Laboratory & Diagnosis

Official Journal of Iranian Association of Clinical Laboratory Doctors

Vol. 4, No. 18, Supplement Issue April 2013

CONGRESS ABSTRACTS

Iranian Association Of Clinical Laboratory Doctors

National Reference Laboratory

Iranian Association Of Clinical Laboratory Specialists

Laboratory & Diagnosis

Official Journal of Iranian Association of Clinical Laboratory Doctors

Circulation:
3000 copies

Address:
No.29, Ardeshir Alley, Hashtbehesht St., Golha Square, Fatemi Ave, Tehran 1414734711 – Iran.
Telefax: (+98 21) 88970700

Message of Congress Chairman

Behzad Poopak, DCLS, PhD

At first I would like to thank all of our colleagues who help us in previous congresses and now after gaining valuable experiences and reviewing over benefits, there is a new chance to provide the 6th international & 11th national congress on Quality Improvement in Clinical Laboratories 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 our colleagues who are involved in various fields of clinical laboratories either in Iran or abroad consider taking part in this scientific congress and giving us the chance to take advantage of their knowledge and experiences.

Message of Congress Secretaries

Dr. M. R. Bkhtiari
DCLS, PhD

While we are not too far from the year 2020, the clinical laboratories have to take longer steps in order to reach the agreed strategic point. It is supposed that 70 to 80 percent of health and medical decisions and 100 percent of the decisions in the area of epidemiology of prevalent diseases to be made based on the results obtained in the clinical laboratories. To this end, the laboratories have to be sufficiently and properly prepared and must have an all-embracing and deep look on the health sector, in terms of technology and invention of the methods that are more accurate and precise and faster in interaction with the clinical sector.

Dr. A. Sadeghitabar
DCLS

In the quality improvement congress, we are planning to make neces sary arrangements to path the way by supplying parts of the intellectual needs and scientific backings. Although in the eleventh congress, due to time limits and a wide range of issues, there is not enough opportunity to raise all disciplines, but we will try to cover the major problems and the issues affecting the laboratory community and our dear colleagues like an uninterrupted chain in a mid-term outlook until the horizon 2020.

As our valued colleagues and researchers, your active participation in this forum which is a good location for exchange of viewpoints and conflicting ideas, is undoubtedly a powerful capital for achieving the aforementioned goals. Hope through the all-inclusive cooperation of the professors, mentors and researchers, the laboratory section will witness an immense and magnificent congress, suitable for Iran's laboratory community.

Dr. M. J. Gharavi
PhD

Another important noteworthy issue is that we have decided to kick off a new festival, titled "Jorjani Festival", in the same manner as such valid festivals as Khawrizmi and Razi, which are held to grant awards to the best scientific-technologic and medical projects, respectively, through which we can organize an annual ceremonic in order to mark the selected laboratory achievements and respect those people who have served the state laboratory community.

It is hoped the achievements of all people who try hard in order to achieve the above goals are accepted both by God Almighty and you. We welcome you in the congress and the Jorjani Award Festival.

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ABSTRACTS

The 6th International & 11th National Congress on Quality Improvement in Clinical Laboratory

Oral Presentations

Iranian Association of Clinical Laboratory Doctors

Accreditation and Quality Assurance O1 - O15

Establishment of a national medical laboratory accreditation system initiated since October 2007 by compilation and distribution of National Medical Laboratory Standards in accordance with international reference standards and followed by organizing several training workshops on Quality Management targeting administrative and technical directors addressing. Given the important role of audit in accreditation process and necessity of conducting the assessment by trained and qualified professionals, training of staff of Medical Laboratory Affairs Department, at each Medical University, planned simultaneously.

However, after more than 5 years from the step-by-step implementation of the national system, evaluation of the strengths and weaknesses is of great help to the authorities in addressing the current challenges and to improve. On this basis, the Health Reference Laboratory, MOHME, in collaboration with the Information Management School of Tehran University of Medical Sciences, plans to evaluate the quality of implementation phase through a survey of the direct beneficiaries and stakeholders, such as auditors at Medical Laboratory Affairs Department and Laboratory Directors, to collect their views to be used in future policy making.

Dr. S. Mirab Sameeie, DCLS, PhD

O1

Accreditation from auditor and auditee points of view

Soghra Anjarani 1

1-Laboratory Quality assurance and Accreditation management office, Reference Health Laboratory, Ministry of Health and Medical Education
anjarani@health.gov.ir

Accreditation of medical laboratories to the new style began about five years ago. After this period, Auditors and auditee (medical laboratories) points of view about the accreditation process is summarized as follows: Auditor's views: - Promoting the positive effects of high quality laboratory services- Improving the competitiveness of the private sector - Needs more attention to the technical issues - A appropriate behavior of laboratories who are eager to enhance the quality and inappropriate behavior in the group that are not interested in quality issues. - need more special training in auditing to audit - Increased power management, perseverance and cooperation in Auditors - Positive and critical role of the health reference laboratory in accreditation - Granted accreditation to the associations is not successful, because they have Canniness.Auditee's view: - Increased promotion of quality laboratory services - Experiences and perspectives auditors in upgrading laboratory - The negative role of inexperience and inappropriate behavior of some auditors - Advance slow process due to the high cost in private sector and inadequate. number of competent staff in the public sector with interaction in accreditation - Damage to the accreditation process due to the same lack of vision Auditors (strictness or negligence) - The need to begin the gradual transfer of accreditation to associations. Naturally, attention to the views of respondents of accreditation as Auditors and auditee for policy implementation is essential.

O2

Integration of Medical Laboratory Technology Management in National Medical Laboratory Regulatory Authority (RHL); A promising approach to respond appropriately to an essential need

Siamak Mirab Samiee 1 * , Fariba Sabzavi 1 , Mahdi Rafiee 1

1-Reference Health Laboratory, Ministry of Health and Medical Education
samieai@health.gov.ir

Physicians and providers of medical care to diagnosis and provide appropriate care need information produced by doing diagnostic laboratory tests. It is estimated that more than 70% of medical diagnoses are based on the results produced in medical laboratories. More than 60% of the information gathered in the patient's medical record is result of these experiments. Correct and appropriate diagnosis depends on the quality of laboratory services and this is considered the most important evidence on the criticality of in vitro Diagnostics, an essential pillar in diagnostic laboratory. Today, IVD management is one of the main elements of the laboratory's quality management system. Emphasize on compliance with the requirements is mandated by, both, national and international medical laboratory standards. Commitment to continuous improvement in quality and efficiency of laboratory services and preventing wastage of resources, from one side, and pressure of asking for health care cost reduction, from another side, put implementation of an efficient "IVD and related issues management" at the attention center of, both, service provider laboratory and health system top management. From the economic point of view this is an uncontroversial correct approach, too. Considering multiplicity, diversity and non-stop evolution of technologies recruited in medical laboratories and noting ever-growing list of IVDs, integration of laboratory technology management and all pertaining tasks into the national medical laboratory regulatory authority (Reference Health Laboratory, MOHME) is a promising strategy to make benefit from using the highest technical and professional capacity available in Ministry of Health and Medical Education along with Medical Laboratory System nationwide to respond appropriately to one of the most important needs of health care system.

O3

Laboratories and Reference Health Laboratory Quality Award

Parisa Dahim 1

1- Laboratory Quality assurance and Accreditation management office, Reference Health Laboratory, Ministry of Health and Medical Education
pdahim@yahoo.com

In year 2007 implementation of national medical laboratory standards became mandatory in medical laboratories and laboratories obligated to implement standard requirements in next two years until the year 2009. Concomitant, the idea of dedication Quality award to laboratories which were pioneer in standardization formed in reference health laboratory authorities mind to motivate laboratories for implementing laboratory standards. Now after passing 5 years from laboratory standardization, only 17 medical laboratories through whole country were successful to get this award. Reference Health Laboratory and laboratories challenges related to Quality award and why laboratories don't have enough motivation for getting this award will discussed in "Laboratory Quality assurance and Accreditation panel.

O4

Accreditation and Upgrading Medical Laboratory Standards

Nooshafarin Safadel 1

1-Head of Laboratory Quality assurance and Accreditation management office, Reference Health Laboratory, Ministry of Health and Medical Education
nsafadel@yahoo.com

Establishment of the National Medical Laboratory Accreditation System, succeeded through dedication and efforts of medical laboratory society countrywide, is one of the greatest achievements of our health system over the past few years. Enhancement of such a system, principally, occurs through the promotion of four essential components; "Accreditation body/agency ", "Standards", "Assessors/Auditors" and "Medical laboratory". In this regard, Reference Health Laboratory, MOHME, has adopted policies and action plans scheduled to run step by step and including Training and periodic performance evaluation of auditors, a survey of laboratories to analyze the challenges of implementing evaluation process, participation of the Scientific Associations in organizing the accreditation agency for medical laboratories and promoting national laboratory standards. with the aim of continuous quality improvement and to update the quality system standards (notified 6 years ago for the first time), upgraded version of the national standard will be published this year. The new version, from the "structure and content" point of view, will be more similar to the latest version of ISO 15189, international standard for Medical laboratories — Particular requirements for quality and competence, and the related checklists will be revised accordingly. In this respect the process of accreditation and evaluation of the competence of laboratories in the country will become more compliant with the regional requirements as well as International Health Regulations (the regulations that MOHME is committed to compliance).

O5

The Future of Quality Control for Clinical Laboratories: Risk Management

Akbar Mlaekpour

amalekpour@cox.net

Clinical laboratory Standard institute (CLSI),published three documents, Ep 18, Ep 22 and E p 23 and provide a introduction of clinical laboratories to develop quality control plans based on Risk management from ISO 14971: 2007. ISO document was written for industrial and manufacturer companies. The CLIS documents provide risk management guidelines for medical laboratories and medical device manufacturers. These efforts reflect ongoing trend toward placing a greater focus on the patient throughout all areas of the health care enterprise, including clinical laboratories. The CLSI Documents includes Ep 18, Ep 22 and Ep 23 which provide a foundation of clinical laboratories to develop quality control plan based on risk management. The CLSI Ep 18, risk management technique to identify and control laboratories error sources, risk analysis and risk monitoring, reporting, analysis and corrective action. The CLSI EP ,22 present of manufacturer's risk mitigation for users of in vitro diagnostic devices, provide guideline to manufacturers on the establishment and disclosure of information they might choose to share with user. The CLSI, 23, provide guidance based on risk management for laboratories to develop quality control plans based on measuring system, laboratory setting and clinical requirement of the test.

Iranian Association of Clinical Laboratory Doctors

Ethics and Rights (mutual Rights) O6 - O8

For many years, various medical institutes such as laboratories offer diagnostic and Health services in the context of non-written unofficial contracts with various qualities and quantities. In fact (However), in the relation between patients and these institutes, there is no defined and enacted criterion being understandable for the public, or it is not clearly described and broadcasted by those public media which are mostly referred by a society.

Patients rights and of course their limitations in obtaining social services especially in the field of diagnostics and therapeutics, which its results influences the greatest human asset (their lives), requires redefinition, reconsideration and reenactment.

These defined andR ights and limitations must be also extended to the above mentioned institutes. In other words, both provider and recipient of services must be aware of their rights and limitations.

This definition could be substantiated on the basis of international laws which are accepted by world organizations and also civil laws and the Islamic laws which are the source of legislation. Each of these three references has their own specific definitions and probably numerous similar or different ideas in some fields.

The present meeting is going to invite both the experts of the field of laws and ethics, and also the laboratory specialists to a challenging discussion in order to give a proper answer to the questions and ambiguities of diagnostic centers about the reciprocal rights.

Dr. M. J. Soltanpour, DCLS

O6

Informed consent in clinical laboratory

Majid Reza Khalajzadeh *

ajidkhalaj@yahoo.com

Informed consent is prerequisite for any kind of medical interventions. Clinical laboratories in iran based on laws and regulations are considered to be medical centers. So it is mandatory that patients reffered to clinical labs should give consent before taking samples. Although some labs take consent before sampling and interventions, but it seems that most are unfamiliar with it. In this paper we are going to describe how important is acting according to the consent of patient in clinical laboratories, some aspects of consent in special groups and finally a suggestion about consent in iranian labs based on different levels of invasiveness of procedures performed.

Keywords: Consent, Clinical Laboratory

O7

Patients\' Rights in Iranian Clinical Labratories

Ehsan Shamsi Gooshki 1 * , Mahmoud Abbasi 1

1- Iranian Research Center for Ethics and Law in Medicine
ehsan_shamsi2000@yahoo.com, dr.abbasi@sbmu.ac.ir

About 3 years ago new Iranian patients' rights charter was notified by the ministry of health and medical education. This charter encompasses 3 main parts which together try to describe various rights of patients in clinical and health settings including the right of patients for receiving acceptable medical or health service, the right of patients for receiving enough and useful information and the rights of patients for decision-making free of coercion. In each part the charter gives some more details and general guidelines. On the other hand use of these guidelines in different sections of health system requires more deliberation for determining practical examples and cases in each setting. In other words, although general norms of protecting patients' rights are similar in various sections of health services, clarification of especial norms for each setting may result in better protection for these rights and also more preventive safeguards against incorrect interpretations and less ethical problems. This article will try to explore the specifications of general patients' rights in laboratory setting which could be a basis for developing the ethical code for clinical laboratories in Iran.

