Results: The mean serum concentration of soluble VAP-1 was significantly higher in psoriatic patients than in healthy controls (289.8 ± 134 ng/mL vs. 192.7 ± 41 ng/mL; P < 0.001), and the mean levels of Lp(a) in psoriatic patients were higher than that of the control group but not significant (19.2± 16.5 mg/dl vs. 17.1 ± 15.1 ng/mL; P > 0.05). No significant relationships were found between sVAP-1 concentration and studied clinical parameters, except the presence of pruritus. In psoriatic patients, elevation of VAP-1 correlated with elevation of Lp(a)(p=0.025). Conclusions: This study shows that high serum Lp(a) level and VAP-1, is significantly more common in psoriasis. This fact may be responsible for higher prevalence of cardiovascular accident in psoriatic patients. It may be useful to do early screening and treatment of hyperlipidaemia in psoriasis to prevent the atherosclerosis and its complications.

Keywords: Psoriasis, VAP-1, Lp(a)

P113

Association of BUN - Creatinine Ratio with Incidences of Acute Coronary Events in Male Patients

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Abstract Objective: Coronary artery disease has been reported as cause of morbidity in various study populations, Therefore is necessary the recognition risk markers this disease. Herein, we try to investigate an association between Urea/ Creatinine and acute incidence of acute coronary events in males. Methods: On a trial study consisting of 200 patients undergoing open heart surgery in Yazd Afshar Heart center in Yazd, the effect of BUN-to-Creatinine Ratio and heart events was studied. In a double-blind manner, all patients were randomly divided into two groups, first with coronary disease and the second with ACS candidate for CABG. Data collection was performed by using random sampling, survey information in patient’s records and analyzed by ANOVA. Results: Interestingly, the mean value of Urea and BUN-to-Creatinine Ratio in patients was significantly different. The results from patients with chronic artery disease indicated that the urea value was > 34.6, while in second group with acute events being ~ 55.7 (mg/dl). Accordingly, BUN was measured17.05, comparing to 28.49 (mg/dl) in the first and second group, respectively. However, creatinine was 0.99 in compare to ACS patients with 2.08 (mg/dl). Data analysis for BUN-to-Creatinine Ratio exhibited reverse value 17.2 ratio in the chronic group, whereby 13.6 in ACS patients (with p < 0.005). Conclusion: As a result, elevated level of urea, BUN and creatinine (~ 2 fold higher), but decreased BUN-to-Creatinine Ratio may play roles in occurrence of acute events in patients with chronic artery disease.

Keywords: Coronary artery disease, acute coronary syndrome, urea, BUN and creatinine distribution
Incidence of Meticillin-resistant and Vancomycin-resistant Staphylococcus Aureus (MRSA and VRSA) causing Nosocomial wound infection in Ayatolah Kashani Hospital.

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Background and Aim: Meticillin-resistant S.aureus (MRSA) causing nosocomial wound infections is the most common pathogen emerging rapidly in hospitals. Colonization with MRSA in health workers cause the infection of respiratory tract, open wounds and intravenous devices in hospitalized patients. The purpose of this study was to analyse the frequency of MRSA and Vancomycin-resistant S.aureus (VRSA) in surgical wound infections. Methods: A total of 142 swabs taken from the surgical wounds of patients in Ayatolah Kashani Hospital. Samples were cultured and isolates were identified by conventional methods. Isolated S.aureus were subjected to meticillin and vancomycin susceptibility testing by disc diffusion method. Results: From 142 wound swabs: 23 (16.2%) swabs were sterile, and S.aureus was isolated in 81 (68.1%) swaps, so it was the most common cause of wound infections. Out of 81 S.aureus isolates tested, 49 (60.1%) were found to be meticillin-resistant. While 32 (65.3%) isolates were obtained from in-patients and 17 (34.7%) were from out-patients. Antimicrobial susceptibility testing showed that 1 (2%) of MRSA isolates were resistant to vancomycin. Conclusions: These results show the prevalence of MRSA as a nosocomial infection of surgical wounds which is responsible for higher morbidity and mortality. Decolonization therapy of asymptomatic colonized hospital staff is one of the effective ways in decreasing the prevalence of MRSA infections.

Keywords: MRSA, VRSA, Surgical wounds, Nosocomial infections

A study IFN-γ, IL-4 and IL-17 Concentration in tumor tissue, adjacent tumor tissue and serum in patients with breast Cancer

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Background: Tumor environment consists of various cell and cytokines. The cytokines are widely produced in the environment by tumor and immune cells. Tumor growth and development depends on the cytokines secreted in the environment. Cytokines have either pro or anti inflammatory activity and immunosurvilance activity depending are affected by the microenvironment.

Methods and materials: Twenty nine patients with breast cancer were involved in the present study. 14 patients with malignant tumors and 15 with a benign tumor were considered. Biopsy specimens were collected from patients who were suspected for breast cancer. Tissues obtained were kept at -80 °C and then was prepared by homogenizer device. IFN-γ, IL-4 and IL-17 were measured in tumor tissues, adjacent tumor tissue and patient serum using ELISA technique.

Results: The concentration of IL-4 was (112±15.3) pg/ml, IL-17 (13.06±4.4) pg/ml and IFN-γ (14. 6±3.8) pg/ml in malignant tissue The concentration of IL-4 and IL-17 in tumor tissue samples, adjacent tumor tissue samples and serum patients were higher in malignant tumors than benign tumor. Conclusion: Our data indicates that elevated IL-4 and IL-17 but not IFN-γ in microenvironment affect the malignancy progression.

Keywords: cytokines IFN-γ, IL-4, IL-17, Tumor, Breast tumors
Review of dyslipidemia in Birjand city health center staff and health department

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Background: Lipids are the main plasma of cholesterol, triglycerides, LDL and HDL and VLDL, which binds to proteins and blood as lipoproteins in the circulation are. Top of each of the above values can be reasons various and varying effects to create the most They include coronary artery disease. Methods: This descriptive study of 120 employees of the Department of Health and Health Center, city of Birjand in September 1389 and the amount of lipids they contain more Glisyrd, cholesterol, LDL and HDL in the fasting state was measured and the data in EXCEL software were analyzed. Results: 120 patients, 52 were women (43% of total population) and 68 men (57% of all people) respectively. The mean age was 12 ± 40 years. Evaluation of sugar in the staff indicated that only 4 men (3.3% of total population) and age 2 ± 50 with glucose over 140 mg dL are. In the cases of dyslipidemia, 9 patients (8 men and 1 woman) (5/7% of total population) with cholesterol over 200 mg dL and LDL over 130 mg dL and Vshyv hypertriglyceridemia more Glisyrdmy men, 10 (3/8% of men) and women 5 (6/9% of women) are .. the 34 people (3/28% of total population) had an HDL lower than 35 mg dL.. prevalence of lipid abnormalities in people over 40 years except for HDL significantly more than younger people is handled. Conclusion: Given the high prevalence of dyslipidemia in the population partiaipants provide the necessary training to improve nutrition and increase physical activity is recommended to prevent cardiovascular disease.

Keywords: Dyslipidemia - more hypertriglyceridemia - lipoprotein - cholesterol - Birjand

Prevalence of intestinal parasite in patient referred to Reference medical laboratory of Kashan, 2007-2011

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Intestinal parasitic infections are still a healthy problem in many countries, although intestinal parasitic infection reduced in recent years, but still it is prevalent in many regions. This study was carried out in order to determine fauna and prevalence of human intestinal parasitic infection in patient referred to Reference medical laboratory of Kashan, 2007-2011. Stool samples were examined by formalin-ether concentration and direct smear methods .Microscopic results analyzed according to demographic data. Totally 6348 person (53% female and 47% male) were examined that 7.6% infected with at least one intestinal parasite. Infection to intestinal parasite was as: Giardia lamblia 2.7%, Blastocystis hominis 2.5%, Entamoeba coli 1.9%,Iodamoeba butschlii 0.2%,Dientamoeba fragilis 0.2%,Chilomastix mesnili0.2%, Entamoeba histolytica/E.dispar 0.16%,Entamoeba hartmanni 0.13%,Endolimax nana 0.09%,Trichomonas hominis 0.05% and Hymenolypis nana 0.02%. The high prevalence of infection (10.5%) was in 40-50 years old group. Prevalence rate in male (8.6%) was higher than female (6.7%).One parasite were seen in 93% of infected persons and 7% were infected with two, three or four parasite. This study showed that helminthic infection is rare but human intestinal protozoa are more prevalent in Kashan region.

Keywords: Intestinal parasite,Protozoa, Kashan,Iran
Study of Reduction factors Diseases Non-communicable at Personnel Health Center Kermanshah Province 1386-1389

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Summary: Currently, cardiovascular heart disease, diabetes, cancer, causes of mortality and disability worldwide are most. Cause diseases, many of these lifestyle changes, poor nutrition, inactivity, and on. The aim of reducing non-communicable causes factors Diseases Non-communicable. Materials and Methods: All staff in health centers of Kermanshah census method were studied. Tool collects data World Health Organization questionnaire (SuRF-Questionnaire), respectively. In this study, dietary patterns, physical activity, and tobacco use. ! Were studied. The height, weight and waist circumference, blood pressure was measured. Data for biochemical measurements, blood samples were taken. After determining the risk factors in employees necessary interventions were designed according to the type of risk factor interventions by the various committees: education, nutrition, exercise, smoking and ... After three years of re-distributed-do environment was measured hematologic indices, anthropometric data were and this information before deata intervention were compared. Results: Health Center who were obese pre intervention 19.8 at Personnel Health Center Kermanshah Province fell to 14.4 percent. 59.3 percent before the intervention during the week more than 5 servings of fruits and vegetables were taking the to 76.7 percent 71.8 percent of people surveyed before the intervention of liquid oil, as oil consumption originally they After the intervention compared to 84.4 percent 12.1 percent intervention at Personnel Health Center Kermanshah Province Health Center prior to blood pressure had dropped 4.4% to 11.1% After the intervention persons are equal before the intervention has a blood sugar of 126 mg dl (diabetic) who After the intervention this percentage to 1.2 percent at Personnel Health Center Kermanshah pre intervention 83.5 to 70 percent of this number has dropped to 3-1 After the intervention agent. Discussion: The results indicate poor nutrition, lack of exercise, smoking, lipid disorders, hypertension and Diabetes important risk factors that Diseases Non-communicable at Personnel Health Center Kermanshah Province health department after they intervened in the number of employees decreased and this decrease. So simple, low-cost interventions in the workplace can improve employee health, increase, reduce treatment costs and reduction of cardiovascular disease in the community.

Keywords: factors Diseases Non-communicable, Kermanshah
The study of antibacterial effects of green tea (camellia sinensis) aquatic and alcoholic extracts on strains of staphylococcus areus.

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Introduction and Objective: Staphylococcus aureus is one of the most important pathogenic bacteria that can cause a wide range of infections. Increasing use of antibiotics against infections caused by this bacterium increases antibiotic resistance in the bacterium. In this regard, the use of herbal medicine with antimicrobial effects has found its own path through medical research. Galu Catechin Gallate -a polyphenols- is a green tea component that has antibacterial effects. The aim of this study is to evaluate the antibacterial effects of green tea aquatic and methanol extracts on strains of staphylococcus areus in vitro condition.

Methods: Dried green tea leaves were used to obtain aquatic and methanol extracts by maceration method. After removing the methanol, concentrations of 200mg/ml - 0.39mg/ml were prepared. The Minimum Inhibitory Concentration (MIC) and Minimum Bactericidal Concentration (MBC) of extracts on 9 standard strains of Staphylococcus aureus were determined using Broth Micro-Dilution method. Results: MIC and MBC of aquatic extract is different in various strains of this bacteria ranging from (1.56mg/ml to 12.5mg/ml) and (3.125mg/ml to 25mg/ml), respectively. On methanol extract, MIC and MBC are observed ranging from (0.78mg/ml to 3.125mg/ml) and (1.56mg/ml to 6.25mg/ml), respectively. In addition, although both extracts have considerable bactericidal and inhibitory activity, green tea methanol extract is significantly more efficient than alcoholic extracts.

Conclusion: According to the significant inhibitory effects of green tea extracts particularly of methanol extracts in low concentrations on all different strains of this bacterium, green tea plants are appropriate options for further studies in vivo conditions to achieve effective antimicrobial medicine against Staphylococcus aureus.

Keywords: Green Tea, staphylococcus areus, antibacterial, Minimum Inhibitory Concentration, methanol extract
Examining immunity response RATE OF Hepatitis B vaccine on staffs that is exposed risks in blood transporting organization of Ardabil

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Abstract: Hepatitis B virus is the main factors of acute and chronic Hepatitis and hepatocellolar carsinome that is ,at the present the only way of preventing vaccination, for reducing exposing risks of the staff it is emphasized to recognize insensitive staff ,following that immunity ,doing serology tests and determining antibody rate are necessary and the needed measures in order to immunize the individual staff should be taken. Materials and methods :this kind of study focused on description-analytical research that from 65 individual applied serology tests with determining antibody rate of hepatitis B by using kite DIA.PRO After taking samples in terms availability, the sort of HBSAg and HBSAB are concerned and the results of tests according to AB level divided in three group, namely: immune, relative immunity and non – immunity. All of the information after compiling was entered in to the computer and analyzed with SPSS statue software . Findings: Mean ratio of research samples was 35 year . They were 43 percent man and 57 percent Woman . And also 14 antibody rate percent was lower than 10 (non immune ) and 25 antibody rate percent was between 10-100(relative immune)and 61 antibody rate percent more than 100 (immune) and they including 5 percent nursing and 20 Laboratory station percent and 37 medical staff and pira – medical and 38 percent services and official . discussion and results: Considering upper level and risk in exposing Hepatitis B over curing sanitation staffs, it is important to recognize non immunity staff and re vac cination. So , to the reason of reducing immunity level over the years , repeating vaccination will appear logical .