Keywords: Patients\' Rights Charter, Professional Ethics, Clinical Laboratories

O8

The Challenges of Compliance with Bill of Patients\' Rights in Medical Laboratories

Mahmoud Javid * , Fariba Ghadyani

dr.javidm@gmail.com, ghadyani.fa@gmail.com

Establishing quality management systems in medical laboratories is not plausible unless human dignity rights of the patients referring to medical laboratories are paid more attention. This study aimed to provide a clear picture of the current state of observing human rights of patients referring to medical laboratories, and also to present challenges of establishing the system. To achieve this goal, the questions at four levels were designed as follows: 1- To what extent does the participants of the present study have knowledge about the provisions of the bill, theoretically? 2- What are the participants' views on practical aspects of the bill such as "the right of patients to receive appropriate laboratory services, respecting the personal privacy of clients, access to effective system of handling complaints, etc."? 3- What are the participants' overall views about the current state of observing clients' rights referring to medical laboratories? 4- Is there any significant difference between the views of the heads and of the staff of the laboratories on the issue in this study? Methodology: Using a questionnaire and a quantitative research design, the present study was conducted. The questionnaire included a survey to determine the extent to which the participants have knowledge about the provisions of the bill related to patients referring to medical laboratories and about observance of the five principles of the bill. Thirty heads and one hundred staff of the medical laboratories as well as one thousand of the patients referred to the medical laboratories available to the researcher were participated in the present study. Results: The results of the study showed that most of the participants had no knowledge of the content of the bill, theoretically. However, their overall views show that the patients' rights were respected in the medical laboratories. In practice, most participants believed that the provisions of the bill had been observed in the medical laboratories. Thus, there were no significant differences between these two categories of views. Nevertheless, respecting personal privacy of the patients and also having their own choice of medical laboratories were the challenges of the present study as a remedial plan needs to be done on the clients' rights referring to medical laboratories.

Keywords: Bill of Clients\' Rights, Medical Laboratories, Challenge

Iranian Association of Clinical Laboratory Doctors

Family Practitioner and Referral System O9

O9

Family Physician Project and Iranian Health System

Mohammad Javad Gharavi , Farid Karami , Abdalrasoul Sedaghat

gharavi_m_j@yahoo.com

Establishing a new health system in a big country like Iran requires taking many backgrounds into considerations. The first and most important problem is gaining an understanding of the structure and function of current Iranian health system because any disorganized, unnecessary and inappropriate interference to an established health system may eventuate to unpredictable or even catastrophic results. Iranian health system is the result of contradictory decisions made by different persons in charge in different governments and in different situations. The result of these contradictory decisions is a unique health system which is not resemble to other health systems in the world. Establishing Family Physician Project and Health Referral System in a country needs two preliminary conditions. The first is the necessity of high health services fees in private section (outside the referral system) which are beyond most patient's financial abilities and in this condition patients have to remain loyal to the referral system. The second condition is the feasibility of receiving appropriate and high quality health services inside the referral system. None of these conditions exist in the current Iranian health system. The health services fees in Iran is so low which many people can afford out-patient costs even with ever-increasing out-of-pocket. In the other side, the proposed referral system is based on governmental and social welfare system feasibilities which are not competent to respond every day increasing patient's demands. The other main problem of Iranian health system is the lack of authority. Different parts of the ministry of health act separately without any organized planning for the increasing patient's access to medical services. For example in the field of medical specialty training, there is no coordination to the current health system needs and to issue new private health service organization, there is no planning for coverage of deprived parts of the country. The proposed Family Physician Project is not compatible with current Iranian health system and can not be established in Iran because:

The project offers no reasonable plan for decreasing patient's out-of-pocket.
It ignores practicing medical specialists who engage and handle the main load of clinical diagnoses and treatments.
The project is silent about the prevention, diagnosis and treatment of cancer as one of the main health problems.
The project is based on governmental and social welfare feasibilities which are not competent for responding people demands.
The proposed fees for buying services from private section are beyond the economical realities.
The project is utopian especially about the ability of general practitioner working as family physicians.
If Iranian government forces to establish the proposed Family Physician Project the following negative results will occur:
Destruction of basic medical welfare system
Causing more difficulties to access to special medical services
A negative impact to cancer diagnosis and treatment
A negative impact to neonatal medical care
A negative impact to special medical care of chronic illnesses like diabetes, rheumatic diseases and etc.
Closing of many clinical laboratories, radiologic centers and etc.
Diminishing interests of genius students to get into medical schools.

Iranian Association of Clinical Laboratory Doctors

Laboratory and Clinic: Laboratory and Eye Infections O10 - O11

Ocular infections are one of the most common problems affecting the eyes and any micro-organisms capable of gaining entrance to ocular structures can cause disease. Eye infections range from the relatively mild, self-limiting episodes of conjunctivitis and blepharitis to the more severe and sight-threatening conditions of keratitis and endophthalmitis. Contact lenses are major risk factor for microbial keratitis. Serious ocular infections can cause permanent vision loss very quickly.

Laboratory diagnosis of ocular infectious disease and detection of antimicrobial resistance in infectious agents depend on knowledge of the site of infection and the severity of the process, because a variety of microorganisms cause infections of the eyes. The distinction between indigenous microbiota and ocular pathogens is blurred.

Most eye specimens are collected by an ophthalmologist. Smears and cultures should be collected in all cases. Scrapings are collected using a Kimura spatula or blade. Aspirated anterior chamber or vitreous fluids, scrapings and swabs are inoculated onto fresh culture media.

Molecular techniques, especially PCR, is presently the most desirable test for viral diagnosis and detection of microorganisms that are difficult to culture or that take long time to grow. PCR is a rapid, reliable and sensitive tool for the diagnosis of bacterial and fungal endophthalmitis . PCRs are used for the diagnosis of viral retinitis.

Main Topics and Issues to Consider;

Endophthalmitis: Acute Post Operative, Delayed Onset, Traumatic,Fungal, Endogenous, Bleb Associated, Toxcoplasmosis, Acute Retinal Necrosis (ARN), Cytomegalovirus Retinitis (CMV)

Acute & Chronic Dacryocytitis, Canaliculitis

Preseptal and Orbital Cellulitis

Keratitis, Corneal Ulcer: Viral, Bacterial, Fungal

Laboratory Diagnosis of Fungal Infections of the Eye

Laboratory Diagnosis of Parasitic Infections of the Eye

Laboratory Diagnosis of Viral Infections of the Eye

Laboratory Diagnosis of Bacterial Infections of the Eye

Dr. B. Valizadeh, DCLS

O10

Laboratory Diagnosis of viruses in Ocular Infections

Masoud Parsania 1 *

1-Microbiology Department, Tehran Medical Branch, Islamic Azad University
masoud_parsania@yahoo.com

The most common viral infections of the external surfaces of the eye and conjunctiva are adenoviruses and herpes simplex virus. Some viruses such as varicella zoster virus, Enterovirus type 70, Coxsackie virusA24, Influenza A, Molluscum contagiosum virus, cytomegalovirus, and Human Papilloma virus are important viral agents causing eye infections in human. Specific therapy of ocular infections often requires etiological diagnosis that is a combined effect of observation of characteristic clinical features and laboratory diagnosis. There are five major methods for identification of virus infections: direct observation, antigen detection, culture, serology, and molecular diagnostics. Characteristic cellular changes can sometimes be identified as, for example; the multinucleated giant cells indicate herpetic infection. Antigen detection tests based on immunofluorescence (IF) assay are used for detection of herpes simplex virus infections and other viruses. Viral cultures are used for cytomegalovirus (CMV), herpes simplex virus, and varicella-zoster virus however, the procedure is slow, expensive and not always sensitive. Antiviral IgG titers are not very useful for confirmation of eye viral infections. PCR has a very high sensitivity and specificity for detection of the common viral pathogens. Many developments in PCR technology have improved specificity and the time taken to perform assays, including multiplex nested PCRs, real-time PCR.

Keywords: Laboratory Diagnosis, Methods, Ocular Infections

O11

Laboratory Diagnosis of Fungal Eye Infections

Mohammad Ghahri 1 *

1-IHU - college of Applied Sciences- Department of Biology
ghahri14@gmail.com

Blood-borne fungal infections of the inner eye remain an uncommon but serious cause of ocular inflammatory disease. The incidence may have increased in recent years because of several factors including the increasing number of immunosuppressed patients receiving aggressive antineoplastic and other therapeutic regimens, organ transplant patients, as well as the use of newer, potent broad-spectrum antibiotics that reduce normal flora. Patients with AIDS and patients with a history of intravenous substance abuse also contribute to the increased risk for endogenous fungal endophthalmitis. The metastatic infection may involve only the choroid and retina (as in localized fungal chorioretinitis), may progress into the vitreous or anterior chamber fluids (fungal endophthalmitis), or may involve all ocular tissues (fungal panophthalmitis). A variety of fungi have been reported to cause endogenous intraocular infection, but by far the most common is Candida species. Candida albicans is the most common yeast isolate, Candida infection should also be suspected in patients who have undergone recent gastrointestinal surgery, or in the presence of indwelling venous catheters and prolonged antibiotic therapy. Aspergillus is the second most common in reported series. Endogenous fungal endophthalmitis should be considered in the differential diagnosis of progressive intraocular inflammation of unknown cause in persons predisposed to systemic fungal infection. Persons at higher risk include immunocompromised and debilitated patients as well as intravenous drug abusers. Because certain fungi, such as C. immitis and H. capsulatum, are more common in specific areas of the world, a higher index of suspicion for these infections should be maintained when patients live in or have recently visited these endemic areas. In some cases of endogenous fungal endophthalmitis, the diagnosis is made based on the presence of known systemic infection; in other cases, the diagnosis can be determined only by evaluating intraocular fluids. The eye may be the organ most accessible to obtaining infected material, which may be useful in determining the cause of an unknown systemic infection. All specimens for mycological examinations; including biopsy, fluids, and scrapings should be obtained by experienced ophthalmologist and Mycology examinations should be performed by educated and experienced technician.

Keywords: Mycotic Keratitis, Endophthalmitis, Fungal Infection, Occulomycosis

Iranian Association of Clinical Laboratory Doctors

Laboratory and Clinic: Antiphospholipid Syndrome O12- O15

Antiphospholipid syndrome (APLS) is an autoimmune disease. It is defined by the persistent presence of antiphopholipid antibodies (APLA) in plasma of patients with vascular thrombosis and/or pregnancy morbidity.

Today, the clinical features and laboratory manifestations associated with APLA have considerably broadened, besides the thrombosis and abortions, including thrombocytopenia, haemolytic anaemia, cardiac valve disease, pulmonary hypertension, nephropathy, skin ulcers, migraine, cognitive dysfunction and atherosclerosis. Because of its variable clinical presentation, patients with antiphospholipid syndrome refer to a variety of medical practitioners.

Diagnosis of APLS is made when at least one of the two clinical criteria (vascular thrombosis or pregnancy morbidity) occurs in a patient whose laboratory tests for APLA are positive.

In patients with thrombosis or pregnancy complications, a persistently positive antiphospholipid antibody including lupus anticoagulant test (LA), anticardiolipin antibodies (ACLA), and anti-beta glycoprotein I antibodies establishes a classification of definite antiphospholipid syndrome.

The relevant antibodies found in APLS are directed against specific plasma proteins that possess an affinity for anionic

phospholipids, such as beta glycoprotein I (b2GPI) and prothrombin. APLA can be categorized into those antibodies

detected by solid-phase enzyme-linked immunosorbent assays (ELISA) such as anticardiolipin antibodies, antib2GPI antibodies or those that prolong phospholipid-dependent coagulation time, the LA.

Related to the two aspects of APLS, thrombus formation is the key event in vascular manifestations in APLS, and many pathogenic mechanisms have been proposed to explain the thrombotic predisposition in this syndrome.

In a clinical setting, we face several challenges:

First, APLA in individual patients may vary over time, though how much spontaneous variation occurs is unknown.

Second, it is also unknown whether any variation that does occur reflects autoimmune disease activity, drug treatment, or interlaboratory differences.

Third, interlaboratory correlation among some APLAs results (eg ACLA) is not well established.

This year in the Clinics & Lab- session of Immunology and Autoimmunity, we are going to review the issue from basic to lab to clinic, and introduce this complicated and challenging syndrome, and provide laboratory and clinical principles for the diagnosis and management of affected patients.

Dr. M. M. Mohammadi, DCLS, PhD

O12

Immune Reactions against Phospholipids and APL antibody production

Eisa Salehi 1

1-Tehran University of Medical Sciences
eisalehi@gmail.com

Anti-phospholipid syndrome (APS) is a multifactorial autoimmune disorder which both environmental and genetic factors have immense role in its pathogenesis. Anti phospholipid antibodies (aPls) are the important serological features of (APS). aPLs are heterologous group of antibodies directed against plenty of molecules including phospholipids (PLs), PL–protein complexes and PL-binding proteins. Cardiolipins and B2GPI are the main antigenic targets of these antibodies and account for more than 90% of theantibodybinding activity in APS patients. Autoantibodies are the result of breakdown in central or peripheral tolerance of humoral and/or cellular immune systems. Several mechanisms have been postulated in emergence of these pathogenic aPLs: 1-Exposure of internal B2GPI to the immune system during the clearance process of apoptotic bodies can lead to synthesis of autoantibodies. As B2GPI is mainly located in inner memberane of mithochondriaAs B2GPI is mainly located in inner memberane of mithochondoria and are usually externalized during the process of Apoptosis and necrosis. 2-Molecular mimicry between proteins derived from infectious agents and protein binding domain of Beta 2 GPI can arise cross reactive antibodies with pathogenic function. Syphilis is the first infectious disease correlated to aPLs. CMV, parvovirus B19, HIV, hepatitis B and C viruses, human T-cell lymphoma/leukemia virus, and Varicella Zoster Virus are some well-known examples of the infectious agents with proved associations toaPL production. 3-Alteration of self antigens with different kind of drugs can emergeneoantigens and thus autoimmune response can be developed. Chlorpromazine, amoxicillin, phenytoin, hlorothiazide, propranolol, oral contraceptives, antibiotics and some more are believed to be associated with aPL. 4-Several studies have shown that HLAs in human are associated to aPLs.

Keywords: Anti-Phospholipid, PLS, Autoantibodies, Cardiolipin Antibody, B2GPI Antibody

O13

Clincal Aspects of Antiphospholipid Syndrome - Case presentation

Mohammad Reza Shakibi 1

1- Kerman University of Medical Sciences

mrshakibi@gmail.com

Antiphospholipidantibody syndrome (APS) is an autoantibody-mediated acquired thrombophilia characterized by recurrent arterial or venous thrombosis and/or pregnancy morbidity in the presence of autoantibodies against phospholipid (PL)-binding plasma proteins, mainly a plasma apolipoprotein known as beta2 glycoprotein I (b2GPI) and prothrombin. Another group of antibodies termed lupus anticoagulant (LA) prolong clotting times in vitro; this prolongation is not corrected by adding normal plasma to the detection system. APS may occur alone (primary), or in association with any other autoimmune disease (secondary). Clinical manifestations of APSrepresent mainly a direct or indirect expression of venous or arterial thrombosis and/or pregnancy morbidity. Clinical features associated with venous thrombosis are superficial and deep vein thrombosis, cerebral venous thrombosis, signs and symptoms of intracranial hypertension, retinal vein thrombosis, pulmonary emboli, pulmonary arterial hypertension, and Budd-Chiari syndrome. Livedoreticularis is probably caused by swelling of the venules owing to obstruction of capillaries by thrombi. This clinical manifestation correlates with vascular lesions such as those in the central nervous system as well as aseptic bone necrosis. Arterial thrombosis is manifested as migraines, cognitive dysfunction, transient ischemic attacks, stroke, myocardial infarction, arterial thrombosis of upper and lower extremities, ischemic leg ulcers, digital gangrene, avascular necrosis of bone, retinal artery occlusion leading to painless monocular loss of vision (amaurosisfugax), renal artery stenosis, and glomerular lesions, as well as infarcts of spleen, pancreas, and adrenals. Libman-Sacks endocarditis consists of very small vegetations, histologically characterized by organized platelet-fibrin microthrombi surrounded by growing fibroblasts and macrophages. Glomerular lesions are manifested with hypertension, mildly elevated serum creatinine levels, proteinuria, and mild hematuria. Obstetric manifestations includepreeclampsia,eclampsia, fetal loss and premature birth among the live births. Hematologic manifestationsarethrombocytopenia andautoimmune hemolytic anemia. Diagnosis should be made in the presence of characteristic clinical manifestations and persistently positive anti phospholipid antibodies (aPLA) measured at least 12 weeks apart. In this session of the 11th congress of Lab QI, two cases will be discussed: Case-No 1: A 64-year old lady presented with back and knee pain due to Degenerative joint disease and osteoporosis. She had history of 23 abortions and CVA and seizure after herlast abortion 25 years ago. (No live Child) General physical examination and all laboratory findings were normal except high titer antiphospholipid antibody. Case-No 2:A 25-year old manpresented with pulsatile left temporal headache,vertigo,nausea, and left eye blurred vision.He had history of seronegative arthritis and take prednisolone and Hydroxychloroquine. He had normal physical examination except impaired visual acuity and blurred disk margin in left eye.Fluorescein angiography shows retinal vein thrombosis. All laboratory findings were normal exceptan ESR of 88mm/1hr and Anti ß2GPI(IgG) >100 IU/ml (neg<5). Tests for Lupus, brain MRI and CT scan, VEP, audiometry, abdominal sonography and echocardiography were normal.

O14

Common Laboratory Tests in Diagnosis of Antiphospholipid Syndrome (APLS): Some Technical issues in Detecting diferrent Antiphospholipid Antibodies (APLA)

Mohammad Mahdi Mohammadi 1

1-Kerman University of Medical Sciences

Antiphospholipid syndrome (APLS) was first described in patients with the autoimmune disease of systemic lupus erythematosus (SLE) who were presented with a clotting syndrome and hypercoagulability state that affected veins and sometimes arteries. Laboratory assays first originated with the identification of the biologic false positive test for syphilis (VDRL), the identification of autoantibodies to cardiolipin (ACLA) as a key component in the serologic test for syphilis, and the recognition and characterization of antibodies binding to phospholipids. The presence of these unique collection of autoantibodies that target specific phospholipids or phospholipid-binding proteins is necessary to define the syndrome. Today, the international diagnostic/classification criteria for this syndrome uses both clinical and laboratory observations as criteria. This syndrome is usually under-recognised and underdiagnosed and can have devastating consequences if untreated, mainly because of uncontrolled thrombosis. Difficulties in diagnosis are compounded by a lack of standardisation of diagnostic tests. Early recognition by laboratory tests, including either different immunoserological assays (whether IgG, IgM or IgA by ELISA or other methods) or even tests of hemostasis and coagulation, is crucial, because treatment can reduce mortality and morbidity in relatively young people who often present with out-of-mind diseases such as stroke, myocardial infarction, and sometimes with deep vein thrombosis. It is noteworthy that a positive laboratory test needs to be positive on at least two occasions, separated by 12 weeks, to be considered diagnostic for antiphospholipid syndrome. In general, thrombotic complications are not uncommon, and inappropriate application of laboratory testing for antiphospholipid antibodies can lead to overdiagnosis of the syndrome. Although these laboratory assays have been used for many years, there are still problems with the accurate diagnosis of patients with this syndrome. We will propose in this session of the 11th congress of Lab QI some comments, especially for serological tests, for better diagnosis of the APLS from a laboratory stand point.

Keywords: Autoaimmunity, Anti-phospholipid Syndrome (APLS), Anti-phospholipid Antibody (APLA), Anti-B2GPI antibody, Anti-cardiolipin antibody (ACLA), Lupus Anticoagulant (LA) , aPTT, Mixed PTT, PT, VDRL, RPR

O15

Antiphospholipid Syndrome from the OB&GYN Perspective

Marzieh Vahid Dastjerdi 1

1-Tehran University of Medical Sciences

The antiphospholipid syndrome (APS) is an important cause of acquired thromboembolic complications in both sexes and pregnancy morbidity. Female patients had a high risk of recurrent miscarriage and late fetal loss (mostly second trimester). If untreated, antiphospholipid syndrome can lead to permanent disability, severe maternal (eg severe preeclampsia and eclampsia) or fetal growth restriction, perinatal morbidity, or even death. Antiphospholipid antibodies (APLAs) are closely associated with pregnancy complications, but many women with aPL have normal pregnancies. Many physicians test all pregnant patients for aPL and treat those who test positive regardless of how positivity is defined. Identification of specific predictors of high risk of adverse pregnancy outcome would allow targeting of therapy to those most likely to benefit. It seems that lupus anticoagulant (LA) is the primary predictor of adverse pregnancy outcome after 12 weeks' gestation in aPL-associated pregnancies. Anticardiolipin antibody and anti-b2GPI, if LAC is not also present, do not predict adverse pregnancy outcome. Clinicians should treat only those patients who are truly at high risk.

Iranian Association of Clinical Laboratory Doctors

Laboratory and Clinic: Laboratory and Heart Diseases O16 - O18

Cardiovascular disease (CVD) is a debilitating condition of modern world and is the most important cause of death in different countries, includin Iran. Acute coronary syndrome (ACS) is the most common condtion which itself results from atherosclerosis. Atherogenesis process initiates at birth and, according to presence or absence of risk factors, progresses by different rapidity which ultimately presents as ACS. Myocardial infarction (MI) is the most serious presentation of atherosclerosis and is the principal cause of death. Heart failure (HF) is a growing problem and may results from MI.

Clinical laboratories have critical role in establishing severity of atherogenesis progress by measurung analytes such as triglycerides, total cholesterol, cholesterol of low and high density lipoproteins (LDL-C and HDL-C) along with homocysteine, high-sensitive reactive protein C (hsCRP), apolipoproteins including apo-B and apo-A, and lipoprotein (a). In addition. These laboratories are very helpful in diagnosis of MI by measuring creatine kinase (CK), myocardial CK isozyme (CK-MB), and cardiac triponin T and I. As HF has nonspecific symptoms and there is no specific biochemical marker for HF. Its diagnosis is difficult. Recent studies have shown that measuring B-type natriuretic peptide (BNP) level in plasma can be a marker for diagnosis of HF. In cardiac marker panel we discuss about analytical and clinical cosiderations and problems of cardiac markers.

Dr. R. Mohammadi, DCLS, PhD

O16

Laboratory Markers Of Increased Risk of Coronary Heart Disease

Reza Mohammadi 1 *

1- No. 850 Azarbayejan street Tehran Iran
r.mohammadi.bio@gmail.com

Coronary heart disease (CHD) is a chronic disease of aging, and obviously, the most desirable approach to management is to prevent or minimize its development. As there is incomplete knowledge of the causation of CHD, definitive measures are not foreseeable at this time. However, several risk factors associated with CHD have been identified, some of which are clinical and others are related to laboratory tests. Despite the strong association of lipid concentrations with CHD risk, it has been long recognized that half of all myocardial infarctions occur among individuals without over hyperlipidemia. So, according to only traditional lipid risk factors, all individuals at increased risk of CHD can not be identified. In order to better identy these individuals, a wide variety of nonlipid biochemical markers have been suggested which include coagulation and fibrinolysis markers (e.g. fibrinogen), markers of inflammation (e.g. high-sensitive C-reactive protein), and metabolic makers (e.g. homocysteine). Clinically the use of the most of these markers in screening is of limited value.

Keywords: Heart disease, Risk factors, Atherosclerosis

O17

Cardiac marker evaluation in medical lab

Mehrdad vanaki

mehrdadvanaki@yahoo.com

The troponins are a family of proteins found in skeletal and heart muscle fibers. The three different types of troponin are called troponin C (TnC), troponin T (TnT), and troponin I (TnI). Together, these three proteins regulate muscular contraction. Two of the proteins, TnI and TnT, occur in a form that is found only in the heart. These cardiac-specific troponins, called cTnI and cTnT, are normally present in very small quantities in the blood. When there is damage to heart muscle cells, cardiac troponins I and T are released into the circulation. The more damage there is, the greater the concentration of cardiac troponins I and T in the blood. When a patient has a heart attack, levels of troponins can become elevated in the blood within 3 or 4 hours after injury and may remain elevated for 10 to 14 days. Reference: 1-Braunwald heart disease &th edition WB saunders 2005, 2-clinical chemistry tietz 2006, 3-www.labtestonline.com (troponin), 4- Henry's Clinical Diagnosis and Management by Laboratory Methods, 21st ed., Copyright © 2006 W. B. Saunders Company.

O18

Methods of laboratory diagnosis of Candida endocarditis

Sharareh Sayah Alborzi *

sharareh alborzi@yahoo.com

Background: The prevalence of candida endocarditis (CE) is increasing in the hospital population. Previously observed mainly in intravenous drug users, it now happens in patients who have undergone open heart surgery and valve setting. CE remains a severe infection with frequent embolic complications and a high mortality rate. Method: The diagnosis of CE depends on clinical analysis, echocardiographical analysis and Laboratory finding. Blood cultures remain a basis of the diagnosis of CE cases. But perhaps due to the use of antibiotics before collection of blood samples, cultures are negative and causing delays in both diagnosis and start of adequate treatment. Therefore detection of serum antigens and antibodies (mannan/anti-mannan antibodies and 1, 3-β –D- glucans) and molecular tools (multiplex real- time PCR) may contribute to earlier CE diagnosis. In this review a comparison of these methods has been presented and the most successful method has been selected. Result: A large number of studies have shown that multiplex real- time PCR can be used for rapid, sensitive and reliable diagnosis of CE. DISCUSSION: multiplex real- time PCR is a sensitive method but due to the lack of Special facilities in routine laboratory procedures, it can serve only complementarity and cannot replace conventional methods.

Keywords: Candida Endocarditis, Antigen, Antibody, Multiplex Real- Time PCR

Iranian Association of Clinical Laboratory Doctors

Laboratory and Clinic: Laboratory and Thrombophilia O19 - O22

Main Objective: Review of Thrombophilia with emphasis on clinical and laboratory challenges especially among women with poor pregnancy outcome & patients with stroke

Topic description:

Thrombophilia or hypercoagulopathy is a disorder of coagulation system which in patients risk of thrombosis will increase. Patients may predispose to thrombophilia due to etiologies such as cancers, chemotherapy, surgery, …(Acquired type) or may have hereditary predisposition due to conditions such as Antithrombin & Protein C deficiencies and Factor V Leiden mutation.

The most clinical presentation of patients suffering from thrombophilia is deep vein thrombosis and pulmonary emboli which are named totally as venous thromboemboli. This disorder may cause thrombosis in cerebral veins which is very dangerous and treatable. Thrombophilia in pregnant women may present with recurrent fetal loss, IUGR, severe pre-eclampsia and abruptio placenta with various complications.

In thrombophilia session we will review and discuss the clinical and laboratory finding of this disorder with emphasis on challenges in two different groups of patients: Pregnant women and patients with stroke.

Dr. B. Poopak, DCLS, PhD

O19

Thrombophilia: Laboratory Diagnostic Approach

Behzad Poopak

bpoopak@yahoo.com

Laboratory diagnosis guideline recommends that diagnosis of of thrombophilia should be depends on evidence and done on selected groups. At first the tests should be requested and done for common causes and then to infrequent ones with notice to compound defects. In patients with specific clinical finding such as intra-abdominal thromboembolism (Portal vein, Mesentric or hepatic veins) Jak2 Mutation and Flowcytometric assays for Myeloproliferative Neoplasms (MPN) and Paroxysmal Nocturnal Hemoglobinuria, respectively, should be done. The best time for laboratory evaluation of thrombophilic patients is 6 months after recovery of acute events or 3-4 weeks after discontinuing of warfarin. In cases which are related to lupus anticoagulants stat testing and initiation of heparin therapy is necessary. In addition to routine tests, specialized ones including APCR, Prothrombin G20210A, functional protein C, free protein S and anti thrombin activity will be requested and done according to algorhythm. Special attention to preanalytic phase and factors affect variability such as physiologic (age, sex and pregnancy) and pathologic problems such as acute thrombosis, liver diseases, nephritic syndrome, warfarin and heparin should be done.