Keywords: acute Hepatitis,chronic Hepatitis,active immunize,serological tests

Study on prevalence of oral Candidiasis in persons using removable denture

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Background:Candida species are an important component of the resident microbial ecology of the oral cavity and are associated with various forms of oral candidosis when appropriate predisposing factors exist. removable denture wearing is recognized as a predisposing factor for oral colonization by Candida species. The purpose of this study was to compared The colonization of difference Candida species in the oral cavity of denture wearers and subjects with natural teeth. Material and methods: we compared oral candida flora in 84 subjects who had worn complete removable denture and 96 subjects with natural teeth. all speciments were obtained from oral cavity by swab and cultured on CHOROM agar Candida. all isolated colonies also cultured on cornmeal agar medium and non albicans species were identified by using RapID Yeast Plus System. The statistical analysis was done using the chi-square test. Results: in this study76.19% (n=64) of subjects with removable denture and 47.9% (n=46) of control group were colonized by candida species in the oral cavity. The most common isolated species were candida albicans and non albicans species were C. glabrata, C. krusei, C. tropicalisand C. kefyr in two groups. the differences between oral candida flora in denture wearers and control group were significant (P < 0.001). Conclusions: removable denture wearing can lead to increase oral colonization by Candida species. therefore oral cavity may become a Source for opportunistic infections.

Keywords: Candida, Candidiasis, Denture
A survey on myco-flora of wood and wood products in buildings of Mazandaran province.

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Introduction and objectives: Fungi are among the most common microbiota in the interiors of buildings. Their presence indoors in high concentration can have a number of potential effects on human health. Wood is a biological material consisting primarily of cellulose, lignin and hemicellulose and in situations with adequate moisture, fungi can growth on wood. Therefore, in this study, we surveyed the myco-flora of wood and wood products in buildings of Mazandaran province. Material and methods: sampling from wood and wood products were done by scalpel and swab. All of the samples were cultured in sabouro dextrose agar with chloramphenicol (SC) media and incubated at 27-30 0C for 3-7 days. Isolated colonies were identified by routine mycological techniques. Results: A total of 201 colonies with 17 genera of fungi were identified from wood of 20 buildings of Mazandaran province. The most common fungi isolated were: Cladosporium (39.3%), Aspergillus (17.4%), Alternaria (15.4%) and Penicillium (6.4%). Conclusion: Cladosporium, Aspergillus, Alternaria and Penicillium were isolated from the wood of buildings. They are considered toxigenic, allergenic, infective and also, as wood deterioration agents.

Keywords: myco-flora, wood, wood products.

Comparison of Pigment Production in Isolates of Staphylococcus aureus Separated from Inpatients and Healthcare Workers in Gorgan Hospitals

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Introduction and objectives: Staphylococcus aureus is a major and important pathogen causes infection and mortality in the world. In this bacteria may be differences between pathogen and healthy carriers of isolates separated. The aim of this study is comparison of pigment production in isolates of Staphylococcus aureus separated from healthcare workers and inpatients in Gorgan hospital. Methods: Total 188 isolates of S. aureus separated from 111 inpatients and 77 healthcare workers (healthy carriers) were evaluated. For evaluation the pigmennt production, bacterial suspension were inoculated in nutrient agar to a point and each plate incubated for a week in one temperature (25 ºC, 30 ºC and 37 ºC). P<0.05 was use as meaningful. Results: 60.4% of inpatients isolates and 45.5% of healthy carriers isolates in 25 ºC had capable to produce pigment (P= 0.03). Ability to produce pigment at 30 ºC and 37 ºC in inpatients isolates was 64% and 73% and in carriers isolates was 42.9% and 41.6%, respectively (P=0.003, >0.001). Discussion: Therefore the ability to produce pigment in inpatients isolates is significantly more than carriers. This finding increases probability of pigment role in pathogenicity. In isolates of S. aureus separated of inpatients, whatever grow temperatures in the bacteria at closer to body temperature, pigment production is better that it also emphasizes the role of pigment in pathogenicity in vivo.

Keywords: Staphylococcus aureus, pigment production, inpatient, healthcare workers, Gorgan
Antibacterial Effect Investigation of Cassia Absus seeds against resistance microbs of infections

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Objective: Infectious disease can become a threat to public health in this world. The use of medicinal plants for the treatment of various diseases is an old practice in most countries and it still offers an enormous potential source of new anti-infective agents. cassia absus is an erect annual plant,1 to 2 ft, high. This plant is found in the tropical region and everywhere in India. its flat oblong seeds,dark. The seeds have a bitter, bad taste and having diuretic, cathartic and useful in the liver and kidney diseases. The presence of lipid, saponin, tannin, alkaloid, phenol, steroid, flavonoid, and some other chemical constituents are recorded. Materials and methods: Methanol extracts of C. absus seeds were evaluated in vitro against nine standard species of resistance Staphylococcus aureus. The screening of antimicrobial activity evaluated broth microdilution method. The anti-bacterial potencies of the methanol extract was then assessed in vitro by determining the MIC and MBC Results: The minimum inhibitory concentration(MIC) ranged between 6.25mg/dl and 50mg/dl depending on microorganism and methanol extract. Staphylococcus aureus PTCC III9,MPC74 showed the lowest MIC (6.25mg/dl) and MBC(12.5mg/dl Conclusions: The present study exhibited the antibacterial effect of methanol extract of Cassia absus seed. The inhibitory effect of the extract justified the medicinal use of Cassia absus and further study is required to find out the active component of medicinal value

Keywords: MIC , MBC , Cassia absus , Broth Microdilution assay , Anti bactrial

Comparison of microscopy and Rapid Diagnosis Tests for laboratory detection of malaria in sistan ana baluchestan province.

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Introduction: since Iran is one of the endemic area of malaria, timely diagnosis of this disease is important. However, the microscopic study of peripheral blood stained smears is as a gold standard for diagnosing malaria, but this method requires a microscope and has the equipment, and people trained in malaria. Due to problems in the microscopic method of malaria control and elimination, the rapid diagnostic method (RDTs) appears to be necessary alongside the microscopic method. The base of malaria rapid diagnostic tests is aymvnokrvmatvgrafy , the use of antigens (HRP2) for plasmodium falciparum, and lactate dehydrogenase LDH for other plasmodium species. methods: In this applied study that lasted from October to march 1388, first, blood sample catered from the finger of 178 patients with suspected malaria fever who went to urban and rural health centers which covered by medical science university of zahedan, then carried out by a technician under a physician center with using the two methods of microscopic detection and rapid diagnostic kits (RDT) with aymvnokrvmatvgrafy,s procedures according to blind compliance with the terms of diagnostics, the microscopic diagnosis method by one mykrvskvpyst and use of rapid diagnostic kits. Finally, all slides and cassettes of rapid diagnostic kits transferred to zahedan for controlling and reviewing. Results: The following table shows the description of results in the separation of positive and negative factors, and malaria cases.  Comparison of two methods of microscopy and RDT RDT method Microscopy method Test method result The percent of negative the number of negative The percent of positive the number of positive The percent of negative the number of negative The percent of positive the number of positive

<table>
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<th>Microscopy</th>
<th>RDT</th>
<th>Test method result</th>
<th>The percent of negative</th>
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<td>138</td>
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<td>-</td>
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<td>70.8</td>
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Discussion: The examination of two methods sensitivity of microscopy and RDT in the present study shows that although the method is very simple and available, but unlike previous studies, sensitivity is not significant. This may be related to the company producing the kits because the kit used in this study were made in china and tell about more attention on the quality of the kit.

Keywords: sistan and baluchestan, malaria, RDT
P126

**Frequency of Nasal carriage of Meticillin resistant Staphylococcus Aures and its antimicrobial resistance pattern among hemodialysis patients in Ali-Ebne Abitaleb hospital with different methods**

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Introduction: Meticillin-resistant Staphylococcus aureus (MRSA) infections is a major cause of morbidity and mortality in Hemodialysis patients. Nasal carriage of Staphylococcus aureus is known to play an important role as an endogenous source for hemodialyse patients(HD) and community. In this study, we investigated nasal carriage of MRSA in HD patients in Ali Ebne-Abitaleb Hospital with different techniques. Antibiotic resistant pattern of isolates is evaluated by disk diffusion method.

Material and methods: In this study, all HD patients referred to ali-ebne Abitaleb hospital were screened for the frequency of nasal carriage for MRSA. nasal specimens were taken from the subjects using a sterile moistened swab and were cultured for isolation of MRSA by standard methods. antimicrobial susceptibility test was performed according to the clinical and Laboratory standards Institute guidelines. For evaluation of the frequency of erythromycin induced clindamycin resistance, disk approximation test (D-Test) was applied. three different method including oxacillin disk diffusion, cefoxitin disk diffusion and oxacillin MIC were used to identify MRSA. Results: Totally 23.5% of HD patient was colonized by Staphylococcus Aureus. 33.33% of the isolated S. Aureus was MRSA strains by three different methods. antimicrobial resistance of isolated MRSA were as following: penicillin and cefteriaxone(100%), ciprofloxacin, trimethoprim-sulfamethoxazol, doxycilin, tetracycline(75%) gentamycin(50%), clindamycin (erythromycin (25%). All MRSA strains were susceptible to vancomycin, rifampicin and teicoplanin. 25% of the MRSA were resistant to erythromycin and D-Test was negative in all of them. Discussion: Patients on hemodialysis are at an increased risk of MRSA infections. rapid and accurate detection of this organism is an important role of clinical microbiology laboratory to avoid treatment failure. thus screening of these susceptible patients should be considered as a health priority.

**Keywords:** meticillin resistant staphylococcus aureus, hemodialyse patients, different laboratory techniques (oxacillin disk diffusion, cefoxitin disk diffusion, MIC oxacillin test ) Ali-Ebne-Abitaleb hospital

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**Garlic/ezetimibe combination reduce lipid profile and blood glucose**

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Using herbs for lowering blood glucose and lipids to normal levels is clinically important. In this respect, garlic is one of the medicinal plants, which has shown hypocholesterolemic effects. Ezetimibe is also a novel and effective lipid lowering medicine that is well tolerated by the patients and has a safety profile similar to that of placebo. This study was aimed to evaluate the combination effect of aquatic extract of garlic and ezetimibe on lipid profile and glucose in hypercholesterolemic mice. A total of foury N-mary male mice were randomly divided into five groups. Group 1 received: chow+2% cholesterol+0.5% cholic acid, group 2: chow+4% garlic extract+2% cholesterol+0.5% cholic acid, group 3: chow+0.005% Ezetimibe+2% cholesterol+0.5% cholic acid, group 4: chow+4%garlic+0.005% Ezetimibe+2% cholesterol+0.5% cholic acid, and group 5: chow only. After four weeks mice were sacrificed, blood was collected, liver weight was measured and lipid profile and glucose levels were determined enzymatically. Compared with hypercholesterolemic mice, ezetimibe plus garlic significantly decreased cholesterol level (P<0.000), low-density lipoprotein cholesterol levels (P<0.000), liver weight (P<0.001), %liver/body weight (P<0.02) and atherogenic index (P<0.005). The findings showed that the combination of garlic and ezetimibe was more effective than garlic and ezetimibe alone in improving the lipid profile.

**Keywords:** garlic, ezetimibe, lipid, mice
P128

Pathology laboratory results and determine the status of common cancers in Kermanshah Province in 1388

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Introduction: World Court in the coming years will be important for cancer patients and the expected number of new cancer cases in 2020 to reach 15 million people, approximately 16% of these cases in less developed countries of the world. Second most common cause of cancer death in developed countries and the third leading cause of death in less developed countries. Currently operating 12% of cancer deaths worldwide, and in future years will be a growing trend. Third leading cause of cancer deaths annually in Iran and more than 000/30 cases of cancer in their lives will lose. While the estimated number of cancer patients / 000 is 70. However, increasing life expectancy and aging populations are expected cancer cases will double in the next two decades. The third cause of cancer death in Kermanshah province in 86 years and 52/11% of cancer deaths are. Methods: A retrospective and descriptive information with affiliated centers in the province in 1388 after the collection and analysis software has been Results: 1388 new cases of cancer in 1976 in Kermanshah province reported that the number is 896 females and 1080 males. Reported cancers in women, respectively: 192 breast, 100 skin, 61 esophagus, colon 58 (), 54 stomach, reticuloendothelial system, 37, 33 bladder, lymph nodes in 27 patients, 19 patients and 315 lung people of other cancers. Reported cancers in men, bladder 148, 145 skin, 125 stomach, 93 colon, 64 prostate, 60 esophagus, lymph nodes 51, 49 reticuloendothelial system, 42 lung, 18 breast, other cancer: 295. Conclusions: Skin cancer is most common in Kermanshah province in such countries. 6/12% of all cancers are skin cancer registry. Breast and bladder cancer in women is most common in men.