Keywords: Thrombophilic Patients

O20

Stroke and Thrombophilia

Majid Ghaffarpour 1

1-Imam Khomeini Hospital, Iranian Center of Neurological Research, Tehran University of Medical Sciences
ghafarpour@tums.ac.ir

Among all the neurologic diseases of adult life, stroke clearly ranks first in frequency and is the third most common cause of death in United States after heart disease and cancer. WHO has defined stroke as rapidly developing clinical signs of focal (at times global) disturbance of cerebral function, lasting more than 24 hours or leading to death with no apparent cause other than that of vascular origin. Alterations in hemostasis account for 1% of all strokes and for 2-7% of ischemic strokes in young patients. The risk factors for stroke differ during each period of age. Over 100 risk factors have been reported in children with stroke, most common of which are: congenital heart and collagen vascular diseases, hemolytic anemia, some rare inborn metabolic disorders (Fabry's angiokeratosis, homocystinuria), trauma, infection and thrombophilia. In adolescence and early or young adults (ages 15 to 45 years) thrombophilia (a tendency to recurrent thrombosis) is listed among other causes of stroke, which can be divided into primary (inherited) and secondary hypercoagulable states. Primary group includes: antithrombin deficiency, C and S proteins deficiencies, activated protein C (APC) resistance with or without factor V Leinden deficiency, prothrombin G 20210 A mutation, abnormal plasminogen, plasminogen activators deficiency, afibrinogenemia and hypofibrinogenemia, antiphospholipid (aPL) antibodies either Lupus anticoagulants (LAs) or anticardiolipine (aCL). Ovarian hyperstimulation syndrome, OCPs, pregnancy / puerperium, malignancies, nephrotic syndrome, polycytemia vera, essential thrombocytopenia, sickle cell anemia, TTP, PNH, DM, heparin-induced thrombocytopenia, homocystinuria and chemotherapeutic agents cause secondary hypercoagulable states. Inherited thrombophilia should be considered in those with: 1) Recurrent episodes of DVT, 2) Recurrent pulmonary embli, 3) Family history of thrombotic events, 4) Unusual sites of venous (mesenteric, portal or cerebral) or arterial thrombosis, as well as 5) Thrombotic events occurring during childhood or adolescence. Fifty percent of all these thromboses occur spontaneously, although these patients are at greatest risk when exposed risk factors such as pregnancy, surgery, trauma or OCP. Despite, the fact that thrombopilias account a small percent of ischemic strokes, but are therapeutically very important and require interaction with hematologist.

Keywords: Stroke, Thrombophilia, Thrombosis

O21

Thrombophilia

Sedigheh Hantooshzadeh

hantoushzadeh@tums.ac.ir

Introduction: Recurrent pregnancy is a major problem in obstetric.While hormonal, uterine, immune system, and chromosomal abnormalities are widely accepted as possible causes of repeat miscarriages, the latest studies point to a new area of investigation - inherited blood clotting factors. Thrombophilia can be an inherited disorder, but can also be caused by external events such as surgery, obesity, pregnancy, use of oral contraceptives, antiphospholipid syndrome, or long periods of immobility. Physicians may suspect thrombophilia when patients have a thromboembolic event at a young age or have a strong family history of clotting disorders However, some patients with thrombophilia do not experience any symptoms. Or if they do have symptoms, the condition often goes undiagnosed because the tendency to make clots is subtle. Recent research suggests a possible correlation between inherited thrombophilia and recurrent fetal loss. Genetic markers for these clotting factors include factor V Leiden mutation and prothrombin G20210A mutation. These two mutations are the most common causes of inherited thrombophilia. Other indicators of thrombophilia (prothrombin mutation, activated protein C resistance, and antithrombin III deficiency) are also more prevalent among women experiencing frequent miscarriages. Recommended Tests for Patients with Recurrent Miscarriage

It is recommend that in addition to the usual infertility panel (which would include testing for antiphospholipid antibodies, lupus anticoagulant, and anticardiolipin antibodies), patients with recurrent miscarriages should be tested for genetic markers of thrombophilia, including: Antiphosphotidylserine, PAI-1 levels and activity, Antithrombin III, Prothrombin II mutation, Protein C activity, Protein S activity, Factor V Leiden. Treatment: Treatment regimens used to manage thrombophilia may include heparin or Lovenox (low molecular weight heparin) injections, and baby aspirin or metformin (for insulin resistant patients with elevated PAI-1). These treatments are designed to improve blood flow in the follicle, optimize egg quality, and improve pregnancy outcomes. All patients receiving treatment must be carefully monitored. Patients on heparin require monthly PTT, blood counts, and platelet levels. These patients should also consider dietary calcium supplementation. Conclusion: Because inherited thrombophilia has been shown to be a major cause of recurrent miscarriage, patients with recurrent fetal loss should be evaluated for clotting disorders, even in the absence of clinical signs.

O22

Auto immune thrombophilia

Abdolfatah Sarafnejad

sarrafnejad@tums.ac.ir

Thrombophilia is defined as intravascular hypercoagulability which may lead to thrombotic events.Thrombophilia might be inheritable or acquired. The inheritable thrombophilia is caused by decreased level or mutatedgenes of thromboinhibitors orthrombo regulators such as protein or s,or might be caused by increased levels of thrombogenic factors,like VIII. The acquired thrombophilia which might occure in different ages, are mainly caused by autoimmune diseases. Thrombotic autoimmunity. Antiphospholipid syndrome is the main autoimme thrombophilia, which might be “primary” or “secondary”. Different autoatibodies are characterized in this syndrome like: anti:cardiolipin, B2-glycoprotein1, phospholipids Annexins and lupus Anticoagulant antibodies.Alsi some autoantibodies might be produced against protein c and protein s thromboinhibitors. Moreovere, autoantibodies,T-cell responses against endothelial calls and memberane antigens are involved in thrombophilic events. Different cilinical manifestations such as: Abortion, still birth,cerebral infaraction, Pulmonary embolism etc might occure. Conclusion; Autoimmunity is the most prevalent etiology of acquired thrombophilia. Atoimmune responses against phospholipids and phosphilipid binding proteins, are the causative agents which lead to thrombotic events in vascular vessels.

Iranian Association of Clinical Laboratory Doctors

Laboratory and Family Health (Importance of Screening) O23 - O24

The "Prevention better than treatment" is a phrase as the pattern for work and activities of all decision-makers in the field of health and treatment around the world. What are screening criteria to diagnose diseases? Could any disease be diagnosed before invasion? What is the role of laboratory in screening?

A considerable progress has been made to medical sciences in the field of diagnosis and treatment during previous decades and health systems of the countries pay high costs for such developments every year. Decision-makers, scholars and experts of health management believe that people's health should be protected with lower costs. In this line, the most significant and fundamental way is to prevent disease.

The infectious diseases were prevented using vaccines over the long past years and this procedure is still continued; it is whilst prevention of non-communicable diseases is also taken as activity pattern of health and treatment systems and insurance companies in the world.

Health Services Organization of Armed Forces is the first insurer organization in the country which approved and started implementation of the research project of screening three diseases using laboratory tests in 2011 in collaboration with Baqyatallah University of Medical Sciences, considering the fact that the prevention is better than treatment.

In this investigation, the effectiveness cost of screening for diabetes, chronic kidney and heart diseases are evaluated and the results reported for chronic kidney disease are presented in the Eleventh Congress of Laboratory Services Quality Improvement.

Dr. M. H. Hashemi Madani, DCLS

O23

Screening of diseases by laboratory tests a need

Seyed Mohammad Hasan Hashemi Madani 1*

1-Baqiyatallah University of Medical Sciences
hashemimadani@yahoo.com

Laboratory tests are very important in screening of diseases. ‘‘Prevention better than treatment’’ is prominent fact for health care oficials. In developed countries, insurance organizations try to add screening tests every year. One of the most important test in Iran which accepted as screening test is TSH, for screen of thyroid definiency in newborns. Medical staff & medical laboratory experts must try to introduce more & more laboratory tests as screening of disease. This is available by research.

O24

Cost-Effectiveness of Screening Chronic Kidney Disease: A Modeled Analysis in Iran

Ali Farzaneh , Mehdi Ebrahimnia * , Mohhamad Hassan Hashemimadani , Zohreh Rostami , Aliakbar Sari , Mahmood Yousefi

alifarzaneh87@yahoo.com, ebram@bmsu.ac.ir, hashemimadani@gmail.com, rostami@numonthly.com, akbarisari@sina.tums.ac.ir, mahmoodyousefi80@yahoo.com

Introduction: Chronic kidney disease (CKD) is a significant global health.concern Chronic kidney disease is, increasingly, both a contributor to premature deaths and a financial burden to the health system, and is estimated to affect between 10% and 15% of the adult population in Western countries. Prevalence of CKD in Iran is 12.6% .Early interventions such as screening to reduce the burden of CKD in Iran are essential. Screening need model that compare intervention strategies.

Keywords: Chronic Kidney Disease, Markov Model, Screening, Cost Effectiveness

Iranian Association of Clinical Laboratory Doctors

Laboratory and Resource Management O25 - O27

A medical laboratory must provide a suitable service to patients and physicians. For this purpose having adequate space, equipment, materials, supplies and financial resource is mandatory.

Managing human recourses, financial recourse and the quality are three bases for improving productivity, efficiency and increasing laboratory advantages.

Nowadays, recruiting (temporary or permanent), training and retaining qualified personnel have become major challenges in management.

So it is appropriate to review the competency level, experience and education required by personal and responsibilities of position in comparison to technological should be reviewed, to ensure that the position is still necessary and covers the responsibilities that we need.

No doubt that financial management has a prominent rule in laboratory service.

Principal area of lob expenditure consist of labor lost (70% - 80%) and reagent cost (15% - 20%).

In our situation these proportion varies greatly depending on expenses supplies material and Automation and needs perfect management in fiscal section.

Thus it is very important to know about direct /indirect cost, fixed and variable costs/ and capital cast … in resource management.

Dr. M. R. Fouladi, DCLS

O25

Evaluation and comparison of performance indicators for medical diagnostic laboratories in hospitals affiliated to the Social Security Organization

Farhad Kouhi 1 * , Mohammad Reza Fooladi 1 , Amirabbas Fazaeli 1 , Leila Ahmadvand 1 , Hossein Joodaki 1

1- Social Security Organization
kouhifarhad@gmail.com, mnghs1@gmail.com, amirfazayeli@yahoo.com, leila.ahmadvand2011@gmail.com, hojoodaki@yahoo.com

Introduction: The objective of this study examines the performance of medical diagnostic laboratories in medical centers affiliated to the Social Security Organization. Methods: The study population included 341 medical centers affiliated to the Social Security Organization. 82 medical centers due to lack of laboratory or lack of laboratory data for the study were excluded. Indicators used to performance Evaluation through the review of relevant literature and receiving the ideas from a group of experts in the subject. Then in software, Excel, 5 forms to collect data required designed and sent for all centers. After collecting and cleaning data, indicators were calculated. Results: Personnel costs with 75.5% share and drugs and medical consumable equipment costs with 20% share, devoted to themselves more than 95 percent of total current costs of studied laboratories. Revenue bills of medical diagnostic units in average have coverd about 88.3 percent of total current costs. More than 80% of the laboratories were not able to cover their current costs by their incomes. For each technical staff per shift on average 11.75 prescriptions and 55.2 tests has been done. In 71 percent of studied laboratories this index has been less than 12.5 prescriptions. For each reception staff per shift on average 70.4 prescriptions has accepted. This index at hospitals (by 91.3 prescriptions) has been more than average and at outpatient centers (by 30 to 46 prescriptions) has been less than average. Conclusions Inability to cover the current costs by incomes may occur because of low laboratory services tariffs, low technical efficiency and.... Some evidence of inefficient utilization of capital and labor was seen in active laboratories of medical centers affiliated SSO.

Keywords: Income, Current Costs, Technical Staff, The Laboratory Performance Norms

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O26

Key Factors in increasing productivity

Mohammad Reza Fouladi

mnghs1@gmail.com

Every institute or organization should know the key factors in its life and use scientific methods to have the best level of productivity in order to continue life and provides Services whatever products or services this institute present. Medical diagnostic labs too as a part of health services face many problems and need to know and correct their processes in human, monetary (expenses and capitals) and quality control. In Iran as reports say in different income groups in 2008 all heath expenses as a part of GPD have been %5/6 and in international mean %8/5 also governmental common expenses for health as a part of whole health expenses were %42 and private unit expenses were %57/6. (As WHO reports percapita expenditure in health has been 836 dollars in 2010). With regard to these limitations, correct use of resources in medical labs is mandatory and using tools like lean, six sigma and format ICAT is needed to increase productivity. In this article effort has been used to estimate the expense of each lab test and increase productivity by use of scientific methods in estimating indirect expenses, labor, Instruments, depreciation cost, maintenance costs expenses….

Keywords: Gpd, Clinical Laboratory, Depreciation

Effectiveness of productivity management cycle establishment based on KAYZEN on improvement of performance indices in laboratory unit of social security organization polyclinic 17

Hassan Azaripour Masooleh 1 *

1- No.345,Azadi St., Postal Code:1457965595
hazaripour@yahoo.com

Introduction: Developed and developing industrial societies are looking for more efficient and beneficent ways to produce their goods and services. KAYZEN is a kind of management originated from Japan and emphasizes on continuous improvement. This project aims to establishment of KAYZEN in laboratory unit of social security polyclinic 17 in order to improve its process of service delivery. Material and Method This is a descriptive survey based on a 9 executive model with the aim of decrease in expenses, analysis of processes, wastes elimination, improvement of environment and training of staff that is carried on in polyclinic 17 laboratory unit. Data were collected by questionnaire and time calculating forms. Results: Our results showed a decrease in patients waiting time in admission unit from 25 minutes to 12 minutes, decrease in sample taking time from 12 minutes to 7 minutes, increase in patients' satisfaction rate from 67% to 78.5%, omission of unessential referral of patients and decrease of crowd in front of laboratory unit. Conclusion Establishment of KAYZEN in polyclinic 17 laboratory unit improved processes performance indices, decreased expenses, omitted wastes and optimized use of resources in laboratory unit of polyclinic 17.

Keywords: Kayzen, Laboratory Unit, Performance Indices

Iranian Association of Clinical Laboratory Doctors

Nursing, Clinic and Laboratory O28 - O32

O28

Health team\'s expectations for laboratory

Ameneh Shakoori 1 * , Golnoosh Mirsaidi 2

1- Emam Khomeini Hospital, 2- Islamic Azad university- Tehran medical Branch,
azita_shakuri@yahoo.com, g.mirsaidi@gmail.com

Health team consisting of doctors, nurses, paramedics and clinical departments including laboratory, imaging, radiology and all these services are focused on patients. These are the same as the ring and disturbance of each unit will interfere with the treatment and services to patients. Therefore, these units together with the progress and interact with each other. The growth and excellence of one unit alone will not only improve but also due to the expected increase in the unit, the other units may also impair performance. Research suggests that health centers or hospitals where staff interaction is more, patient and staff satisfaction is also higher. Lab and health team have also important relationship together. Unfortunately, lack of communication, make the treatment team anxious. Expectations of the treatment team are divided into hardware and software. Hardware factors include proper feedback appropriate laboratory units, understanding the health team, personnel shortages, patient as a living creature, and ... Soft factors include: the processes that lead to misunderstanding between the two laboratories and units is paramount. According to the validation measures, while expectations management team is as follows: 1-Laboratory for boarding on all weekdays including holidays and holiday services to offer.2- A quick test for up to two hours of sample receipt by the laboratory to be delivered. 3 - The critical values are given regularly reviewed and immediately inform the doctor. Conclusion: To improve the system integration issues, including reducing hospital admission, discharge and transfer of patients and getting answers is required in this area. Relationship between the health team and lab is significant and unfortunately the lack of proper communication, the health team will get anxious. According to The quality management, communications, and interactions between the laboratory and the health team must be more to the satisfaction of patients and staff should be sought.

Keywords: Laboratory, Interaction, Expectation, Health Team

O29

Challenges from sampling till reporting

Ameneh Shakoori 1 , Golnoosh Mirsaidi * 2

1- Emam Khomeini Hospital, 2- Islamic Azad university- Tehran medical Branch
azita_shakuri@yahoo.com, g.mirsaidi@gmail.com

Hospitals as one of the most sophisticated medical centers in the sampling process that starts with the doctor's order, then following statements by the nurse, and sampling starts. Sampling at different centers, depending on the tests done by different people (laboratory technician, nurse, and physician). To make this process can be done safely and without error in the measures that are required to follow some tips Accreditation is also referred to. These include knowledge of the sampler, sent samples on time, creating awareness about sudden shake and maintain temperatures to a person who takes the sample to a laboratory, testing and registration of a correct application of the system, ask on phone about the panic values of critical and emergency patients, delivery of laboratory results on time, review and report on cases outside the normal range by the nurse and report to the practitioner and start the right treatment. Conclusions: documents show that the "Quality Improvement Unit" of the hospitals should be actively monitoring the different parts of the hospital, processes and analyzes the strengths and weaknesses should be identified and corrected.

Keywords: Challenge, Sampling, Reporting

O30

Introducing Collaborative Approaches in Clinical Settings: The Importance of Nurses Roles

Alireza Nikbakht Nasr Abadi 1 *

1- Teharn University of Medical Sciences
nikbakht@tums.ac.ir

Holistic care delivery is impossible without professional coordination among different professionals of health care team. Nurses have constant contact with patients, so they are at the center of this interactive process. As coordinator of health care team member's nurses have an important role in providing effective health care. The base of holistic care is comprehensive monitoring of patients health status. On the other hand patient health monitoring is impossible without considering Para clinical and laboratory studies. Nursing and laboratory personnel have special responsibility in monitoring the patient's needs in all health related situations. In our hospitals some parts of nurses' duties particularly in laboratory preparation interference with laboratory technician tasks. Therefore more coordination and interaction between the two groups seems to be important in the health care team. To keep this engagement, understanding the professional expectations and sharing knowledge with each other are important issues which should be take into consideration. In order to improve this professional communication having common language such as guidelines and protocols can also be effective.

Keywords: Nurse, Cooperation, Interaction, Laboratory, Care

O31

Providing Common Protocols between Clinic and Laboratory

Mohammad Afzalimoghaddam 1 *

1- Imam Khomeini Hospital
afzalimoghadam@tums.ac.ir

One of the most important obstacles in clinical management of diseases is inconsistency between different parts of clinical and para-clinical teams. All of us like to help our clients. Physicians, nurses and lab staff try to provide their best performances for their patients. But uncoordinated activities- and unfortunately sometimes unfriendly behaviors – create an unsafe and problematic environment that causes many mismanagements. During recent decades, some clinical guidelines and protocols have been presented between various clinicians to provide a patient centered and coordinated care. American Heart Association guidelines for resuscitation or treatment of AMI are the outstanding models in clinical practice. These guidelines provide a homogenous way to more qualified patient care. Preparation of such guidelines or protocols between clinicians and other health care providers can decrease some costs and save the time and finally will increase the quality of care. It seems that deep-sighted and close relation among different parts of health care providers is necessary to make an intimate and efficient domain for protocol planning and decreasing the conflicts. These different groups should consider the patients` benefits without any partiality to achieve a greater goal which is patient care.

Keywords: Protocols, Guidelines, Lab, Clinicians

O32

Professional Approach for Improving Quality of Cooperation between personnel of Nursing and Clinical Laboratory

Behzad Poopak *

bpoopak@yahoo.com

Clinical team consists of many persons with different specialties – responsibilities and their efficient cooperation will be very important in patient's outcome. Two members of clinical team are nurses and clinical laboratory colleagues which according to their education, training and experiences have different view to patients. Nurses involve in patients care and support and have close relation with patients and physicians. While the clinical lab. Colleagues in distant relationship with patients and physicians involve mainly in diagnosis, therapy monitoring and determination of prognosis. Improving knowledge of nurses from laboratory colleagues and vice versa in respect to objectives, level of training, job description with defined planning, meeting and problem review will results in quality improvement in nursing and laboratory services to patients and clinical team.

Keywords: Laboratory Colleagues

Iranian Association of Clinical Laboratory Doctors

Non Tuberculosis Mycobacteria & Extra Pulmonary TB O33 - O36

The selected topics for this congress about mycobacterial infections are two neglected but very important problems in tuberculosis control in country. All researchers around the country are invited to submit their valuable abstracts about these topics.

Extra pulmonary tuberculosis: Tuberculosis is one of most important infectious disease in Iran with high prevalence and two clinical appearances pulmonary and extra pulmonary. About 35-40% of tuberculosis cases are extra pulmonary which lymphadenitis is predominant form and followed by pleural, bone, urogenital and gastro intestinal tract infections. Early diagnosis and treatment of extra pulmonary tuberculosis is important for better TB surveillance program.

Atypical mycobacteria: Knowing about the prevalence of clinical and environmental atypical mycobacteria is important for TB control programs. The clinical manifestation and treatment of TB is totally different from atypical mycobacterial infections and usually because of their extreme antibiotic resistance, antibiotic therapy is difficult especially among immune compromised and HIV individuals.

Dr. M. Seyfi, DCLS, PhD

O33

Rapid identification of atypical micobacterium isolates into species or sub species level with PCR-RFLP Analysis (PRA) method

Azadeh Nahavandi Araghi 1 , Mahnaz Saifi 2 , Esmaeel Jabbar Zadeh 2 * , Elham Safar Pour 2 , Mehrouz Dezfoulian 2

1- Karaj Azad University, 2- Pasteur Institute
esclavo_amor@yahoo.com, mahsaifi@yahoo.com, e.jabbarzadeh@yahoo.com, e_safarpour@yahoo.com, mehrdezfulian@yahoo.com

Background: Aytipical Mycobacteria cause various infections and some of them lead to Tuberculosis-like disease. Treatment of atypical mycobacteria is different from tuberculosis so identification of mycobacterial species is important for better control of tuberculosis. PRA is a more rapid and accurate method in comparison with phenotypic ones. During the present study using 3 restriction enzymes for digestion of 644 bp PCR product of hsp65 gene, identification of 50 mycobacterial isolates were accomplished. Methods Fifty different atypical mycobacterial isolates from patients referred to the Pasteur Institute of Iran over 89-90 years were tested for PRA. A 644 bp fragment of hsp65 gene was amplified by PCR. Subsequently,PCR products were digested with AvaII, HphI and HpaII enzymes. Digested fragments were compared with standard algorithm and identified with GelcomparII software. Results Forty nine of 50 atypical Mycobacteria were identified in to 13 groups including 15 M.fortuitum,12 M.simiae، 6 M.kansasii، 3 M.szulgai, 2 M.triviale ، 2.M.gordonae، 2 M.aichiense، 2 M.gallinarum.1 M.hassiacum،1 M.malmoense،1 M.aurum، 1 M.marinum،1 M.abscessus and one unknown species. Conclusion The results showed PRA using AvaII، HphI وHpaII is a simple,fast and accurate for identification of atypical mycobacteral isolates into species or sub species level. Rapid and exact identification of atypical mycobacteria from Mycobacterium tuberculosis is essential for effectiveness of TB surveillance programs.

Keywords: Rapid Identification, Aytipal Mycobacteria, PRA

O34

Diagnostic methods in tuberculosis lymphadenitis

Mehrdad Hasibi 1*

1-Tehran University of Medical Sciences, Amir Alam Hospital

Tuberculous lymphadenitis is the most common form of extrapulmonary tuberculosis. Peripheral tuberculous lymphadenitis—previously termed “scrofula”—is a unique manifestation of disease due to organisms of the Mycobacterium tuberculosis complex. Epidemiologic characteristics differ from those of pulmonary tuberculosis, clinical manifestations are variable, and diagnosis may be challenging and is not always possible with conventional methods, due to the long time required and the paucibacillary nature of samples. Definitive diagnosis is by culture or nucleic amplification of Mycobacterium tuberculosis; demonstration of acid fast bacilli and granulomatous inflammation may be helpful. Excisional biopsy has the highest sensitivity at 80%, but fine-needle aspiration is less invasive and may be useful, especially in immunocompromised hosts and in resource-limited settings. Antimycobacterial therapy remains the cornerstone of treatment, but response to therapy may be slow or paradoxical, with the frequent development of enlarging or new lymph nodes during and even after effective treatment (in 20% of patients).

O35

Clinical and treatment procedure of atypical mycobacteria

Mehrnaz Rasoulinejad 1

1. Imam Khomaini Hospital
mehrnaz.m@gmail.com

The most common disease patterns produced by atypical mycobacteria are pulmonary disease, cervical lymphadenitis, and infection of soft tissue, bones, and joints. It is obvious that these organisms could produce human disease, but this is quite unusual in Immunocompetent but usual in immunocompromised patients. Even organisms known to be pathogens are frequently isolated from human material although extensive studies demonstrate no clear evidence of disease.the isolation of the organism obtained under sterile conditions such as percutaneous aspiration or surgical biopsy is considered significant. Pulmonary disease, cervical lymphadenitis, soft Tissue, bones and joint and other clinical manifestation produced by atypical mycobacteriais often indistinguishable from that caused byM tuberculosis. Treatment are either fairly easy to treat or very difficult to treat.surgical excision or drainage where feasible is often effective.

O36

Quality Control in Medical Mycobacteriology (Tuberculosis) Laboratory

Mostafa Ghalami Nobar , Sirous Amini , Siamak Mirab Samiee *

Reference Health Laboratory, Ministry of Health and Medical Education
ghalami52@yahoo.com, samieai@health.gov.ir

Introduction: Quality control (QC) is one of the essential elements in the quality assurance cycle and was defined as the main process control of analytical phase of a test. QC deals with the precision and accuracy of a test, and covers all components including materials, methods and equipment used in the test is. Aim: In recent years, monitoring of the tuberculosis laboratories (in private and the public health sector, both) by inspection has revealed the critical importance of quality control for directors as well as working staff. Nevertheless more efforts in the main concepts of quality control issue are still necessary. Research Methodology: In this project, the main issues of quality control including internal and external quality control, defined according to WHO and national specialized technical guidelines and checklists have been evaluated in more than 400 tuberculosis labs resulting remarkable findings. Results and Discussion: Inspections and monitoring results gathered from more than 400 tuberculosis labs categorized in different performance domains (Direct Microscopy, Culture and Susceptibility Testing levels) shows that technical staff needs to improve the performance in following areas: 1 - Macroscopic quality check of specimens (to distinguish "acceptable" from "non-acceptable"), 2 - Quality Control of staining process by using positive control slides to ensure the integrity of materials, workmanship and staining steps, 3 - Appropriate smear preparation according to the instructions (in terms of thickness, size and location of the sample on the slide), 4 - Quality control of L-J culture media for contamination , PH, Bake and growth promotion check using control strain, 5 - Equipment quality control and performance check including Biological Safety Cabinets, autoclaves, incubators, centrifuges and microscopes, 6 - Quality control of culture media used in susceptibility testing by standard strain H 37 RV to ensure the quality of Antibiotic powders.