Keywords: Kermanshah, cancer, laboratory

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What are bacterial agents of medical equipments, environment and ward staff hands at Yahyanejad hospital?

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Introduction: Nowadays, nosocomial infection is one of the greatest problems in hospitals. Normal flora of ward staff hands and the bacterial agents on medical equipments become progressively colonized with potential pathogens during patient care. This study was carried out for knowing of bacterial agents that can transfer from medical equipments and ward staff hands to patients and cause nosocomial infection. Material and methods: In this descriptive study, during 17 months (22.mar.2010- 30.aug.2011), the sampling was achieved from the staff hands, medical equipments and environment of ICU, surgery, maternity part, and emergency, with sterile swab and was cultured on Blood agar and EMB in sterile situation. Then, identification of isolated bacteria was done with differential medium and biochemical tests. Results: 234 ward staff hands specimens and 169 medical equipments and environment of the wards on research were achieved. The most common bacteria from colonies isolated, was Staphylococcus aureus 144(49.5%) cases and 61(31.6%) cases, respectively. Also, 3 cases of Pseudomonas aeruginosa from ward staff hands who are working in the surgery and medical equipments in ICU, and 2 cases of Acinetobacter.spp from ICU’s environment were isolated. Conclusion: As, the most bacterial agents isolated were Staphylococcus aureus which can be MRSA, hand hygiene for decreasing of bacterial transmission and using the proper antibacterial agents, specially for medical equipments is necessary, for control of nosocomial infection in this center.

Keywords: medical equipment, ward staff hand, nosocomial infection, Staphylococcus aureus
Compare of cholera out break in the Turkmensahra area with other areas of the golestan province and identify the antibiotic sensitivity of vibrio cholera isolated from patients in the Golestan province in summer 2011

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Object: vibrio cholera is cause of a acute intestinal infection that if no timely and appropriate treatment, can lead to death. The purpose of this study was to compare the prevalence of cholera in different areas of Golestan province, also identify of antibiotic sensitivity of vibrio cholera isolated from diarrheal patients in summer 2011. Method: in this study after of culture and other microbiological tests, identified 145 cases of vibrio cholera (Ogawa strain). 8 common antibiotics tested for antibiogram (Kirby Bauer method). Also in this study compared the frequency of positive cases of vibrio cholera in Turkmensahra area (Maravehtapeh, Klalaleh, Gonbad, Aqgala, Bandarturkman, Gomishan) with other areas of the Golestan province. Results: 145 cases of 7571 suspected patients, contaminated with vibrio cholera (Ogawa strain), the highest antibiotic sensitivity related to Ciprofloxacin (100%) and Doxycyline (61.9%) and the highest antibiotic resistance related to Nalidixicacid (94.1%), Tettertomypir (87.6%), Fuzazolidon (66.67%). Frequency of positive cases of vibrio cholera (Ogawa strain) in the Turkmensahra area was 0.12% and in other areas of the golestan province was 3.23%(OR=27.75, CI95%=10.58-103.34)(PV<0.001). Discussion: Lower incidence of cholera in the Turkmensahra area than other areas of the Golestan province can be the topic of another research. Because of resistance of vibrio cholera to different antibiotic agent, it is important to determine their pattern to control and prevent the spread of drug resistance species.

Keywords: vibio Cholera, Ogawa, Turkmensahra, Golestan, antibiotic resistance

Relationship between Helicobacter pylori Antibiotic Resistance and Virulence Gen (vacA)

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Introduction: H. pylori are a bacterium responsible for the most common infections in humans worldwide. This bacterium has many virulence factors and the vacA is one of virulent factors. If vacA status affects the response rates of therapy, then it may be possible to predict H. pylori eradication rates. The aim of this study was to evaluate relation between H. pylori resistance and virulence gene of vacA. Material & methods: Subjects underwent a gastroscopy and biopsy specimens were taken from the gastric antrum, body, and fundus. Gastetic samples were cultured and resistance to antimicrobial agents including: clarithromycin, tetracycline, metronidazole, and amoxicillin was determined by Disk Diffusion Agar Test. Detection of vacA gene carried out by PCR, and then statistically analysis was done by X2 and Fisher exact tests in SPSS software ver. 16. Results: A total of 123 patients (68 males, 55 females, mean age 35 ± 18 years) with H. pylori-positive were studied. In this research, totally resistance to clarithromycin, tetracycline, metronidazole and amoxicillin were 17%, 16.9%, 83.7% and 26.8%, respectively. The prevalence of various alleles of H.pylori including: s1a, s2, m1 and m2 were 66.7%, 33.3%, 17.1% and 82.9%, respectively. Conclusions: In this study, the relation of resistance to 4 principal antibiotics in H. pylori therapy with various alleles of vacA were not found significant statistically difference. Our findings revealed that vacA – alleles status cannot be a risk factor for failure of H. pylori eradication management and antimicrobial resistance.

Keywords: Antimicrobial resistance, vacA, H.pylori
**P132**

**An Investigation on the Prevalence of Intestinal Parasitic Infections in Food Handlers in Gorgan (Iran) During 2009-10**

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Introduction and objectives: Food handlers could be major sources of intestinal parasites transmission in case of not observing the hygienic rules. Contamination can be decreased by screening food handlers through physical exam and laboratory tests. The aim of this study was determining the prevalence of intestinal parasites that was performed during the years 2009-10. Methods: The present research was performed cross-sectional and randomly selected on 500 persons were employed in different professions food handlers. After filling out the questionnaire sheets, two specimens of feces were collected from each person and tested by brine 30% (floatation) and direct methods. Results: The results showed that the prevalence of intestinal parasites in our population was 6%. Most pollution, owned by Giardia lamblia in 17 (4.3%) persons and lowest frequencies was of Hymenolepis nana in 3 (0.6%) persons. The highest percentage in the age group 60-51 years (11.8%) and primary school individuals (7.4%) were observed. Most contamination had been reported of butchery staff (25%) and lowest in butler's pantry people without parasitic infections. Discussion: The study showed that prevalence intestinal parasite infections are high relatively, especially pathogenic protozoan; Thus, advertence to health status individual and their role in the spread of pollution in their community, is important. Hence, it is recommended to recognition the causes and impact of the increase in the prevalence, done future studies and precaution to be applied to identify and treatment infected individuals.

**Keywords:** Intestinal Parasites, Food Handlers, Prevalence, Gorgan

**P133**

**Frequency of Chlamydia trachomatis and Neisseria gonorrhoeae in Patients with Symptomatic Urethritis in Yasuj by Multiplex PCR (2010-2011)**

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Background: Chlamydia trachomatis and Neisseria gonorrhoeae are the most common bacterial sexually transmitted infection in USA and in world. In most countries Urethritis is commonest Syndrome of STI. In women, Chlamydia trachomatis and Neisseria gonorrhoeae can cause acute and long-term morbidity, including Pelvic Inflammatory Disease (PID), Infertility from scaring of the fallopian tube, chronic pelvic pain and ectopic pregnancy. In men epididymitis and proctitis can occur. Materials and Methods: In a cross sectional study, 10-15 ml of first void urine collected from all patient (109 women and 28 men) with Urethritis who attended to shahid mofateh yasuj clinic were involved in to the study. A questionnaire containing some demographic information and Clinical features related to the infection was completed for each patient, (20-49 years) were tested by Multiplex PCR method using primers to amplify CT and NG-specific plasmid And microbial culture and gram staining for identification of N. gonorrhoeae. Result analyzed by SPSS15 software using chi square test. Results: The mean age of these women & men are 88/28 and 75 /35 years . The frequency of Chlamydia trachomatis and N. gonorrhoeae in women’s was % 2/75 and % 4/60 respectively and in men’s was % 7/14 and % 7/14 Co-infection isn’t seen. We not found a noticeable relation between the presence of C. trachomatis and risk factors such as History of sexually transmitted infection, more than two partnership, Alcohols consumption and addiction, but relation between N.gonorrhoeae and risk factors was showed. Conclusion: Although C. trachomatis and N.gonorrhoeae are two commonest cause of Urethritis, the results of this research show that frequency of N.gonorrhoeae, C.trachomatis in this region among men & women suffering from Urethritis is relatively low. Performance of screening program should be recommended.

**Keywords:** Keywords: N gonorrhoeae, C.trachomatis, Urethritis, Multiplex PCR
Different Blood Group Classification and Acute Coronary Syndromes in Patients with Coronary Artery Diseases

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Abstract    Objective: Blood group classification has been associated with outcomes in patients with coronary artery disease. However, its role in acute progression of the disease has not been well described. In this study, blood group distribution in coronary artery disease (CAD) and acute coronary syndrome (acute form of CAD) patients admitted to Yazd Afshar Heart Center, was evaluated.

Methods: In this cross sectional study, 200 patients with established CAD disease were selected. We selected two groups from two independent registries, one serving as a derivation comprising patients with evident ACS and the other serving as a CAD registry. Clinical parameters and ABO blood group distribution (BGD), in patients were determined and analyzed by using SPSS software.

Results: Our study group consisted of 70.1% male and 29.9% female patients, with a mean age of 65 ± 12.1. Data analysis exhibited BGD O was ~ 43.3%, A was ~ 5.6% and AB was ~ 11.1 %. Interestingly, there was a significant difference in BGD B between two groups of patients. BGD B of Rh+ was higher in ACS (with frequency ~ 62.5%) in compare to CAD (with frequency ~ 37.5%) patients. Significantly, B types with Rh- in administered ACS patients come to > 95% (p-values were < 0.005 for all data analysis).

Conclusions: According to our data analysis, there is an association between blood factors (especially ABO blood types) and CAD types. Conclusively, the progression of cardiovascular diseases the acute states in CAD patients (occurrence of ACS) could be influenced by ABO blood types.

Keywords: ABO Blood group classification; Coronary Artery Diseases, Acute Coronary syndromes.

Evaluation of serum concentration of adiponectin

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Diabetes mellitus is a disease with a high-mortality rate, in the other hand adipokines act as connectors between adipose tissue and diabetes mellitus. Therefore, we survey serum concentrations of adiponectin and retinol binding protein 4 (Rbp4) in diabetic family subjects for early detection of this disease. This study was performed on 208 individual in two group named diabetic family subjects as a case group (54 female, 50 male) and 104 age and sex matched subjects from non-diabetic family as a control group (54 female, 50 male). Anthropometric parameters measured by using standardized methods. Glucose and lipid profile concentrations were measured by available kits by autoanalyzer. Serum concentrations of adiponectin and Rbp4 were determined by enzyme linked immunosorbetant assay (ELISA). Serum concentrations of adiponectin were significantly lower in diabetic family subjects than non-diabetic family subjects, whereas serum concentrations of Rbp4 were no different in case group compared with control group. Our finding shows that, serum concentration of adiponectin decreased in diabetic family subjects may be useful in detection of diabetes.

Keywords: adiponectin diabetic family
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**Evaluation of serodiagnostic methods: Indirect hemagglutination (IHA), Immunoelectrodifffusion (IED) in diagnosis of the specific immunoglobulin human hydatidosis.**

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Introduction: Hydatidosis is a zoonotic disease that is caused by Larval stage of E. granulosus in human and other hosts. A long incubation period, Unspecific signs and also risk of cyst rupture and importance of following the changes of titre Antibody in treatment process show the importance of diagnosis techniques. Besides the differences caused by the Antigen used in each phase for the purpose of serologic tests make the provision and use of local Antigens significant. In current examinations by making Antigens from sheep liver cyst, IED, IHA methods in diagnosing Antibody Antihydatid were evaluated.

Material and methods: In current study, referring to different hospitals samples was collected from patients who were confirmed to how hydatid cyst although operated. The Antigen used from cysts liquid of sheep liver were collected and after concentration were applied for the planned tests. Human O red blood cells were used for IHA. IED test was done on astate cellulose paper.

Conclusion: from 35 samples in IHA method, 27 people had titre higher than 1/64 that is considered positive result and 8 people had titre less than 1/32. In IED 26 people showed positive result and 9, showed negative ones. IED sensitivity was 77% and IHA was 80 %.

Discussion: In this study, sensitivity of IHA was shown to be more than IED. Considering the cheapness, cost and test applicability in laboratories with minimum equipment IHA is preferred as a better test. Negative result in nonnative patients confirm an importance of providing Antigens by local ways.

Keywords: Hydatidosis, Serodiagnosis

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**Perevalence of gestation diabetes in peregant mothers referring to the health center laboratory of birjand**

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Introduction: among a number of woman during their second half period of peregancy hiperglycemia is developed due to the limited capacity of insulin secretion and lasts until delivery. this situation is called gestation diabetes. Although the results of laboratory tests becom normal after delivery, however, a considerable number of mothers may suffer from diabetes in future. Metod: in the present study, 232 peregant women who had referred to the health center laboratory in aban1390 were selected for the project. at the time of referring they were between 24to28 weeks of peregancy: more over they dident have any record of pre-gestation diabetes, abortion, stillbirth, birthweight over 4 kg and pancreas sickness. first, GCT screening test was done on all the subjects with 50grams oral glucose. For those with high plasma glucose level of 130mg/dl, oral glucose tolerance test (OGTT) was done with 100gr oral glucose. based on carpentr$gaston they were diagnosed with gestation diabetes. Results: of 232 peregant women, 51ones (22%) had high serum glucose level of 130mg/dl. OGTT was done on all of them. 5 women (2.16%) were diagnosed as having gestation diabetes. 4 women out of 51 ones had impaired glucose tolerance test (1.7%) and the rest were healthy; the maen age of diabetic women was (years 32±2) and that of those with impaired glucose tolerance test was (28±2.5 years). Discussion and conclusion: Among all the studied women in this study, the prevalence rate was 2.16% that to our knowledge it is congruent with the prevalence rate of 1 to 14% in different countrys.