Iranian Association of Clinical Laboratory Doctors

Research in Laboratory Sciences (Biochemistry) O37 - O40

O37

The frequency of amino acid disorders detected by HPLC in Children Medical Center: A one year study

Neda Rezaei 1 , Leila Shafeghat 2 , Mohammad Taghi Haghi Ashtiani 3 , Sedigheh Shams 4 *

1-Children Medical Center,Dr Garib St. Keshavarz Blvd. Tehran Iran, 2-Children Medical Center,Dr Garib St. Keshavarz Blvd. Tehran Iran, 3-Children Medical Center,Dr Garib St. Keshavarz Blvd. Tehran Iran, 4-Children Medical Center,Dr Garib St. Keshavarz Blvd. Tehran Iran,
sedisha@yahoo.com, Leilashafaghat@yahoo.com, ashtianim@sina.tums.ac.ir, shamss@sina.tums.ac.ir

Background: Aminoacidopathies usually result from inherited defects in enzymes of the metabolism of amino acids. Clinical symptom s caused by the accumulation of amino acids or their intermediate metabolites. Diagnosis is through analysis of plasma and urinary cssoncentration of amino acids. Most of the amino acid disorders are treatable with dietary restriction of protein if it is diagnosed rapidly before onset of irreversible organ damage. The aim of this study was the evaluation of the frequency of amino acid disorders detected by HPLC in patients referred to Children Medical Center. Material and Methods: In a descriptive –cross sectional study, all data of amino acid analysis by HPLC during 2012 collected. Data from patients with Phenylketonuria and those with mildly increase or decrease levels of a range of amino acids (indicating not follow the diet) excluded. The frequency of amino acid disorders in addition to mean ± SD concentration of each amino acid according to sex and gender were reported. Results: From 1778 specimen, eighty –six were diagnosed with amino acid disorders (excluding Phenylketonuria). They included 50 male and 36 female with high concentration of Tyrosine in 40 cases (2.2%), Glycine in 14 cases(0.8%), Glutamine in 11 cases(0.6%) ,luecine in 10cases(0.56%) and Ornitine in 7cases (0.4%). A two- day old baby boy with high glutamine and Citroline levels and a 42 years old man with high level of Ornitine were youngest and oldest of our patients,respectively. Conclusion: High performance Liquid Chromatography (HPLC) is a method with high sensitivity, high resolution and relatively short analysis time. It is suitable for early diagnosis of patients that is crucial to avoid irreversible organ damage.

Keywords: Amino Acids, HPLC, Ornitine

O38

A study of Neutrophil Hypersegmentation in the Elderly and its Diagnostic Value for Cobalamin and Folic Acid Deficiency in Mashhad, Iran

Lida Manavifar 1 * , Amire Nejat Shokuhi 2 , Hossein Ayatollahi 3 , Nahid Ebrahim Zade 4

1-Master of hematology Blood Bank, 2-Medical Assistant, 3-Medical Assistant, 4-laboratory technician
ManavifarL@mums.ac.ir, NejatshokohiA@mums.ac.ir, ebrahimzaden1@mums.ac.ir, AyatollahiH@mums.ac.ir

Abstarct Introduction: The prevalence of cobalamin and folic acid is high in the elderly. Ambiguous clinical findings, different results, and expensiveness of laboratory tests have resulted in complexity and delay in diagnosis of deficiency. The aim of this study is to establish the correlation between hematologic parameters especially neutrophil hypersegmentation and cobalamin and folic acid insufficiency as well as increasing of serum hemocystein and the rate of sensitivity and specificity. Methods and materials: 300 subjects above 65 years old in twelve regions of Mashhad were studied. This population was selected by the Provincial Health Center. 250 subjects were analyzed for serum cobalamin and folate by RIA method. 78 subjects, who had cobalamin 120-450 pg/ml and folate 1.5-17ng/ml without any confounders, were analyzed for homocystein(Hcy) by Elisa method .Hematological parameters were assayed by H1 system and blood smear by microscopic observation .Data were analyzed by SPSS software. Results: Among 235 tested subjects, 45.5% were positive for neutrophil hypersegmentation(NH) and %54.5 were negative. There wasn't significant correlation between NH and gender. In 216 subjects, 56.7% were positive red blood cell macrocytosis and 43.3% were negative. There was a significant correlation between severity of NH and macrocytosis (p=0.001). Macrocytosis had significant correlation with folate deficiency (p=0.017). NH showed a significant correlation with folate (p=0.036) but no correlation with cobalamin<122 pg/ml and increased homocystein. Folate showed significant correlation with increased homocystein (P= 0.001). Specificity and sensitivity of NH for diagnosis of cobalamin and folate deficiency was low. Conclusion: With respect to the high incidence of folate deficiency in the elderly, a simple and economic screening test such as NH and macrocytosis could be used for assaying serum folate. Specificity and sensitivity of NH for diagnosis of folate deficiency was low but it can be confirmed by serum homocystein test.

Keywords: Cobalamin, Folate, Homocystein, Hematologic Finding, Neutrophil Hypersegmentation, The Elderly

O39

Reference values for serum creatinine concentrations in Iranian adult subjects

Asghar Ghasemi 1* , Iraj Azimzadeh 2 , Saleh Zahediasl 3 , Fereidoun Azizi 4

1-Iran, Tehran, P.O Box: 19395-4763, 2-Iran, Tehran, P.O Box: 19395-4763, 3-Iran, Tehran, P.O Box: 19395-4763, 4-Iran, Tehran, P.O Box: 19395-4763
ghasemi@endocrine.ac.ir, i.azimzadeh@gmail.com, zahedi@endocrine.ac.ir, azizi@endocrine.ac.ir

Introduction and objective: Glomerular filtration rate (GFR), the best index of renal function, mostly estimated from serum creatinine concentration. Jaffe method, used in most routine laboratories, has a low specificity and overestimates serum creatinine and enzymatic creatinine methods are more specific. The aim of this study was to determine reference intervals for Jaffe compensated serum creatinine using data from a population-based study in Iran. Methods: Serum creatinine was measured using the photometric Jaffe method in 5247 apparently healthy participants (2792 men and 2455 women) of Tehran Lipid and Glucose Study, aged 20 to 88 years. In 382 samples, creatinine measurement was done with both Jaffe and enzymatic p-aminophenazone (PAP) methods for calculating Jaffe compensated creatinine values. Linear regression analysis of serum creatinine measurement yielded a regression line equation of Jaffe creatinine= 0.863× PAP creatinine + 0.44 mg/dL (r= 0.973, n = 382, p<0.001). Guidelines of CLSI/IFCC, non-parametric method was used for determining serum creatinine reference values. Results: Reference values for serum creatinine concentration ranged between 0.53-1.11 and 0.42-0.77 mg/dL in men and women respectively. Upper reference limit of serum crteatinine was higher in men with age >40 years compared to < 40 years (1.11 vs. 1.00 mg/dL). Post-menopausal women had higher Upper reference limits (0.88 mg/dL). Conclusion: This study present for the first time reference values for serum creatinine using compensated Jaffe method and in apparently healthy Iranian subjects; values could be used in decision making for diagnostic and therapeutic considerations.

Keywords: Reference values, serum creatinine, Jaffe

O40

Role of research in clinical biochemistry & its impact on development Of Clinical Laboratories

Houshang Amirrasouli 1

1-Mehrad general hospital
rasoulidrdr@yahoo.com

Research within clinical Biochemistry is at a crossroads. Our speciality is distinctive in many ways; it occupies a unique position in medicine at the interface between laboratory testing and clinical diagnosis. We have a closure understanding of the concepts and limitations of diagnostic testing than most others in medicine. We have a history of being at the forefront of using information technology within health care; we are also probably a selfe- selected group whose abilities include being able to rigorously evaluate complex sets of data and then to draw conclusions. Taken together, these talents mean our discipline shoud be integral to the development of evidence- based medicine and be central in converting research finding into clinical practice, wich nowdays is called, transitional research. With some lateral thinking we can also help answere some of the fundamental questions related to clinical biochemistry and within the many specialities with which we liaise. I believe that anyone whether in an academic center or not, can make valuable research contributions to clinical biochemistry simply by directing research in a way to answer questions which have priority.

Keywords: Biochemistry, Research|Clinical

Iranian Association of Clinical Laboratory Doctors

Research in Laboratory Sciences (Diabetes) O41 - O46

Diabetes Mellitus (DM) is a constellation of metabolic diseases characterized by a shortage in insulin hormone or a resistance to its action. According to the World Health Organization, diabetes is a major threat to global public health that is rapidly getting worse, i.e. it is estimated to afflict 8% of the global population and at least 366 million people suffering from it in the year 2030.

Diabetes is a condition primarily defined by hyperglycemia leading to a constellation of complications, especially damages to micro vasculatures (diabetic nephropathy, neuropathy, and retinopathy) and macro vasculatures (ischemic heart disease, stroke and peripheral vascular diseases).

Diabetes is the most common cause of blindness in those of working age, the most common single cause of end-stage renal failure worldwide, and the consequences of neuropathy make it the most common cause of non-traumatic lower limb amputation.

Mortality from ischemic heart disease and stroke is two to four folds higher than in the age and sex–matched non-diabetic population.

The precise level of blood glucose that defines diabetes has been revised several times by world Health Organization (WHO) and American Diabetes Association (ADA). Based on the latest edition of the position statement published by ADA in 2013, there are four criteria for the diagnosis of diabetes mellitus, i.e. 1: A1C $\geq$ 6.5% or FPG $\geq$ 126 mg/dL or 2-h plasma glucose $\geq$ 200 mg/dL or a random plasma glucose $\geq$200 mg/dL.

In the diabetes session of this year congress, most recent researches in all fields of diabetes will be presented.

Dr. M. R. Bakhtiari, DCLS, PhD

O41

Vitamin D association with Diabetes Mellitus

Mohammad Reza Bakhtiari 1 *, Masoud Fallahpour

1- Assistant Professor of Medical Biotechnology Iranian Research Organization for Science & Technology (IROST)
Bakhtiari@irost.ir

About one hundred years ago a factor was identified; the deficiency thereof could lead to rickets. This factor was later called as Cholecalciferol or vitamin D. Meticulous and continuous studies by numerous laboratories over the last nine decades persuasively demonstrated that cholecalciferol not only was essential for skeletal health but also was a hormone mediating non classical tissue effects across a wide range of homeostatic functions. The cloning of the vitamin D receptor (VDR) did not occur until 1987, but its subsequent identification in virtually all tissues spurred further basic and clinical studies and led to a much greater appreciation of the physiological role of vitamin D. Indeed, based on my very recent search on PubMed site, there are more than 58000 publications centered on vitamin D, a good number of which related to its effects on non skeletal targets such as epidermal, neuromuscular, cardiovascular (CV), metabolic, immunological, maternal/fetal, and neoplastic tissues, hence "D hormone" seems to be a much better and superior name for it, nowadays. Low serum levels of D hormone have been linked via observational studies to the pathophysiology of obesity, diabetes mellitus, and the metabolic syndrome.To explain this role of vitamin D or D hormone, a number of mechanisms are likely. First, the VDR is vastly expressed in adipocytes, undoubtedly responsive to stimulation by 1,25-(OH)2D. Second, vitamin D is a fat soluble compound and can be stored in adipose tissues. Third, a lot of cohort studies have shown that an increased percentage of body fat and high body mass index (BMI) are strongly and inversely correlated with serum 25(OH)D concentrations, particularly in Caucasians. Fourth, in rodent models, vitamin D modulates insulin synthesis and secretion. Outstandingly, 1,25-(OH)2D regulates calcium trafficking in β-cells in vitro and in mouse models. Calcium trafficking is of tremendous importance in the initiation and regulation of pancreatic insulin secretion as well as in the peripheral insulin actions. Periodic measurement of serum vitamin D in diabetics is a means of elucidating the patients status and needs for this vital chemical.

O42

Knocking down of leukocyte common antigen related (LAR) with shRNA improve insulin signaling cascade in C2C12 muscle cell

Sattar Gorgani-Firuzjaee 1 , Salar Bakhtiari 2 , Hossein Mazloom 3 , Reza Meshkani 4 *

1-Thran University Of Medical Sciences - AJA University Of Medical Sciences, Gorgani59@Gmail.Com, 2-Ilam University Of Medical Sciences, Bakhtiari@Gmail.Com, 3-Thran University Of Medical Sciences, Mazloom.Hossein@Gmail.Com, 4-Thran University Of Medical Sciences
rmeshkani@tums.ac.ir

Background: Insulin resistance plays a major role in the development of some diseases such as type 2 diabetes (T2D) and metabolic syndrome. Muscle insulin resistance has a key role in whole body glucose homeostasis, as almost 80% of insulin-dependent glucose uptake in the body occurs in this tissue. Leukocyte antigen-related (LAR) as a receptor-like tyrosine phosphatase has some roles in different cellular functions such as establishing and maintaining neuronal networks, apoptosis, and glucose homeostasis. There are several lines of evidence that LAR acts as inhibitor of insulin action. In this study, we aimed to investigate the importance of inhibition of LAR expression on insulin signaling molecule (AKt and IRS1) in muscle cells. Material and method: We established stable C2C12 cell line which knocking down LAR with shRNA and for insulin resistance induction, treated C2C12 and stable C2C12 cells with palmitate. Harvest cells, RNA and protein extracted and gene expression in mRNA and protein level with real time PCR and western blot analyzed. And glucose-uptake assay performed. Results: LAR protein level was decreased by 65% in the stable cell line compared with the control cells. Palmitate (0.5mM) significantly induced LAR mRNA (65%) and protein levels (40%) in myotubes compared with untreated cells. LAR depletion improved insulin-stimulated glucose uptake in myotubes treated with palmitate. Furthermore, the inhibition of LAR prevented palmitate-induced decreases in phosphorylation of IRS1Tyr632 andAkt Ser473 inC2C12 cells. Discussion: Results reveal that palmitate induces LARexpression inC2C12 cells. We also provided evidence that the inhibition of LAR attenuates palmitate-induced insulin resistance in myotubes.

Keywords: insulin resistance, LAR, Palmitate

O43

Effect of multi-strain probiotic supplements on metabolic profile, inflammatory factors and oxidative stress in patients with type 2 diabetes

Zatollah Asemi * , Akram Khassaf , Akram Hosseini , Tayebbeh Bagherian

asemi_r@yahoo.com, Khassaf@gmail.com, Hosseini@gmail.com, Bagherian@gmail.com

Objective: This study was designed to determine the effects of multi-strain probiotic supplements on metabolic profiles, inflammatory factor and oxidative stress in diabetic patients. Methods: This randomized double-blinded placebo-controlled clinical trial was performed on 54 diabetic patients aged 35-70 y. Subjects were randomly assigned to take either multispecies probiotic supplement (n=27) or placebo (n=27) for 8 weeks. The multispecies probiotic supplement was consisted of seven viable and freeze-dried strains: Lactobacillus acidophilus (2×109 CFU), Lactobacillus casei (7×109 CFU), Lactobacillus rhamnosus (1.5×109 CFU), Lactobacillus bulgaricus (2×108 CFU), Bifidobacterium breve (2×1010 CFU), Bifidobacterium longum (7×109 CFU), Streptococcus thermophilus (1.5×109 CFU) and 100 mg fructo-oligosaccharide. Fasting blood samples were taken at baseline and after intervention to measure metabolic profiles, hs-CRP and biomarkers of oxidative stress including plasma total antioxidant capacity (TAC) and total glutathione (GSH). Results: We observed a significant increase in HOMA-IR in both probiotic (P=0.02) and placebo groups (P=0.001); however, the increase in placebo group was significantly higher than that in probiotic group (+2.38 vs. +0.78, P=0.03). Mean changes in serum hs-CRP were significantly different between the two groups (-777.57 for probiotic vs. +878.72 ng/ml for placebo group, P=0.02). Probiotic supplementation led to a significant increase in plasma GSH levels compared to placebo (240.63 vs. -33.46 µmol/L, P=0.03). Conclusion: In conclusion, multispecies probiotic supplementation, compared with placebo, for 8 weeks in diabetic patients prevented the rise in FPG and resulted in a decrease in serum hs-CRP and an increase in plasma total GSH.

Keywords: Probiotics, Metabolic Profiles, Hs-CRP, Oxidative Stress, Type 2 Diabetes

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O44

The relationship between Vitamin D and Calcium with Metabolic syndrome in elderly, North of Iran

Reza Ghadimi *, Seyyed Reza Hosseini , Mohammad Ali Bayani

rezaghadimi@yahoo.com,

Background: Metabolic syndrome consists more than 20% of adults in USA. Hypertension is a global problem today and recently a negative relation is found between this issue and serum level of 25-hydroxy vitamin D3. Main goal: According to the high prevalence of metabolic syndrome in the world and the differences between geographic areas and nutritional habits, serum level of vitamin D could be variable. So we decided to evaluate the relationship between vitamin D and calcium in patients with metabolic syndrome (MetS) in elderly, Amirkola, Babol city, North of Iran. Materials and methods: This was a part of a cohort study in those older than 60 years-old in Amirkola, Babol city. Demographic data were gathered by a standard questionnaire. Fasting blood samples were gathered and evaluated. Subjects were divided to two groups: 663 persons with MetS and 554 controls according to the Iran criteria for MetS. Vitamin D was evaluated by ELISA. Informed consent was taken from all. Chi-2, t-test and logistic regression tests were used to analyze data. Results: Women were more affected by MetS (52.3% vs.41.4%). No differences were seen between MetS and controls regards to the serum level of vitamin D [OR 95% CI=1.1 (0.9- 1.38)]. MetS patients were more prone to hypocalcemia [OR =1.4 (1.03- 1.91)] which was not seen in females. A significant difference was seen between controls and MetS regards to the calcium level in males. Serum level of vitamin D and calcium was almost equal between normal population and MetS (adjusted for blood pressure, diabetes, low HDL and central obesity). A significant relationship was seen between triglyceride and vitamin D and calcium in males. Conclusion: It seems that in Iranian population this difference is not significant, although etiologies like vitamin D deficiency in general population could be an explanation for non-significant difference between MetS and normal population.

Keywords: Metabolic Syndrome, Vitamin D, Serum Calcium

O45

To investigate the relationship between micro-albuminuria in patients with type 2 diabetes and HbA1C

Fatemeh Sabouri * , Abbasali Zeraati

sabourif2@yaho.com, zaraatia@mums.ac.ir

Introduction Microalbuminuria is considered as an early marker for diabetic nephropathy. Microalbuminuria and HbA1C are risk factors for diabetic nephropathy.In this study the relationship between microalbuminuria in patients with type 2 diabetes and HbA1C were examined. Methods In this cross-sectional study, HbA1C were measured in 30 (12 male and 18 female) patients with type 2 diabetes and microalbuminuria, and 34(16 males and 18 females)diabetic patients without microalbuminuria. Microalbuminuria is defined as urinary albumin (in mg per liter) to creatinine (mmoles per liter) ratio(UACR),(30 to 300 mg per g was considered as microalbuminuria).Pearson correlation test was used to examine the relationship between UACR and HbA1C. results The average age in patients with type 2 diabetes with or without microalbuminuria were 7/15 ± 5/51 and 39/10 ± 1/55, respectively. The average HbA1C in diabetic patients with and without microalbuminuria were respectively 8/2 ± 55/10 and 31/2 ± 15/9 with a statistically significant difference between groups. The relationship showed between UACR and HbA1C was not statistically significant (r = 0.27, P = 0.03). Conclusions The relationship between micro-albuminuria and HbA1C in patients with type 2 diabetes, showed that the diabetes in the presence of microalbuminuria is out of control,but to generalize the results,studies with larger sample size is needed.

Keywords: Microalbuminuria, Hba1c, Diabetes

O46

Assessment of plasma 25 (OH) vitamin D levels in type 2 diabetes mellitus patients

Ali Mohammadi Karkani 1 *, Ghaffar Almasi 2

1-Alborz Hospital, Social Security Organization, Karaj, Iran , 2-Razi Pathobiology Laboratory, Karaj, Iran, akmohammadi@ibb.ut.ac.ir, ghaffaralmasi1352@yahoo.com

Introduction: Recently the uses of novel biomarkers to help identify risk factors for type 2 diabetes are considered. The novel biochemical markers could serve as a screening tool for predicting future diabetes and use for its prevention. These biomarkers include Adiponectin, Leptin, IL-6, ALT/GGT, Ferritin, IGF-1, CRP, vWF antigen and Vitamin D. The present study was investigated vitamin D levels in type 2 diabetes mellitus patients. Methods: The totals of 122 outpatients (39 men and 83 women) with type 2 diabetes were selected. Based on HbA1c patient divided into two groups; good glycaemic control and poor glycaemic control. The correlation of blood glucose control with other variables factors such as age, vitamin D, ferritin, hemoglobin, MCV, CRP and albuminuria was analysis used SPSS program. Results: Diabetic patients with poorly controlled blood glucose had significantly lower status of vitamin D than patients with good controlled blood glucose (20.1 ± 10.8, 25.9 ± 17.3 respectively p= 0.035). Additionally we observed that 9.8% out of patients had hematuria and 13.9% with urine cast. Conclusion: Vitamin D levels should be monitored in diabetic patients especially in subjects with poorly controlled blood glucose.

Keywords: Type 2 Diabetes Mellitus,Vitamin D, Hba1c, Novel Biomarkers

Iranian Association of Clinical Laboratory Doctors

Research in Laboratory Sciences (Microbiology) O47 - O54

Development of laboratory sciences knowledge is owed to the extensive researches and investigations conducted by the experts in this field of medical science. Since microorganisms attend in all facets of human life in a compulsive coexistence with human being, it is particularly important to identify different types of them and to investigate the way how to control and restrain especially the pathogenic types. The microbes like all other organisms fight for survival of their generation with the factors disturbing and annihilating them and it is the way they could overcome different generations of medical treatment of us as human beings. That is why our clever investigation to identify intelligence of such microorganisms takes on a great importance.

To honor this field of laboratory sciences, the Quality Improvement Congress plans to make presentations on qualified and effective researches in educational and researching policies in the form of lectures and posters of Congress in 2013. Thus, all students, scholars and colleagues in the laboratories of the country are invited to send their valuable experiences in the form of articles and abstracts to secretariat of this congress.

Dr. A. Sadeghitabar, DCLS

O47

Value of the IgG Avidity measurement in estimation of the time of Toxoplasma infection

Ali Sadeghitabar 1 * , Reza Nasiri 1 , Haleh Soltanghoraee 1 , Saeed Zaree 1 , Romana Khosravi 1

1- No.97, Yakhchal Ave. Shariati St. Teharan,
asadeghitabar@yahoo.com, reza.nasiri550@gmail.com, haleh53sg@yahoo.com, medicalirn@yahoo.com, roma_kh1@yahoo.com

The acute infection of women with Toxoplasma Gondii during pregnancy may be followed by unfavorable results for the fetus. Since clinical symptoms are usually absent or non-specific, the Toxoplasma infection of the mother is detected in most cases by the demonstration of specific anti Toxoplasma antibodies. It discovered that the avidity of specific antibodies increases over time and therefore can be considered as a measure to estimate the strength of antigen-antibody complex and finally the age of infection. Numbers of 150 females from Avicenna Infertility Clinic (AIC) that were asked for Anti Toxoplasma IgG and IgM, and also were positive for the titer of anti Toxoplasma IgG have been analyzed for anti Toxoplasma gondii IgG avidity. Both IgG and IgM specific anti Toxoplasma were determined by Chemiluminescence method and using LIAISON instrument manufactured by DiaSurin Company and IgG Avidity test were determined by ELISA kit manufactured by Euro Immune Company. The Obtained results were analyzed by means of SPSS software and using Regression statistical method. Significant relation between T.IgG Avidity and T.IgG ($P<0.001$) and T.IgM ($P<0.014$) has been detected, and diagnosed that by addition of one unit to the T.IgG Avidity, T.IgG increases 0.1 unit (CI 95%:0.7- 0.1), and T.IgM decreases 0.4 unit (CI 95%: -0.8 - -0.1). Because the clinical management of pregnancy depends on knowledge of the time distance between infection and conception, determination of Specific anti Toxoplasma IgG avidity is particularly important in case of detection of specific IgM antibodies, which be present for a prolonged period of time. In such cases, the value of Avidity measurement to determine infections acquired in recent few months is proved in scientific societies. It shows that during time passing and decrease of IgM titers, not also the titer of IgG raises, but also the avidity of IgG to antigen invigorates.

Keywords: Toxoplasma, Conception, Infection, Avidity

O48

Application of Nanobiotechnology in Diagnosis of Mycobacterium tuberculosis (MTB)

Masoud Fallahpour * 1 , Mohammad Reza Bakhtiari

1-Iranian Research Organization for Science and Technology, Biotechnology Dept.
fallahpour@irost.ir

Diagnosis of TB infection is essential for treatment and controlling its spread among various populations. The routine diagnosis of active TB infection employs various approaches including smear microscopy, culture, molecular diagnosis, and clinical symptoms. There is an essential need to develop simple, inexpensive, sensitive and portable assay for the detection of MTB infection. A variety of nanobiotechnology methods using different nanobiosensors have been developed for detection of MTB. A biosensor platform consists of an analytic device coupled with a biological sensor, which responds to physicochemical changes on the sensing area. These sensing platforms are based on detecting antibody–antigen interactions and nucleic acid hybridization. There are several kinds of TB biosensors. Mass/piezoelectric sensors have high sensitivity to changes in mass and surface characteristics. Optical biosensors detect cultured MTB and are rapid and highly specific in differentiating MTB from other strains. Chip-nuclear magnetic resonance biosensors detect MTB as few as 20 CFU/mL in samples. Enzymatic immunosensors use a sandwich ELISA device to detect antigens of MTB using an antibody that was conjugated to alkaline phosphatase. The enzyme hydrolyses an electrochemical substrate to achieve voltammetric detection. A new enzymatic TB sensor utilizes a natural BlaC enzyme (a β-lactamase) and fluorogenic substrates. Acoustic biosensors rapidly detect growth of MTB in culture in a day. In biosensors based on nucleic acid hybridization, gold nanoparticle-based probe assays detect MTB PCR amplification products and in a PCR-free type, detect MTB genomic DNA. This method showed comparable sensitivity and specificity to PCR in detecting MTB from clinical sputum samples.

O49

Rapid detection of Staphylococcus aureus and Streptococcus pneumonia sinusitis by PCR

Mohammad Hassan Shahhosseiny 1 *, Mehrdad Rabiei Nematabad , Mohammad Amin Mahmoudi , Parastoo Chamanrokh , Sam Massahi

1- Department of Microbiology, Islamic Azad University, Shahr-e-Qods branch / Iranian Gene Fanavar Institute (IGF), Tehran, Iran
shahhosseiny@yahoo.com

Background and Aim: Staphylococcus aureus and Streptococcus pneumoniae are of the most common causes of pathogen in humans, and is also known as two of the main factors that cause sinusitis. Sinusitis is an infection of the sinuses. They can become infected when blocked by swelling or mucus due to colds or allergies. Sinusitis occurs most often in children and adults. Our purpose in this research is rapid molecular detection of Staphylococcus aureus and Streptococcus pneumoniae sinusitis. Methods: The specimen was provided from the secretion of maxillary and frontal sinuses of hospital patients. Genomic bacterial DNA was extracted by DNG-plus kit and amplified employing sequence-specific target gene for S.aureus and S.pneumoniae. PCR optimized and carry out sensitivity and specificity tests. Amplicons were cloned and sequenced by Dideoxy chain termination. This study has been performed on 40 samples which obtained in the hospital during the surgery from patients with sinusitis. Results: The products of optimized PCR with 279 bp and 227 bp length correctly amplified and observed on 1.5% agarose gel electrophorese. Evaluation of the selected primers with various DNA of other microorganisms demonstrated 100% specificity. Sensitivity of the test was 10 CFU of bacteria for two tests. Samples DNA obtained carefully extracted and amplified by PCR. From the 40 samples, 50% of them were positive for Staphylococcus aureus and 37% of them were positive for Streptococcus pneumonia. Discussion: The results showed that the two newly developed PCR methods are a highly specific and efficient tool for the rapid detection of S. aureus and S. pneumonia sinusitis. This technique can be safely used for early diagnosis of sinusitis with high accuracy.