Keywords: diabet-screening-gestation-glucose-tolerance
Academic self-assessment of private laboratories staffs in Dezful and Andimeshk cities

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Background and aim: Given the strong dependence of the clinic on the paraclinical fields, including laboratories, academic and practical ability of laboratory personnel can be provided to improve results and, therefore, can help to correct diagnosis and proper treatment of patients. Materials and Methods: In this descriptive-analytical study, 48 persons from the private laboratories of Dezful and Andimeshk cities participated. Each staff separately were to complete a questionnaire that was already designed, and unaware the response of other people. The results derived from these questionnaires, were case studies and analysis. Results: 37 persons (77.1%) of participants were women and 11 (9/22%) were men. 45 persons (93.8%) have Associate degree and 3 persons (6.2%) have BS degree of Laboratory Sciences. Average working hours in the field of study related to these people 1.6±1.1 (0-6) ) hours during the week . Average Self-assessment of their ability and their surrounding medium score on that test if the score was 0-20 in between numbers, had a score 15.4±3.6 (10-20). Only 12 persons (25%), knew with the three principles autoanalyzer, cell counter, and ELISA reader, and only 6 persons (12.5%) were quite dominant to the Qualitative control theory and practice. 21 persons (43.8%%) indicate the reason of self inability to the weakness of their scientific and practical training at their university. Conclusion: Due to the low academic level and partial inability of personnel in laboratory science, it is recommended to hold a meaningful and regular refresher courses to be provide material that could induce them to study and learn. Keywords: Laboratory sciences, Self-assessment, Scientific ability.

Keywords: Laboratory sciences, Self-assessment, Scientific ability.

Prevalence and Correlates of Co-infection with Human Immunodeciency Virus and Hepatitis C Virus in intravenous drug addicts who are under the control of the consultation behavior illness center of Sanandaj in 2011

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Objective: There are limited data on the prevalence of viral hepatitis in human immunodeficiency virus (HIV) infected individuals. Comorbid illnesses in patients infected with HIV are of great interest due to their association with poor outcomes and failure of antiretroviral therapy. Aim of the study was to evaluate the HIV and hepatitis C virus (HCV) coinfection and associated risk behaviors among intravenous drug addicts in sanandaj in 2011. Materials and Methods: A cross-sectional survey included 240 intravenous drug addicts for this study . they were screened using a urine test and a physical examination for injection marks. A questionnaire was completed for each individual by interview. Blood specimens were collected for HIV and HCV testing. After phlebotomy and serum separation, all specimens were kept in -20oC until analysis. The variables associated with HIV/HCV coinfection at a significance level of P<0.10 were considered in multivariate analysis. Serological specimens were screened with an enzyme linked immunosorbent assay for HIV antibodies (Biotest AG, Germany) and confirmed by Western blot (Diagnostic, Germany). Specimens were tested for HCV antibodies (DiaSorin, Spain). We did not conduct HCV RNA testing due to cost constraints. Results: in 240 participants, 130 cases(54%) was HIV positive and 110 cases(46%) was HIV negative. in 110 HIV negative, 16 cases(14%) was HCV infection. in 130 HIV positive 34 patients(26%) was HCV infection. so in 240 intravenous drug addicts 34 cases(14%) had HIV/HCV coinfection. Factors independently associated with HIV/HCV coinfection included history of using opioid in jail, and age (P<0.05). There were not any association between other demographic characteristics (marital status, birthplace, residence, and education), type and years of drug abuse, age of first injection, years of injection, sharing needles inside and outside of jail, injection in jail, history of tattooing, any sexual behavior, and history of sexually transmitted diseases with HIV/ HCV coinfection (P>0.05). Conclusions: This study supports that contributing to the Decreasing spread of HIV/HCV coinfection. So, there is urgent need for effective harm reduction programs, particularly among intravenous drug addicts.

Keywords: HIV, HCV,coinfection, intravenous drug addict
Assessment of Neutrophil / Lymphocyte Ratio (NLR) in Acute Coronary Syndrome (ACS) patients

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Objective: Several reports have offered some blood inexpensive factors as a predictor for inflammatory diseases. We hypothesized that the elevated level of WBC in blood, especially neutrophil/lymphocyte ratio (NLR) can be used as a predictors for acute coronary syndromes (ACS) or outcomes of cardiovascular disease. The aim of this study was to evaluate the association between NLR and occurs of ACS in patients. Method: 150 patients with acute coronary syndrome and 50 normal subjects with no ACS or other kind of heart diseases (as the control group), who were distinguished by EKG (Electrocardiography) in Yazd Afshar Heart Center, and of both sex were participated in this study. The mean age of participants was 65 ± 10.1. Using SPSS software, biochemical and hematological parameters, besides levels of Neutrophils and Lymphocytes were measured, as well as the ratio of these two levels were also calculated. Result: Data analysis implied that the mean values of neutrophil counts were increased in patients with acute coronary Syndromes (ACS) (Mean > 64%); in comparing to the control group (Mean ~ 55%). Interestingly, lymphocyte levels were decreased in ACS patients (Mean ~ 28%), while the control group exhibited ~ 35%, all with the p-values < 0.05. Significantly, there was a higher ratio of 2.3 for Neu/Lym in ACS, 1.5 times higher than controls. Conclusion: In consistence with the previous results, lymphocyte decreasing and neutrophil increasing could contribute to acute progression of the disease and ACS events. In other word, NLR may be increased in CAD patients with ACS risk.

Keywords: neutrophil/lymphocyte ratio (NLR), predictor factors, diseases progression, Acute Coronary syndromes.

Study on the effects of artemether on recovery of the spread of lesions caused by Leishmania major whit two methods ointment and injection

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Background: Leishmania major is flagellate protozoan, with more than 20 species diversity and global distribution. One of the derivatives artemisinin, is artemether. Scientists believe that artemether’s strong action against parasites is due to the presence of endoperoxide bridge.Due to problems in the treatment of Leishmania major ,in this research we studied the effect of artemether on Leishmania major in BALB/c mice. Methods: In this study we used ointment and injection methods. Method of study was experimental. In local method, 250 µg of artemether was mixed in 1 ml of cream, and then 0.1 ml of ointment was rubbed on the lesion and in injection method 250 µg of artemether was sloved in 1 ml of solvent (0.5 ml distilled water + 0.5 ml alcohol), and then 0.1 ml of solvent was injected in the lesion .Diameter of the lesion was daily measured by caliper for two week. Results:In this study we showed that artemether is effective in treatment of leishmaniasis. The improvement of lesion observed in both of ointment and injection form . Mean diameter of lesion in infected group treated with ointment of artemether decrease from 1.294 to 0.214 cm. five days after treatment was started ,there is significant difference between mean diameter of lesion in two groups(P<0.05). Mean diameter of lesion in infected group treated with injection form of artemether decrease from 0.913 to 0.256 cm. There is significant difference between infected group treated with artemether with untreated group and treated with glucantim group respectively in 4th and 8th days after treatment (P<0.05). As results for both methods were same, we suggest the ointment method because of ease in application.

Keywords: Leishmania major , Artemether , ointment, injection, Balb/c
Prevalence of serum anti rubella virus antibodies among pregnant women in Kashan

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OBJECTIVE: Rubella is a contagious viral disease with few complications except in pregnant women. Rubella infection in pregnancy can result in miscarriage, stillbirth or an infant born with congenital rubella syndrome. Effective vaccination programmes are critical to the elimination of rubella and prevention of CRS. The aim of this study was to determine the prevalence of anti-rubella virus antibodies among pregnant women referred to Kashan Central Laboratory. METHODS: A cross-sectional study of seroprevalence study was conducted between February 1, 2011 and February 5, 2012. 180 women referred in Kashan Central Laboratory, were enrolled in the study; the participants were in the 4th to 39th week of pregnancy. Susceptibility to rubella infection was determined by anti-rubella immunoglobulin (Ig)M and IgG immunosays. RESULTS: The mean age of the women were 28/06 ± 1/03 years. On the basis of the results, 168 out of 180 (93/3%) women were classed as immune to rubella virus infection; however, the prevalence of IgG anti-rubella virus antibodies measured in the participants serum was 93/3%. The prevalence of IgM antibodies measured in the participants serum was 2 out of 180 (1/1%). CONCLUSION: Although the incidence of rubella is low we suggest the antenatal screening and vaccination of all females of child bearing age to eliminate this potentially devastating virus in the Kashan.

Keywords: Rubella, antibodies, pregnant

Examination of skin biopsies in pemphigus infection in Imam Reza Hospital, Tabriz, 1390

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Introduction: Pemphigus is a bullous autoimmune disease. Cause of this disease are not clear, but what is evident in this disease is loss of adhesion between layers of horny skin. The aim of this descriptive study biopsy, immunofluorescence was performed to detect bullous skin diseases in the city of Tabriz is the immunofluorescence method. Of this study, immunofluorescence testing of skin samples sent to the Center for Study results was selected. Material and Method: 200 samples, tests for assessment of bullous disease, direct immunofluorescence in 90 years to the immunoglobulin IgM-IgA-IgG and complement C3 were evaluated. Results: Sample of 200 submissions, 52% have been reported as positive, such that 52% -50% of positive IgG and positive C3 - 6% positive IgA - and 8% were IgM positive. -48 Percent to 18 percent positive male client - and 52 percent of Females that are 34 percent positive. Customers that have an average age between 38-45 years are positive. Also in these statistics Also investigated seasonally in the spring, 12% - 54% in summer - autumn 23 percent - and winter Was 11%, 33% more samples, various other organs of the mouth and the rest were Approximately 93% of the oral specimens were positive. Conclusion: These results indicate that the skin biopsy procedure, especially the mouth part test for the diagnosis of pemphigus. And its prevalence in summer is higher than other seasons.

Keywords: Pemphigus, immunofluorescence, autoimmune disease
Enhancement of alkaline protease production by Bacillus licheniformis through production medium optimization by Taguchi method

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Background and objectives: Proteases are an important group of industrial enzymes, especially alkaline proteases, which are widely used in the different industries. Applications of alkaline proteases have significantly increased in various industrial sectors such as detergent, leather tanning, pharmaceutical, and food industries. The aim of this study was to increase of alkaline protease production by Bacillus licheniformis cells through optimization of production medium. Methods: Optimization was carried out in two steps. In first step appropriate protein source was defined by one factor at a time method. In next step four factors of soy bean meal, glucose, beef extract and cystein were optimized by statistical method of Taguchi. For this purpose using Qualitek-4 software an L16 orthogonal array was selected and 16 experiments were designed which every experiment was performed in triplicate. Then the results were analyzed by Qualitek-4 software. Results: The amount of produced enzyme using three protein source of soy bean meal, soy protein meal and casein was 200, 189 and 102 U/ml respectively. Therefore soy bean meal was selected as more appropriate protein source which is also cheaper than the two other protein sources. The results of production medium optimization in taguchi method showed the medium containing, soybean meal, KH2PO4, CaCl2, MgSO4, and NaCl with value of 25, 1, 0.5, 0.5 and 1.5 g/l is optimum production medium. Conclusion: the results showed that Using this medium, after 48h, 1010 U/ml of the enzyme was produced which is 4.9 times more than the enzyme produced by pre-optimized medium(205 U/ml).

Keywords: Alkaline protease, Taguchi method, Bacillus licheniformis

Evaluation of Metallobetalactamase enzyme produced Pseudomonas aeruginosain clinical specimens in the teaching Hospital,s Dezful.

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Material and Method : A total of 150 isolates of Pseudomonaseaeruginosaforty samples included 72 samples Urine cultures, 55 Trachial cultures, 12 Blood cultures and 11 Wound cultures, were subjected to susceptibility testing against various antibiotics by disc diffusion test as per the Clinical and Laboratory Standards Institute(CLSI) guidelines. MBL producing isolates recognize by E- test strip method( IP & IPI). Results : Of the 150 strains, 27(18%) and 22(13.7%) were found non susceptible to imipnem and meropenam respectively. The most resistant antibiotics to which the bacteria tested were Ceftriaxone(41.3%), ceftazidim(28.7%), 21(14%) were found to be MBL producers confirmed by E-Test strip method. The high frequency of MBL producing Pseudomonaseaeruginosaisolated in the teaching hospital in Dezful. Material and Method : A total of 150 isolates of Pseudomonaseaeruginosaforty samples included 72 samples Urine cultures, 55 Trachial cultures, 12 Blood cultures and 11 Wound cultures, were subjected to susceptibility testing against various antibiotics by disc diffusion test as per the Clinical and Laboratory Standards Institute(CLSI) guidelines. MBL producing isolates recognize by E- test strip method( IP & IPI). Results : Of the 150 strains, 27(18%) and 22(13.7%) were found non susceptible to imipnem and meropenam respectively. The most resistant antibiotics to which the bacteria tested were Ceftriaxone(41.3%), ceftazidim(28.7%), 21(14%) were found to be MBL producers confirmed by E-Test strip method. The high frequency of MBL producing PseudomonaseaeruginosawereTrachial discharge 23.6 percent (13/55). conclusions : Regarding the prevalence of resistance to the third generation cephalosporin and carbapenem antibiotics in this hospitals seems to be a major alarm in therapeutic strategies. Therefore precise antibiotic susceptibility testing and to detect MBL producers is highly recommended before any antibiotic prescription in case of infection because prevent spreading MBL isolates and use effective antibiotics.

Keywords: Pseudomonaseaeruginosa, Metallobetalactamase, E-Test, carbapenem.
Of Pathogens in blood cultures by using *Becksisng* mission hospital in Hamadan in

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revising the prescribed Mtld and retraining. Objective: Evaluation of existing pathogens in positive blood cultures and the study of drug resistance. Methods and techniques: descriptive - analytical study of 101 cases was conducted among 383 samples. Results: In this study of pathogens and their frequency were as follows: E.coli 14.85% Acintobacter 13.86% & Staph Epidermidis 38.6% & Ktebsilla Pnumonia 5.94% Staph Aureus 3.96% & Pseudomonas Aeroginosa 4.95% & Micrcdcoci 2.97% Entrococci 1.98% & Candidia sp. 1.98% & Proteus vulgaris 0.99% & Staph hemolyticous 0.99% Strep virudence 0.99% & Staph saprophiticus 7.92%)

Keywords: blood cultures by using “Beck single”

The Comparison of educational aims fulfillment level of practical courses conducted by laboratory medicine department in continous and dis-continous laboratory medicine paramedicine faculty Hamedan university of medical sciences students

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The fulfillment of educational aims is very important in the process of education. The goal of research is degree of fulfillmet of educational aims study in laboratory medicine students. In this study, the level of fulfillmet of educational aims in 50 students had been evaluated by distributing questionaries among continous and dis-continous laboratory medicine. The study showed that laboratory medicine students assessed the level of fulfillmet of educational aims differently. Continous students assessed it as %75 and dis-continous students as %60. The study revealed that the level of fulfillment of educational aims for continous and dis-continous laboratory medicine students was significantly different, especially in practical courses conducted by laboratory medicine department in paramedicine faculty. The study revealed that one should consider all of the factors to gain exact results with the fewest percents of errors .

Keywords: laboratory medicine , practical courses , paramedicine faculty
Evaluation the indexes of packed red cell during processing & storage at the specific time in Tehran Blood Transfusion Center in 2011.

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Introduction: Hemolysis is one of the important markers in evaluating the quality of the packed red cell. Blood bags should be manufactured in the way that material and the preservative time is 35 days. This practical study was done in order to survey the packed red cell units qualitative markers in blood transfusion organization. Method: This study data analysis was done by SPSS17 statistical software using ANOVA test with repeated measures to survey and comparison of results in sequential times. Hemolysis, hemoglobin, hematocrit & lactate dehydrogenase enzyme activity were the markers which were assessed weekly until sixth week (the thirty-fifth day) on 224 packed red cells. Finally, microbial culture was performed for all the packed red cell units due to its correlation with RBC lysis. Result: Result showed a significant increase of RBC lysis until the end of study period (p<0.05). Hematocrit also showed significant decrease trend (p<0.05). Moreover, the LDH enzyme activity level which has direct correlation with RBC lysis showed significant increase. (p<0.05). The hemoglobin changes also was significant (p<0.05).

Keywords: packed red cell, hemolyse, LDH, hemoglobin, hematocrit

The study of pollutants in blood cultures by using a single back

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Introduction: announce the results a blood cultures in a short time an important role in patient care and hospital discharge plays. Methods: A descriptive - analytic study is carried out during which the 383 cases 101 cases were positive. Objective: The study sample of blood culture contamination rate and report their secondary. Results: In this study, blood contamination of the total positive samples were obtained, respectively, is as follows: Staph Epidermidis 38.6% & Staph Saprophyticous 7.92% & Candidia. Sp 1/98% & Strep viridense 0.99%

Keywords: *The study of pollutants in blood cultures *
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**The prevalence of brucellosis in the referred patients to laboratory of Imam Ali hospital in Andimeshk city in 1389**

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**Background and Aim:** Brucellosis is a common infectious disease among humans and livestock and one of the health problems in some areas of the world and IRAN. Annually, 50000 cases of Brucellosis are reported in IRAN. Materials and Methods: In this cross-sectional study, from suspected referred patients to Brucellosis to laboratory of Imam Ali hospital in Andimeshk during 2010, the venous blood was drown. In this individuals, Brucella IgG was measured with Elisa method and Brucella IgG of greather than 12 IU/L, was considered positive. Results: From 163 referred patients (95 men and 68 momen), 44 cases (27 men (61.36%) and 17 women (38.64%)) were positive for Brucella IgG. 41 cases (93.18%) lived in village and 3 cases (6.82%) lived in urban. Of the season, the highest and lowest number of patients, were observed in summer (14 cases (31.82%)) and winter (8 cases (18.18%) seasons, respectively. Most affected people have illiterate education and in the rancher employment. Conclusion: Given the prevalence of brucellosis in the city Andimeshk, It is necessary to educate and inform to groups with high risk.

**Keywords:** Brucellosis, Brucella IgG, Andimeshk

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**Determination of circulation of toxoplasma gondii in varios tissue of Balb/c mice afteral ex peiment exposue with RH strin**

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Materials and methods: In this experimental study - which involved a total of 36 Balb / c mice were used. In this study, first, they both case and control into later mice case excreted - secreted antigens (ESA) withcompleteFreondAdjuvant and control PBS withcompleteFreond Adjuvant injection to the two weeknextday mice to challenge with toxoplasma gondii RH strain and two day next we obtain different organs (liver, spleen, heart, kidney, eye, muscle, blood) can kill time with a smear of touch (Impression) has also prepared and then fixed with methanol by Games staining, we then consider the presence or absence of contamination severity, we examined the slides.

Results: In this study it was found that the parasites in the liver and spleen in the first two days will presents and the highest is present in these organs in the fourth and fifth days are also found in heart and kidney in the control group antigen

Conclusion: toxoplasma gondii in various organs such as liver and spleen parasite Tvksv earlier than is found in other organs to other organs of mice is very low. Excreted - secreted antigens (ESA) general immunity does not cause pollution and can reduce the severity Vsr.

Keywords: toxoplasmagondii,excreted -secretary antigens (ESA), challenge
Comparison of knowledge and practice of private clinical laboratories employees and training centers in Shiraz about AIDS (2011)

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Introduction: Background: A pandemic of AIDS can be called new age that both industrialized countries and to countries caught up to progress. Causes AIDS million men, women and children in developed countries and growing range of contaminated and World has no continent is immune. Because of this non-curable disease, prevention is important. Public and private laboratories staff persons at risk were determined and compared METHODS: This cross sectional study (descriptive and analytical) on 350 private laboratories and personnel training centers was conducted in Shiraz University of Medical Sciences. Information using a questionnaire that includes three parts, demographic characteristic questions, questions about knowledge in different fields of AIDS and final part was related to the performance of personnel were collected. Descriptive results as tables and graphs and analytical results with test ANOVA, t-test score analysis was Kai. Results: The data in some areas of AIDS in public and private laboratories were similar and statistically significant difference was observed. Recognition of disease symptoms and treatment was significant difference (05 / 0 P <) so that information Government employees were more private laboratories. 92.7% of laboratory staff on ways of transmission and 99.2% in recognition of pathogen level well were aware. But awareness of employees about the individuals at risk for disease 61.2% and prevention 53.1% was good. Discussion and Conclusion: Awareness and Behavior of government and private laboratories were good but about prevention and knowledge of people at risk in both the laboratory data was not satisfactory and necessary service training for all laboratory personnel is felt. Labs Government should also recognize the symptoms and treatment with HIV have more attention.

Keywords: AIDS, laboratory personnel, knowledge, performance

Soil Keratinophilic fungi in Babol medical university and its Hospitals yard

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Abstract: Objective: Tinea (Dermatophytosis, Ringworm) is the most important and widespread dermatomycosis caused exclusively by a wide group of Keratinophilic Fungi called Dermatophytes. The objective of the current study is to investigate the distribution of Keratinophilic and dermatophytic fungi. Material and method: Fungi in the surround-Soil of Babol Medical University’s hospitals during a three-month period from April to June of 2005. Samples were collected from 5-Cm depth of dry soil then processed by routine mycological methods for isolation of dermatophyte fungi by hair biting and plated onto S and SCC mediums. Results and conclusion: The obtained results were analyzed by means of the statistical package SPSS. The highest numbers of isolated keratinophilic fungi in percentage were as follows: Cunninghamamella Spp (100%) from Shahyd Beheshti Hospital of Babol, Microsporum gypseum (100%) from Shahyd Beheshti Hospital of Babol, M. gypseum (geophilic dermatophyte) (100%) from Kaboli Hospital of Babol, Microsporum gypseum (93%) from Children Hospital of Amirkola, Cunninghamamella Spp (86%) from Marzikola Hospital of Babol, Aspergillus niger (53%) from Shahyd Rajee Hospital of Babolsar. In addition, the highest and lowest number of mites and larvae were found in Rajee Hospital of Babolsar and Shahyd Yahyanejad Hospital of Babol, respectively. The most commonly fungi isolated in this study was Cunninghamamella Spp, followed by M. gypseum, as well as the least of them like Trichotechium spp, Alternaria spp and non-Candida yeasts. In the meantime, other common species were A. flavous, Mucor, Penicillium, Fusarium, and A. niger, M. gypseum, Drechslera, Gliocladium, A. fumigatus and Rhizopus sp.

Keywords: Key words: Keratinophilic Fungi,soil fungi, Geophilic dermatophytes.
Epidemiological survey in Diabetes Mellitus and its complications in Savojbolagh rural area.

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Introduction: diabetes mellitus (DM) results from a lack (or diminished effectiveness) of endogenous insulin. Hyperglycemia is just one of a far-reaching metabolic derangement, which may cause serious microvascular (retinopathy, nephropathy, neuropathy) or macrovascular complications (cardiovascular-coronary artery disease, cerebrovascular-stroke, and peripheral vascular). Prevalence of DM is about 3% worldwide and according to new lifestyle, it is predicted to grow over next years. In Iran, recent studies have shown not only about 5-6 % of 3 to 69 year old Tehranian have DM but also about half of them did not know their illness. The main goal of this study was to illustrate the prevalence of diabetes mellitus and its complications in Savojbolagh in the west of Tehran province. Material & methods: 19880 over 29 year old women and men were included in this cross-sectional study from January 2008 to July 2008 in Savojbolagh rural areas. Fasting blood sugar were measured in five age categories in both sexes as a criterion of hyperglycemia and DM in any over 29 years old person with obesity or over weight (BMI ≥ 25 ), positive past familial history of DM, clinical signs (at least two signs), blood pressure(BP)> 140/90, any sign of DM complications. Base on the results of FBS, we had three groups in next step: 1. FBS ≤ 110 mg/dl, High Risk Group 2. 110< FBS < 126 mg/dl, Prediabetic Group 3. FBS ≥ 126 mg/dl that repeated after two weeks. The second FBS gave us three groups again. The first two groups were the same as the results of last FBS but the third group was considered as diabetes mellitus. Previous known diabetic patients were separated and examined for diabetic complication by physicians at first step, and then they were included to total diabetic patinas (previous and new diabetic patinas). Results: The subjects were11783 (59.3%) female and 8097(40.7%) male. Prevalence of diabetes mellitus (DM) was 5.3% (previous and new diabetic patinas), prediabetics 2.7% and high risks 37.8% in general and more common in women in all the age categories. The most common complications were cardiovascular-coronary artery disease (8 cases) and cerebrovascular-stroke (6 cases). Measuring blood pressure (BP) illustrated that elevated BP cases were seen more in over 70-year olds (26.6%) and 60 to 69-year olds (24.6%). Consequences: The prevalence of DM in Savojbolagh rural area is more than global prevalence; however it is almost equal to Tehran prevalence. In the selected area DM, Prediabetic conditions and High risk conditions in women are more common than men except over 70-year olds who newly diagnosed as diabetics. Different in the number of the women and the men in each clinical condition decreased by increasing the age. The number of elevated BP in both sexes rose by increasing age. To sum up, it seems effective health managing which gives people information about DM and its complications can change the view to life and modify behavior in lifestyle in order to reduce DM and its complications.

Keywords: FBS – BMI – Blood pressure – DM – Savojbolagh – Alborz University Medical Sciences

Diagnosis of Cryptosporidium parvum in AIDS patient by Sheather sugar flotation and Modified acid fast staining

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Introduction and Objective: Although Cryptosporidium parvum infection can occur in both immunocompetent and immunocompromised individuals, this parasite primarily has been found in patients with AIDS and other immunodeficiency disease. Diagnosis of the infection depends on demonstration of the small (4to6 µ), sporulated Oocyst in feces. The aim of this study was diagnosis of Cryptosporidium parvum in AIDS patient by Sheather sugar flotation and Modified acid fast staining in Izeh city Shohda Hospital during the years 2010 – 2011. Materials and Methods: In this study, feces samples collected from 12 HIV patients that attend to department of infectious disease of Izeh city Shohda Hospital during the years 2010 - 2011. The feces sample were prepared by flotation and after that being stained by Modified acid fast staining. Results: from these, 7 patients demonstrate Oocysts of parasite. Discussion: this coccidian parasite can produce a protracted and severe diarrhea in immunocompromised patients, although in immunocompetent individuals it is usually self limiting and less severe. Sheather sugar flotation and Modified acid fast staining are the method of choice in diagnosis of Cryptosporidium parvum in AIDS patient for convenience of them.

Keywords: Cryptosporidium parvum, AIDS patient, Sheather sugar flotation, Modified acid fast staining
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**Cryptosporidium sp. Contamination of drinking water consumed for transplant patients in transplantation unit of Shariati hospital- Tehran**

Farzad Eisvand Heidari 1 *, Mohamad Jafari Modrak 1, Rouholla Valipour Nouroozi 1

Introduction and Objective: the most common clinical feature of cryptosporidiosis in immune compromised persons is diarrhea, the symptom that most often leads to diagnosis, characteristically, the diarrhea is profuse and watery and it is often associated with weight loss. In patient with immune deficiencies, such as persons with AIDS, immune suppress chemotherapy especially for cancer and transplantation and person with concurrent viral infections, diarrheal illness due to cryptosporidium infection of the gastrointestinal tract becomes progressively worse with time and may be a major factor leading to death. Aim of this research was Cryptosporidium sp. Contamination of drinking water consumed for transplant patients in transplantation unit of Shariati hospital- Tehran during January to September 2011. Materials and Methods: 1265 water samples collected from drinking water that serves for patients that stay in transplantation unit of Shariati hospital during January to September 2011. Then the water samples centrifuged and sediment stained by Modified acid fast method for detection of parasite oocysts. Results: 23 water samples show oocysts of parasite. Discussion: in the immune deficient patient, cryptosporidium infections are not always confined to the gastrointestinal tract, and additional clinical symptoms have been associated with these extra intestinal infections. These symptoms include a variety of respiratory problems, cholecystitis, hepatitis and pancreatitis and so on. This study suggest drinking water in different hospital unit especially transplantation unit should be boiled before consumption.

**Keywords:** Cryptosporidium sp., transplant patients, Shariati hospital

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**Prevalence of Entamoeba histolytica in Ahwaz City by PCR**

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Introduction and Objectives: Amoebiasis is caused by the intestinal protozoan parasite E. histolytica and is the third leading parasitic cause of death in humans after malaria and schistosomiasis. The protozoa Entamoeba histolytica is an intestinal parasite infecting 700 million people worldwide. The present study was carried out from January 2010 to November 2010 in order to determine the prevalence of E. histolytica in Ahwaz City, by PCR method. Materials and Methods: 2000 samples were collected from Ahwaz Jahad daneshgahi polyclinic in 2010. The stool specimens were examined by light microscopy to distinguish E. histolytica. DNA of Positive samples were extracted by AccuPrep® Stool DNA Extraction Kit (K-3036). PCR for Amplification of 18S rRNA genes of E. histolytica carried. Results: Among this stool samples analyzed by optical microscopy, only 19 were positive for the presence of four-nuclei amoeba. Amplification of 18S rRNA gene of E. histolytica successfully conducted on only 6 samples. Gel electrophoresis showed that 6 samples were positive for E. histolytica as demonstrated by amplification of the species-specific fragment. Discussion: The major conclusions of this study are that asymptomatic E. histolytica infection is common in Ahwaz City population and that it carries a risk of the future development of invasive amebiasis.

**Keywords:** Entamoeba histolytica, Ahwaz City, PCR, 18S rRNA genes
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**Prevalence of Entamoeba gingivalis in patients with periodontal diseases**

Farzad Heidari Eisvand 1*, Mohamad Jafari Modrak 1, Rouholla Valipour Nouroozi 1

Introduction and Objectives: Entamoeba gingivalis is a non-pathogenic protozoa and is known to be the first amoeba in humans to be described. It is found in the mouth between the gingival pockets and near the base of the teeth. Transmission is direct from one person to another by kissing, or by sharing eating utensils. Only the trophozoites are formed and the size is usually 10 micrometer to 20 micrometer in diameter. Entamoeba gingivalis have pseudopodia that allow them to move quickly. There are numerous food vacuoles and contain cellular debris, blood cells and bacteria. The goal of this study was determine prevalence of Entamoeba gingivalis in patients with periodontal diseases. Materials and Methods: 1763 people with periodontal diseases were examined from Gillan medical science university dental clinic in 2011. The mouth mucosal specimens were examined by light microscopy to distinguish Entamoeba gingivalis. Results: Among this mouth mucosal specimens analyzed by optical microscopy, 613 were positive for the presence of Entamoeba gingivalis Trophozoite. Discussion: Our findings led us to consider that infection with oral protozoans should be regarded as an important factor associated with the pathological changes occurring in patients with periodontal diseases.

**Keywords:** Entamoeba gingivalis, periodontal diseases

P159

**In vitro cloning of matrix 2 gene for developing a new recombinant influenza vaccine**

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Introduction: External domain of influenza matrix protein is a weak immunogen hence, it is not selected in vaccination. B subunit of cholera toxin is nontoxic an causing attachment of holotoxin to GM1. CTB is highly immunogen and therefore fusion of M2e and CTB can be useful in developing recombinant vaccinesMaterial and methods: ctb was amplified by PCR using specific primers which restriction sites and serine glycine are included in. Strandard strain of influenza A was prepared and m2e was amplified by RT-PCR. For fusion of m2e and ctb the second PCR was performed using primer F ctb and primer R m2e. The PCR product was double digested with BamH1 and EcoR1 and then cloned into pET28a. Cloning was verified using sequence analysis. After verification, the recombinant pET28a/ctb-m2e was transformed into E.coli Top10. The final verification of fusion was done via PCR colony, subcloning and sequence analysis. Result and discussion: Sequence analysis showed that m2e was attached to ctb on exact frame. Sequence of M2e is stable and does not change annually. Attachment of M2e to CTB can be serve as a new approach in influenza vaccine developing.

**Keywords:** influenza, vaccine, m2e, cholera toxin, sequence analysis
Diagnostic Value and the Necessity of Assessment of the Peripheral Blood Smear

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Introduction: Despite advances in diagnosis, molecular analysis and electronic cell counter, checking the peripheral blood smear is still a valuable technique. The peripheral blood smear is usually studied according to the doctor’s request based on the patient’s status and clinical findings or by laboratory personnel to verify and follow a treat or abnormal findings or interference in the results of complete blood count (CBC). Study of peripheral blood smear is used in certain differential diagnoses of some diseases. By a careful examination of the peripheral blood smear, valuable information and findings could be reached that are not detectable through the cell counter devices. So the peripheral blood smear is valuable in diagnosis of hematological diseases and systematic disorders. Therefore, there is a need to be studied carefully.

Materials and methods: In this study, the peripheral blood smear was prepared from 380 blood samples sent to the hematology laboratory of AMIRALMOMENIN hospital in GERASH city. After staining (GIEMSA staining), the range of differential counts, other morphological changes and other associated findings in the leukocyte were studied using a light microscope. The results were compared with those of the automatic cell counter (SYSMEX KX21).

Results: In microscopic examination of peripheral blood smear of the blood samples that were studied, the following findings were obtained: 1) Results and morphological changes in the leukocytes such as toxic granulation and cytoplasmic vacuoles were observed in 19 samples (5%). 2) Increasing in the number of immature leukocytes in peripheral blood (left shift) such as neutrophil band cell and metamyelocyte in 52 samples (7/13%). These cells were counted as neutrophil in the differential count by automatic cell counter (SYSMEX KX21). 3) Increasing in the number of eosinophil was seen in 37 cases (7/9%), basophil in 13 cases (4/3%), and atypical or reactive lymphocytes in 34 cases (9/8%). These cells were not counted separately in the differential count by automatic cell counter (SYSMEX KX21).

Discussion and conclusion: According to the results of this study and other studies in this field, the peripheral blood smear has a high diagnostic value for some hematological and non-hematological disease and disorders and also, in monitoring of the treatment modality. Consequently, aside from the quantitative information and results that are obtained from cell counter devices, the consideration and study of peripheral blood smear is necessary.

Keywords: Peripheral blood smear - Toxic granulation - Cytoplasmic vacuoles - Left shift - Eosinophilia - Basophilia - Atypical lymphocytes.
**P161**

**The evaluation of common uropathogens resistance to antibiotics**

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Introduction: Urinary infections is one of the most widespread microbial infection. In this study incidence and antibiotic resistance of E.Coli ,Stap Aureus,proteus,Pseudomonas,Entrobacter and Klebsiella was evaluated in Ghaemshahr central lab. Research method: This study was performed on urine samples of patients during 10 months in 1390 .Samples were cultured in differential and selective media .Bacterial growth were identified based on their biochemical factors , Antibiogram was done by using disc diffusion method. Results: From 3350 samples,2949 samples were negative and 401 samples were positive.286 patients(71.3%) were infected to E.Coli,23(5.7%) to stap aureus,20(4.9%) to proteus,23(5.7%) to pseudomonas,38(9.4%) to enterobacter , 9(2.04%) to klebsiella and 2(0.4%) to gram negative bacilli. Resistance of stap aureus to P, E,CP,V,CF,K and OX were% 93.7 -% 33.3 - % 84.2-%85.7 -%93.15-%33.3-%93.75 Resistance of E.Coli to SXT,FM,AN,NA,CP,CN,GM and AM were % 41.25%- 84.85.7%-8-%84.1-%97%-76.4-%47.5-%90.3 Resistance of entrobacter to SXT,FM,AN,CP,CN,GM and AM were %48.5-%45-%58.5-%71.9-%90-%66.5-%64.7-%96.9 Resistance of psudomonas to SXT,FM,AN,CP,CN,GM and AM were %100-%89.4-%90.4-%91.4-%90-%88.2-%100-%43.7-%100 Resistance of proteus to SXT,FM,AN,CP,CN,GM and AM were%47.%55-%95-%90-%100-%54-%37.5-%78.5-%82.3 Conclusion: Among positive samples,the most number is belonged to E.Coli.In comparison with other results ,the results of this study shows increasing antibiotic resistance,it seems irregular use of antibiotics is the cause of high resistance.

**Keywords:** UTI,Drug resistance.

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**P162**

**Detection of MBL-producing A. baumannii isolates by Double disk synergy test**

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Background: Acinetobacter baumannii is one of the most important nosocomial pathogens that causes a various types of infections. In recent years, there are increasing reports of carbapenem resistant A. baumannii outbreaks in clinical settings worldwide. Metallo-β-lactamases (MBLs) are one of the most important mechanisms of carbapenem resistance among A. baumannii species. The aim of this study was to determine the frequency of MBL-producing isolates using double disk synergy test (DDST). Methods: One hundred non duplicated clinical isolates were collected from Imam Reza hospital in Tabriz, Iran. All isolates were identified using standard laboratory methods and then confirmed by detection of blaOXA-51-like genes. Antimicrobial susceptibility tests were performed using the standard disc diffusion method. The carbapenem non-susceptible isolates were screened for MBL production using double disk synergy method. Results: All isolates were positive for blaOXA-51-like gene to confirm their identity as A. baumannii. In total, 63 isolates were non-susceptible to imipenem and meropenem which, 37(59%) of them were found to be MBL producers using double disk synergy method. Discussion: DDST test was an inexpensive, simple phenotypic method for detection of MBL-producing isolates that could be easily incorporated into the routine clinical laboratories. Considering the high prevalence of MBL-producing isolates, the initial identification of them by DDST method and use of appropriate infection control measures is necessary in our hospital.

**Keywords:** Acinetobacter baumannii, Metallo-β-lactamases, Double disk synergy test
Technical Inefficiency in Diagnosis of Acute Bacterial Meningitis in Iranian Children Under Five Years Old Using Cerebrospinal Fluid Testing

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Abstract Background: The main objective of our study was to determine the diagnostic value of cerebrospinal fluid (CSF) microbial cultures in absence of sensitive and powerful PCR technique. Materials & Methods: The number of patient files evaluated in here were 1705 cases (including all children under 5 years old). Those were hospitalized in both Shohada-Tajrish and Mofid hospitals in Tehran for possible bacterial meningitis infection in 2004. Lumbar punctures (LP) were done on all of them. CSF samples were examined in microbiology and hematology laboratories. All the necessary patient information were transferred to the questionnaire to be analyzed by SPSS computer software. These aspirations were classified based on 1. Gender, age, season, sample color, numbers/types of white blood cells and type of microbes presented in CSF smears before culturing. 2. Identifying the types of antibiogram in a cultured environment. The first expected error in our research was α=0.05. Results: From a total of 1705 CSF specimens, 335 and 1370 specimens were from Shohada-Tajrish and Mofid hospitals, respectively. Our results indicated that 93.7% of CSF microbial cultures were negative and 6.3% positive in both hospitals. Also, the percentages were identical, despite the differences in the number of CSF specimens. In this study, 66 out of 1705 samples were the repeated specimens. We could not even observe one microbial agent from all the expected bacterial lists. Evaluation of color of WBC and CSF specimens showed that, 19 specimens had more than 50% neutrophils with a negative microbial cultures. Conclusion: In terms of diagnostic evaluation, polymerase chain reaction (PCR) based methods have been widely used to diagnose this disease in many developed countries but using CSF-biochemical and culture analysis still is the main traditional method for diagnosis in Iran. It is suggested that the PCR technique should replace the traditional technique in the near future. This new, rapid and powerful technology will measure the precise gene transcription leading to correct diagnosis of the acute bacterial meningitis.

Keywords: CSF-cultures/ Bacterial meningitis/ Children under 5 years old/ PCR.

Evaluation the immunogenicity of HIV-1 P24-Nef candidate vaccine conjugated to FLiC protein of pseudomonas aeruginosa using subcutaneous routes injection in Balb/c mouse model.

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AIDS is a major health problem in need of rapid medical solutions. Many vaccines have been designed against HIV but none of them have been found effective. Current evidence suggests that Immunologic adjuvants such as TLR agonists could help to approach the effective vaccine and as a TLR5 agonist, Pseudomonas aeruginosa (FLiC) is a potent immune system stimulus. In this study, HIV-1p24-Nef vaccine candidate conjugated to FLiC molecule was injected subcutaneously and the immune responses were evaluated. Materials and Methods: The Balb/c mice were immunized subcutaneously with 20 μg/100μl of HIV-1 p24-Nef conjugated to FLiC, p24-Nef and FLiC which were prepared in Montanide adjuvant and control group with PBS. Three weeks after the last injection, lymphocyte proliferation was measured by BrdU method and CTL response was evaluated by CFSE method. Also the response of IL-4 and IFN-γ cytokines, as well as the level of total antibodies and their isotypes were evaluated using ELISA method. Results: Our data show that, compared to control groups, the conjugated HIV-1 p24-Nef-FLiC significantly increased lymphocyte proliferation and CTL responses, higher levels of cytokines with IFN-γ dominancy compared to IL-4, but the level of total antibody and their isotypes wasn’t significantly increased. Conclusion: FLiC molecule could increased the level of cellular immune responses compared to candidate vaccine alone thus FLiC could be used as adjuvant in combination with vaccines candidate against HIV-1.

Keywords: Adjuvant, HIV-1 p24-Nef Vaccine Candidate, FLiC molecule
Conjugation of Pseudomonas aeruginosa FLiC molecule to HIV-1 P24-Nef peptide vaccine candidate increased immunogenicity of vaccine candidate

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Background: Since past decades, HIV infection has been one of the most important factors for threatening global health. An effective vaccine candidate against HIV-1 is highly demanded. The majority of antigen vaccines that are currently under investigation include recombinant molecules that are very pure or subunit vaccine from pathogens. Due to weak immunogenicity, these vaccines could not induce strong immune responses. Therefore, application of adjuvant is useful for increasing vaccine efficacy. Recent studies indicate that Flagellin has adjuvant activity and can induce immune responses by TLR5 engagement and thereby can improve the immunogenicity of some vaccine candidate. In the present, we compared the adjuvant activity of FLiC molecule in conjugated and mixture form with a peptide vaccine from HIV-1 P24-Nef. Methods: Balb/c mice (n=6) were immunized intradermally with 20 mg of HIV-1 P24-Nef peptides in both conjugated and mixture form with FLiC, adjuvanted in Montanide ISA-70, three times with 2 weeks intervals. Two weeks after the last immunization, lymphocyte proliferation was measured with Brdu, IL-4 and IFN-γ cytokines with ELISA, total antibody and IgG1, IgG2a isotypes with indirect ELISA methods. Results: Immunization of mice with HIV-1 P24-Nef conjugated and mixture form with FLiC molecule led to a significant increase in lymphocyte proliferation and IFN-γ cytokine responses. Total antibody titer increased in both conjugated and mixture form, although not significantly. Conclusion: FLiC molecule could be used as adjuvant in Conjugated and mixture form with vaccines candidate against HIV-1, and Conjugation of vaccine candidate is more potent for increasing vaccine immunogenicity compared to mixture form.

Keywords: vaccine, adjuvant, conjugation, mixture, immunogenicity

Evaluation of Cellular Immune Response Against HIV-P24-NEF Fusion Protein in Conjunction with Nanoparticle (PLGA) and Flic Protein

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Background: The adjuvant activity of the bacterial flagellin which can stimulate the TLRs and transport properties of nanoparticles are two immunostimulant for immune responses. The main aim of the present study was to evaluate cellular immune responses against HIV P24/Nef vaccine candidate in the presence of PLGA nanoparticles and FLiC as agonists of TLR-5 in BALB/c mice. Material and method: Six to eight-weeks old inbred BALB/c mice were assigned into five groups. Mice immunized intradermally with vaccines HIV p24/Nef/FLiC/PLGA, HIV p24-Nef/PLGA and PBS with two doses consisting of 20 and 5 µg. Three weeks after the final booster, lymphocyte proliferation assay was performed by Brdu/ELISA based method and splenocytes cytokine secretion (IL-4 & IFN-γ) was done to determine immune responses. Results: Mice immunized with HIV p24/Nef/FLiC fusion peptide formulated in PLGA nanoparticles significantly increased cellular immune responses and enhanced lymphoproliferativeactivityofsplenocytesintheinflameddosesofcandidatevaccine. Conclusion: Co-administration ofTLR-5agonistand nanovaccine in vaccine strategy could improve vaccine immunogenicity and decrease immunogenic dose of vaccine candidate.

Keywords: Nanovaccine, Hiv, Plga, Flic
Determination of the pattern of antibiotic resistance and identification of Extended-Spectrum β-Lactamases (ESBLs) in Enteropathogenic Escherichia Coli (EPEC) strains isolated from children with diarrhea.

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Objectives Enteropathogenic Escherichia Coli (EPEC) is one of the main cause of diarrhea in children less than one year old. For treatment of infections caused by this microorganism rehydration and antibiotic treatment are being used. On the other hand one of the issues that in recent years tremendously challenged medical society is the antibiotic resistance incidence and failure in treating infectious diseases. Producing Extended-Spectrum β-Lactamases (ESBLs) enzymes is one of the most important ways of resistance in this group of bacteria. So the objective to this study is to determine the antibiotic resistance pattern and considering the prevalence rate of Extended-Spectrum β-Lactamases (ESBLs) enzymes coding, including TEM, SHV, CTX-M and OXA gene and insertion sequence of ISE-CP1 in Enteropathogenic Escherichia Coli (EPEC) strains isolated from children with diarrhea. Method In this study 192 strains of Enteropathogenic Escherichia Coli (EPEC), that were isolated from children with diarrhea, antibiogram was performed to study antibiotic resistance pattern with Kirby-Bauer method and with the usage of 14 different antibiotic disks. In the second phase, to confirm phenotypic strains of Extended-Spectrum β-Lactamases (ESBLs) enzyme producer, all the strains were studied with Double Disk Synergy Test (DDST) method. Finally, all the strains were examined to study molecular prevalence rate of Extended-Spectrum β-Lactamases (ESBLs) enzymes coding enzymes with five genes, including CTX-M, SHV, TEM, OXA and ad insertion sequence of ISE-CP1 with PCR technique. Results The performed Antibiogram showed that these strains had the most resistance toward cefpodoxime (97%), trimethoprom (60.7%), tetracycline (58.4%) and ampicillin (45.8%). Multidrug resistance was 68.7 percent. Also these strains showed the most sensitivity toward imipenem, ceftriaxone, and ciprofloxacin antibiotics. The percentage of ESBLs prevalence in EPEC cases with DDST approach was estimated 79.7 %. Also PCR approach showed that different ESBL gene prevalence, including, TEM, SHV, CTX-M, OXA and insertion sequence of ISE-CP1, respectively are, 13.5, 11.9, 10.9, 7.3, and 61.7 percent. Conclusion According to abundant prevalence of multidrug resistant strains among these bacteria it is suggested that unnecessary use of antibiotics be strongly avoided.

Keywords: EnteropathogenicEscherichia coli, Extended spectrum betalactamase, Antibiogram, Antibiotic Resistance, Diarrhea

Incidence of HBS, HCV and HIV in individual referred to laboratory of Imam Ali hospital of Andimeshk city in 2009

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Abstract Background and Aim: Viral hepatitis B, C and HIV infection, have been common diseases during recent decades. Materials and Methods: In this cross-sectional study, 5 ml of the venous blood was drowning and serum was separated during 1 hour. Samples keeps in -20 degree centigrade and tests were done weekly with ELISA method. In all positive samples, the sampling and the test repeated. Results: From 1980 patents that referred to laboratory of Imam Ali hospital of Andimeshk city in 1388 for HBS, HCV and HIV tests, there were 1476 (74.5%) women and 504 (25.5%) men. From 301 men and 1328 women that have HBS Ag positive, 14 (4.65%) men and 29 (2.18%) women have positive for HBS Ag. From 486 men and 205 women that have HCV Ab, 2 (0.41%) men and 1 (0.49%) woman, have positive for HCV Ab. From 127 men and 302 women with HIV test, no positive cases were found. Conclusion: The results of this study, showed that higher incidence of hepatitis B against the hepatitis C and HIV infection in Andimeshk city and help to programmers for preparation of preventing programming in Andimeshk city.

Keywords: Hepatitis B, Hepatitis C, HIV infection, Andimeshk city
Determination of slime Factor production in Coagulase-Negative Staphylococci (CNS) By Microtitre plate and Congo Red Agar Methods

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Introduction & objective: Coagulase Negative Staphylococci (CNS) has an important rule in nosocomial infection. The increasing infection by CNS and their high resistance to routine antibiotic, it is essential to contemplate a strategy for their treatment. CNS in an opportunistic bacterium which is the main cause of catheter contamination of bed-patients specially in dialyzing units. Most of secondary infections are related to these apparatuses which make bacterial slime on their surfaces. Peripheral venous catheters are among the most important factors causing nosocomial infections. The CNS get in to the blood through this way and cause septisemia. Methods: The existance raet of slime factor in different kind of clinic samples of 100 isolated CNS and 50 Coagulase positive staphylococci (CPS) isolates was investigated by using Microtitre plate and Congo Red Agar Metodes in Microbiology Laboratory of Medical faculty of Gazi University. Results: In our study no slime factor was observed in CPS isolates by either four methods. We determined the slime factor production ratios in 100 CNS as fallows: 49% by Microtitre Metod and 50% Congo Red Agar Metod. Conclusion: Statistically, the slime factor production ratios differences determined by two different methods weren’t found to be significant by the X2 test. The Microtitre plate and the Congo Red Agar Methods showed a perfect correlation. In contrast, because the Congo Red Agar Metods has the advantages of the ease of Performing, rapid respondings and the ease of the evaluation, it is the most preferable one in routine laboratories for investigating such characteristic.

Keywords: Coagulase-negative staphylococci, Methods, Slime

Evaluation of ammonia high blood level relation possibility to eating behavior in Cistic Fibrosis (CF) patients

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Abstract children with Cystic Fibrosis (CF) very often experience problematic eating behavior, anorexia, poor adherence to Daily Dietary Recommendations that in addition to being at increased risk for malnutrition may contribute to the hastening in decline of their pulmonary function because of poor growth and adversely affect health outcomes. The objective of this study was to evaluate blood ammonia level in children with CF patients and its possible relation to eating problems in this patients. serum ammonia level was measured in CF patients attending university educational. 20 patients aged from 4 months to 16 years were enrolled in study. several parameters were taken into consideration: nutritional and clinical status, liver enzymatic function studies (albumin, serum transaminase, bilirubin, prothrombin time alkaline phosphatase, γ-glutamyl transpeptidase, glucose) and lung function tests in patients above 5 years. liver function studies and lung function testing were performed in the same day of actual investigation, during the study parents were strictly advised to keep dietary and enzyme therapy recommendation in order to prevent catabolic state. Data suggest the possible correlation between problematic eating behavior and blood ammonia level in CF patients. Multicenter studies should be encourage to confirm these data.

Keywords: Cistic Fibrosis. hyper ammonemia, eating behavior, liver
P171

Synergistic Anticancer Activity of Arsenic Trioxide Combined with Azidothymidine Enhances Growth Suppression in Acute Promyelocytic Leukemia

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Although arsenic trioxide (ATO) is a highly effective anti-cancerous drug widely used to treat acute promyelocytic leukemia (APL), the appropriate effects are achieved in high doses which are not clinically achievable without the risk of various side effects. Due to its toxicity, the clinical use of ATO is dose-limited by its safety profile; therefore several strategies have been developed to enhance the clinical activity of ATO, especially for use in combination therapy. In an effort to enhance the effectiveness of the APL treatment and to investigate the potential therapeutic value of ATO synergism with azidothymidine (AZT), the transcriptional alteration of hTERT, telomerase activity, metabolic activity, growth kinetic and viability index of inhibitor treated NB4 cells were assessed using real-time PCR, telomeric repeat amplification protocol, trypan blue dye exclusion, MTT and BrdU cell proliferation assays. In this study we showed that telomerase activity, DNA synthesis rate, proliferative capacity and viability index of NB4 treated cells reduced in a concentration-dependent manner upon exposure to treatment with ATO (0.5 μM) combined with AZT at 50, 100, 200 μM. Our results also suggest that ATO and AZT acted synergistically and favorable antiproliferative effect of ATO achieved in lower concentrations when integrated with AZT probably through suppression of telomerase activity due to down-regulation of hTERT transcription.

Keywords: APL, Arsenic Trioxide, AZT, Telomerase, Synergism

P172

serologic investigation of toxoplasmosis in patient with myocardium infarction

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introduction toxoplasmosis is one of the important protozoan disease in human named Toxoplasma gondii which can affect infected human depend on situation or sex of patient. necrosis is one of the lesions seen in tissue cells including heart cells. so the aim of presented study was to determinate the infection rate of this disease in persons who had recent myocardium infarction (MI). material and methods in this study 60 in-patient persons with recent MI were bleeded and sera were kept at -20 for serological investigation. for comparing data sera were collected from 60 volunteers. sera were analysed with indirect ELISA. Results and discussion results of the ELISA revealed that in patients with recent MI history sera prevalence of Toxoplasma gondii was 71.6% (43 of 60) whereas in control group was 35% (21 of 60) whith reveale that there is a significant statistical difference. this study showed that maybe T.gondii has effects on MI. it is clear that this study was a primilary study and more investigations are needed.

Keywords: Toxoplasma gondii, myocardium infarction, serology.
P173

**Compare rates and causes of decline and increase the microscopic detection of tuberculosis in health laboratories in the Mazandaran University of Medical Sciences, 87, 88, 1389**

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Abstract Introduction: history of tuberculosis can be as old as humanity. It also refers to the white plague and tuberculosis disease in Western books (tuberculosis) and briefly refers to TB. About 2 billion people currently infected with TB germs, and 20 million people are infected with TB. World Health Organization estimates that more than half the world population are infected with Mycobacterium tuberculosis and about 3 million or more annually lose their lives. Since 1990 the annual number of TB has increased between 20 until 30 thousand new cases of TB are identified. Given the importance it had on the causes of disease and reduce and increase health laboratory diagnostic samples sent to our reviews. METHODS: The population under Mazandaran University of Medical Sciences of years 87, 88 and 89 respectively, the number 6946, 7131 and 9639 sputum samples for microscopic detection of the network under the Central Health Laboratory Mazandaran University of Medical Sciences, added that the preparation and staining method of positive and negative cases were diagnosed as simple as Ziehl–Neelsen stain. Results: After staining and recognition microscopic positive cases years of 87, 88 and 89, respectively, 212, 154, 374 TB cases reported in. the Centre Province lab, was approved Conclusion: The study was conducted over three years, Number of positive cases in 88 years has been less than two years 87 and 89. Given the importance, through active monitoring and surveillance, tuberculosis ward checklist, The problems related to the following conclusions reached ,Identify the most important causes of loss in 88 years. 1 - change the personnel performing the tests in some cities, 2 - reduction in staff motivation to work in difficult conditions than other parts of the lab, Demonstrate the technical staff in the sector and increase motivation with regard to overtime and work done by a written certificate of appreciation, Resulted in increased diagnosis was 89 years.

**Keywords:** TB(tuberculosis), Ziehl–Neelsen stain, microscopic
Evaluation of Specific T cell Response to Mycobacterium tuberculosis by Using ESAT-6 and PPD Antigens in Elispot Assay

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Introduction: Tuberculosis is diagnosed by culturing on media but it is a time consuming procedure. PPD skin test can also be used but it has low sensitivity and specificity and contains False positive and negative results. On the other hand in the BCG vaccine and many non tuberculosis mycobacterial species, PPD antigen is present. So finding an alternative test is necessary. Tests based on INF-g secretion of T cells are developed. Elispot in one of them that has a high sensitivity and specificity. CEF-10 and ESATS-6 are antigenic protein with low molecular weight. These antigens are encoded in RD1 region of M. tuberculosis and are more specific than PPD. These antigens are not showed with BCG vaccine and many NTM species. Elispot test can also detect latent infections. Method: In the present study, blood sample were done on 30 patient, 22 suspected individuals and 22 normal individuals. 2 x 105 lymphocytes were separated from the blood samples and then stimulated with PPD and ESAT-6 over night. The frequency of INF-g producing alls was assessed by Elispot test the stimulated cells at the bottom of microplate appear as a black spots after processing and were counted by stereomicroscope. The amount of INF-g in the supernatant of culture media because of ESAT-6 Ag stimulation was assess by Elispot for various group. Results: Results showed significant difference between the spots produced by ESAT-6 stimulation in patients and suspects, patients and normal groups and suspects and normal groups, but there was no significant differences between patients and healed people. In the patients group, the stimulated lymphocytes by ESAT-6 in four cases (13.33%) did not produced INF-g or if was so low that ELISA could not detected whereas Elispot results were positive in them. This finding showed the superiority of Elispot to ELISA in this regard. Conclusion: The results of this study showed that the immune response to mycobacterial antigen can be detected in the early stage of infection and we suggest that Elispot test should be used in mycobacterial reference laboratory instead of traditional tests.

Keywords: M.tuberculosis, ESAT-6, Elispot test
P175

Comparison of PCR method with the Routine Procedure for Diagnosis of Tuberculosis

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Introduction: Tuberculosis is one of the most prominent health problems in the world, causing 1.75 million deaths each year. Rapid clinical diagnosis is important in patients who have co-morbidities such as Human Immunodeficiency Virus (HIV) infection. Direct microscopy has low sensitivity and culture takes 3 to 6 weeks. Material & Methods: During 22months (Mar2010-Jan2012) study out of 10402 samples from TB suspects attending the Mycobacteriology laboratory of Pasteur institute, 556 samples were examined by AFB smear, culture, and PCR using standard methods. Results: Out of 50 PCR positive samples 8 cases had both positive culture and positive direct smear, 7 samples had positive culture with negative direct smear , 2 had negative culture with positive direct smear and the 33 cases had both negative culture and smear. Conclusion: The majority of previous studies have reported PCR sensitivities ranging from 77% to 95% and PCR specificities of 95% in smear-positive specimens. The strategy of comparing rapid techniques, such as PCR, to standard techniques, such as AFB smear/culture could improve the quality of diagnosis and reduce delayed identification of mycobacterial infections. According to our results although the AFB smear and culture methods presented the highest performance for TB diagnosis, AFB smear and PCR test showed a similar sensitivity suggesting that this strategy may offer improvement for ruling out TB diagnosis especially among HIV infected individuals, where it is critical to specific treatment and a delayed diagnosis can be lethal.

Keywords: Mycobacterium tuberculosis, PCR, direct smear

P176

Detection of katG Ser315Thr and Arg463Leu substitution from patients in northwestern of Iran with isoniazid-resistant Mycobacterium tuberculosis by PCR-RFLP method

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Introduction: Mutations in the katG locus of catalase peroxidase in Mycobacterium tuberculosis (MTB) account for major isoniazid (INH) resistance. The two predominant mutations of katG, and those most referred to, are found within codons 315 and 463. In this study we used PCR-RFLP approach for screening of common mutation in KatG gene (315, 463 loci) for detection of INH resistance. Materials and Methods: A total of 25 susceptible and 25 isoniazid resistant Mycobacterium tuberculosis isolates were subjected to study. Extracted DNA from Mycobacterium tuberculosis isolates was subjected to amplify the KatG gene region by using specific primers. Then the PCR products were digested with MspI restriction endonuclease in order to detect the mutations in that region. Results: Our findings showed that 25 INH-sensitive M. tuberculosis strains had no mutation in the KatG gene. Among 25 INH-resistant isolates, 14 strains (56%) showed mutation in the KatG315 and 5 strains (20%) showed mutation in the KatG 463 loci. Six resistant isolates (24%) had no mutation in the studied loci. Mutation in both 315 and 463 codons were not found in any isolates. Conclusion: The result of this study revealed that mutation at codons 315 and 463 of KatG gene is responsible for INH resistance in 76% of M. tuberculosis strains in northwestern of Iran. The result also indicated that PCR-RFLP method can be used for rapid diagnosis of INH-resistant tuberculosis in most cases.

Keywords: Keywords: Isoniazid Resistance, Kat G, Mycobacterium tuberculosis, PCR, RFLP
Smear microscopy and culture conversion rates among smear positive tuberculosis patient in Pasteur institute of Iran

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Objectives: According to the World Health Organization, about 8.8 million individuals develop active TB disease and 1.6 million die from TB every year. However, because mycobacterial culture requires the long turn-around time, the simpler and easier acid-fast bacilli (AFB) smear is used widely in the diagnosis and evaluation of TB treatment responses. The aim of this study was to determine the incidence of samples with positive AFB smear but negative mycobacterial culture. Methods: All samples that visiting mycobacteriology laboratory in Pasteur institute during 22months (Mar2010-Jan2012) in Pasteur institute of Iran with positive AFB smear were included in this study. We checked the results of the mycobacterial culture of each sample that was positive in the AFB smear. Results: Out of 198 patients with positive AFB smears, 114 (57.6%) were positive for MTB culture and 79(39.9%) failed to culture any organism and the others were atypical Mycobacteria. On the other hand out of 258 culture positive patients, 131(50.8%) had negative AFB smears. Although some of these results may cause by technical failure, low bacilli count samples , and use of drugs before the test ; the possibility of non-Mycobacterial acid fast bacilli with similar smear should be considered. Clinicians should interpret these results cautiously in the context of the patient’s clinical characteristics, radiographic findings, and grade of smear positivity. Although the conventional technique of direct smear examination with Ziehl-Neelsen staining (ZN) is cheap and easy to perform, its low sensitivity is a major drawback. Depending on the number of specimens examined, ZN detects 30 to 60% of the culture-positive TB suspects

Keywords: Mycobacterium Tuberculosis, direct smear, culture

Using of PCR-RFLP method in rapid identification of atypic Mycobacterium spp from Mycobacterium tuberculosis complex

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Introduction: Atypic Mycobacterium are saprophyte pathogens responsible for respiratory and skin infections and lymphanitis and etc. Conventional methods to identify Mycobacterium takes 6 to 8 weeks so treatment is difficult because not only they are resistant to a range of antibiotics but also it is difficult to differentiate them from Mycobacterium tuberculosis.Hence its rapid detection is important for treatment. since this method is a genotypic method, it is faster and more accurate than phenotypic methods. method: Atypic Mycobacterium Samples isolated from patients referred to the mycobacteriology section in Pasteur Institute of Iran in year 90 were analyzed by biochemical methods such as growth rate, The Colony, Pigment production and etc. Simultaneous identification of these strains were carried out with PCR-RFLP(PRA) method. At first a 644 bp region of Heat Shock Protein 65(hsp65) was amplified with PCR method. Then PCR product was digested by restriction enzyme Ava II. result: Total of approximately 4700 samples were cultured until Dey 90, 10 atypic mycobacterium were recognized by biochemical methods. using the standard algorithm, 6 groups were identified by PRA method. Atypic groups identified include M.phlei-M.chita-M.nonchromogenicum-M.aichiensi. to identify other cases through standard algorithm, other restriction enzymes should be used. conclusion: The results showed PCR-RFLP(PRA) by using Ava II enzyme is a simple, fast and accurate method for general grouping of atypic mycobacterium from TB and identification of Mycobacterium isolates at the species level. So by reducing the detection time can make a substantial contribution in the treatment of mycobacterial infections.

Keywords: rapid identificatin,atypic mycobacterium
The Prevalence of M. Tuberculosis Infection Among HIV Positive patients in Sanandaj, Iran

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Background: HIV associated tuberculosis (TB) remains a major global public health challenge. Although HIV-related tuberculosis is both treatable and preventable, incidence rates continue to climb in developing nations where HIV infection and tuberculosis are endemic and resources are limited. This study was performed to determine the HIV+ seropositive individuals with Mycobacterial infection referring to Center for Counseling and Behavioral Modification in Sanandaj, IRAN. Methods: at 1389, 130 HIV-positive individuals who controlled by Center for Counseling and Behavioral Modification in Sanandaj, were enrolled. At 1389, 130 HIV-positive individuals who controlled by Center for Counseling and Behavioral Modification in Sanandaj, Iran were enrolled. HIV tests included ELISA, western blot and P24 antigen tests, and the tests used for M. tuberculosis infection were Mantoux test (PPD skin test), chest x-ray, Direct testing of sputum smear, Ziehl-Neelsen technique and cooper modification, culture in Lowenstein-Jensen & middle brook medium. Results: 22.55% of HIV-positive individuals had a positive Mantoux test, among whom 16.66% (5) showed active tuberculosis infection and 83.33% (25) 10% (13) of HIV positive patients had active tuberculosis including extrapulmonary types 46.15% (6) and pulmonary 53.84% (7). Among 6 patient with extra pulmonary tuberculosis, 3 of them (50%) had TB lymphadenitis, 1(16.66) TB meningitis, 1(16.66) TB peritonitis and 1 (16.66) had osseous tuberculosis. Conclusion: patients should be regularly screened for tuberculosis. when evaluating HIV infected patients with nonspecific clinical findings in TB high prevalence areas, physicians should consider mycobacterial infections. Early recognition of latent tuberculosis infection and adequate chemoprophylaxis seem to be essential too.

Keywords: HIV, M. tuberculosis, Prevalence, Iran
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