Keywords: Sinusitis, Staphylococcus Aureus, Streptococcus Pneumonia

O50

The effect of ampicillin and gentamicin conjugated with gold nanoparticles on the formation of biofilms in Pseudomonas aeruginosa

Mitra Jamali 1 *, Mehdi Rostami 2

1-Iran, Tehran, Artesh Highway Number115, 2-Tehran University
mitrajamali88@yahoo.com, mehdirostami1984@gmail.com

Background and aim: Pseudomonas aeruginosa is a Gram-negative bacterium and an important opportunistic pathogen with many virulence factors. Pseudomonas aeruginosa frequently found in soil, marin, habitats, plants, animals, and humans.It is the third most common pathogen associated with hospital acquired infections that it is the main pathogen found in the lungs of cysticfibrosis (CF) patients. Chronic colonization of P. aeruginosa in CF patients causes progressive lung damage, respiratory failure, and death. One of the most important mechanisms for continueing the survival this pathogen in the lung, is production of biofilm. This structure is matrix-closed bacterial communities within exopolysaccharide encasings that Biofilms can be up to 1,000times more resistant to antibiotics than planktonic cells because Alginate, which is the main constituent of P. aeruginosa biofilms, is an unbranched linear heteropolysaccharide, which acts as a barrierand protects the infecting cells from humoral and cellular host defence systems from the action of antibiotics as well as therefore infections that biofilm has been produced, are difficult to eradicate with antimicrobial treatment. methods: In this study, we investigated the anti-biofilm activity of ampicillin and gentamicin conjugated with gold nanoparticles. results and conclusion: The results showed differences in the antibiotic susceptibility of planktonic and biofilm cell populations also there are difference between effect of pure antibiotics with antibiotic/gold nanoparticle on biofilm production of Pseudomonas aeruginosa ATCC 27853. Meanwhile the anti-biofilm and bactericidal activity of gentamicin showed more impressive than the effects of ampicillin.

Keywords: Gold Nanoparticles, Biofilms, Pseudomonas Aeruginosa

O51

Designing and Preparation of Quantum dot based biosensor for rapid detection of Vibrio cholera toxin

Habib Zeighami 1 * ,Fakhri Haghi 1

1-Department of Microbiology, School of Medicine, Zanjan University of Medical Sciences, Zanjan, Iran,
zeighami@zums.ac.ir, haghi@zums.ac.ir

Cholera, an acute gastrointestinal infection caused by the Vibrio cholera, currently affects over 100,000 persons annually. V. cholera, expresses a toxin required for virulence consisting of two subunits: the pentameric cholera toxin B (CTB) and cholera toxin A (CTA). CTB is frequently used as an indicator of the presence of pathogenic V. cholera and binds to the GM1 ganglioside on the surface of epithelial cells. Quantum dots (QDs) are a novel class of inorganic fluorophore which are gaining widespread recognition as a result of their exceptional photophysical properties. In this investigation the Fluorescence resonance energy transfer (FRET) assay, a rapid, sensitive and reproducible technique based on QD, was successfully applied to detect Vibrio cholera toxin. The target gene encoding CTB amplified from toxigenic Vibrio cholera chromosome by PCR, and digested by restricted endonuclease enzyme)Xho I and Hind III(and inserted into the prokaryotic expression vector pET28a(+). After that the recombinant vector verifrid by PCR, double digest and sequencing. The target protein was expressed in the BL21 (DE3) E.coli strain, and rCTB immunoreactivity was studied by western blotting after Ni-NTA resin purification. The Anti-CTB was prepared by immunization of rabbits with purified rCTB and feround adjuvant, and purified by G-colum. CdTe core quantum dots have been synthesized in an aqueous phase using thioglycolic acid and N2. Then prepared QDs confirmed by TEM. After that Ab-QD and rCTB-rhodamine conjugates were prepared with glotaralghyde as a linker. All conjugate were confirmed with FTIR and TEM. At the end cholera toxin, LT and verotoxin evaluated by designed biosensor. Our results showed that CTB were expressed successfully in E.coli (250 µg/ml) and Antibody titer in rabbit was very high (535mg/ml). The FTIR and TEM results confirmed conjugates. Our designed biosensor can be detected 5 ng/ml of cholera toxin in less than 5 min and was highly reproducible. This assay also showed no cross-reaction with other toxin (LT and Verotoxin). The assay was significantly faster than available methods and should facilitate early and rapid toxin detection in clinical and food samples.

Keywords: Cholera, CTB, FRE, QuantumDots, Vibrio Cholera

O52

Construction of nano dendrimer containing HPV E 16d candidate vaccine and evaluation of its immune response in murine model

Atefeh Shahbazi 1

1-pasteure
shahbazi_2082@yahoo.com

Cervical cancer is the second most common cancer in women worldwide. More than 99% of cervical cancers contain human papiloma virus (HPV) and HPV type 16 is the most common type in all countries. Papillomavirus–induced carcinogenesis is mainly related to two proteins E6 and E7 that are consistently expressed in HPV positive cervical carcinomas and are considered substantialy for therapeutic implications. Although the size of these proteins is small, they can attach to the regulatory proteins in host cells, eliminate cell-mediated immunity, and causes malignancy in the target tissue.Up to now, different methods have been used for production of therapeutic vaccins against human papillomavirus. These vaccines have some advantages and disadvantages. Today, researchers are seeking for carriers that can be loaded with vaccines and enhance the therapeutic effectiveness of the vaccine, so they have gone into production of dendrimers and nano technology. Due to their interesting abilities for carrying DNA, passing through the membrane and their appropriate size, dendrimers have been used extensively in vaccine delivery. In terms of size, shape, length and functional surface groups NanoDendrimers are very similar. They can place the molecules among their branches and protect them against external factors and release them in target tissues. In this study, nano Dendrimr based E7d protein as a vaccine candidate was made and then at the dose of 10mg was administered to the experimental groups. Two groups were vaccinated with Ed proteins; frond and alum adjutant and controls were injected with PBS buffer and Dendrimer. Mice were vaccinated subcutaneously three times at two weeks interval .Two weeks after the last injection the immune responses were evaluated. Lymphocyte proliferative responses by Brdu method and the cytokines IL-4, IFN-g, and total antibody IgG1, IgG2a were evaluated with ELISA.Finally, the results are shown that dendrimer nano vaccine candidate based on E7d - protein provoke the cellular and humeral immune responses and could be a good candidate for study in humans.

Keywords: Human Papilloma Virus, E7d, Protein

O53

Internal Control construction for PCR diagnosis of Mycoplasma pneumonia

Neda Ghamari Khosravie * , Mohammad Hasan Shah Hoseini , Mohammad Hasan Khatami Nezhad, Elham Moslemi

nedaghamari94@yahoo.com, shahhosseiny@yahoo.com, swansong198464@yahoo.com, nedaghamari94@yahoo.com

Abstract Introduction and Aim: Micoplasma pneumoniae is a one atypical pneumonia that it involves usually individual less of forty years. Different studies show that 15-50% pneumonia in adults and even children in school age is result from these bacteria. There is different ways for diagnosing of this bacterium, but molecular methods such as PCR are more techniques to these bacteria due to fastidious attitude and transferable state without sign. But one of disadvantages this strong molecular technique is creating of different results in laboratories due to non- standard of molecular ways. For solving this problems, in this research, carry out control/ computational IC designed as PCR- cloning. Methods: PCR test optimized using of P1 Adhesion special primers. Sensivity and specificity of test evaluated by serial dilution and other genome DNA. To produce competitive internal control in this study, composite primers and PCR-Cloning method were used. IC-M.pnemoniae amplified in low stringency and then ligated with pTZ57R plasmid, and transformed in E.Coil JM107. The minimum IC number was studied using dilution and also PCR response spectrum with IC. Result: By using special primers Mycoplasma pneumoniae PCR product was 345bp and IAC-M.pneu product was 669bp which had desirable different in sizes. Sensitivity of PCR test for Mycoplasma was equal to 10 bacteria's and its specificity was 100%. Minimum number of IC in each reaction was 1000. Minimum and maximum of PCR sensitivity with IC for Mycoplasma pneumoniae DNA was determined as desirable. In specificity test with different agents no non specific product was observed. Conclusion: The negative and positive false results which occur for many deferent reasons, is one the difficulties of this exacting technique despite of high rate and accuracy of PCR, which may led to decrease the performance. Using an internal control in molecular detection as an insider controlling system, could identify these errors.

Keywords: Mycoplasma Pneumoniae, Internal Control, PCR, PCR-Cloning

O54

Study the potential of Brucella melitensis recombinant HSP in conferring protection against brucellosis in Balb/c mice

Amir Ghasemi * , Mohammad Hosein Salari , Amir Hassan Zarnani , Mahmood Jeddi-Tehrani

ghasemia77@yahoo.com, mhsalari2000@gmail.com, zarnani25@yahoo.com, mahjed@yahoo.com

Introduction: Brucella melitensis infection is still a major health problem for human and B. melitensis Rev.1, an attenuated smooth strain used to control B. melitensis infection but because of some problems a subunit vaccine that is protective against B. melitensis is desirable. In order to study the potential of HSP for the development of a brucellosis subunit vaccine, immunogenicity and protective efficacy of recombinant HSP from Brucella melitensis was evaluated in BALB/c mice. Material and Methods: Firstly, hsp gene was cloned and expressed. Different mice were immunized by the intraperitoneal route with 30 µg of recombinant HSP, PBS and Rev.1 vaccine. Then, LTT assay, Cytokine assay, specific IgG1, IgG2a assay and protection assay were done. Results: The recombinant HSPA generated high IgG antibody levels with higher IgG1 than IgG2a titers. In addition, after adding rHSPA to spleen cells of immunized mice in vitro, the splenocytes started to proliferate and produced significant amount of IFN-γ, IL-12, IL-10 and IL-6. Moreover, a slight increase in IL-5 and IL-4 production was also observed. Therefore, both Th1 and Th2 responses are probably induced against rHSP. The protective effect of rHSP was evaluated by administering rHSP in combination with adjuvant to mice that resulted in a significant degree of protection against B. melitensis infection compared to mice immunized with PBS($P<0.001$) but lower than Rev.1 induced protection. Conclusion: These results suggest that rHSPA induces partial protection against B. melitensis infection and may be a useful candidate for the development of subunit vaccine against brucellosis.

Keywords: Brucella, Cloning, Vaccine, Protection

O55

acellular persistence of Mycobacterium ulcerans in Acanthamoeba lugdunensis

Bahram Ravadgar * 1 , Nicholas J. Tobias 1-3 , Irene Hatzinisiriou 2 , Timothy P. Stinear 1-3

1- Department of Microbiology, Monash University, Clayton 3800, Victoria, Australia
2- Department of Biochemistry & Molecular Biology, Monash University, Clayton 3800, Australia
3- Department of Microbiology and Immunology, The University of Melbourne, Parkville 3010, Australia
bahram_ravadgar@hotmail.com

Mycobacterium ulcerans is an environmental mycobacterium and the cause of a necrotizing skin disease in humans and other animals called Buruli ulcer. The natural host and reservoir of this M. ulcerans is unknown. Here we used flowcytometry, fluorescence microscopy and quantitative PCR to monitor the fate of mycolactone-producing GFP-labeled M. ulcerans infection of Acanthamoeba. Electron microscopy was also used to confirm an intravaculoar location of M. ulcerans within Acanthamoeba. These experiments showed that over four weeks M. ulcerans was able to persist and replicate within Acanthamoeba trophozoites and then continue to persist after amoeba en- and excystation events. Similar results were obtained with M. marinum but not M. smegmatis, the latter species incapable of intracellular persistence. This study suggests that Acanthamoeba or another related protozoan could act as an environmental host of M. ulcerans.

Posters

Iranian Association of Clinical Laboratory Doctors

Accreditation and Quality Assurance P1 - P15

P1

Evaluation and validation of molecular diagnostic tests for infectious diseases

Mohsen Imani 1 * , Alireza Dolatyar Dehkharghani 1 , Mohsen Ghelman 2

1- Keikhosroshahrokh Alley-Zartoshtian Alley-Junction of Hafez & Jomhuri-Tehran-Iran, 2- Immunology department-School of Allied Medical SciencesTehran University of Medical Sciences(Hemmat Campus)-Tehran-Iran-,

imohsen1346@yahoo.com, ardltyr@ymail.com, mohsen_ghelman@yahoo.com

Introduction: Several molecular diagnostic tests for infectious diseases in the clinical laboratories are used. These tests are powerful tools and in cases where infectious agents can not be cultured or culture are difficult, are valuable. Most molecular tests used in laboratories are produced commercially and have FDA & CE approvals. These tests must be evaluated and validated by laboratories. Objective: Evaluation and validation of laboratory-developed molecular diagnostic tests for infectious diseases In this article on how to validate to test and to determine the criteria that must be assessed by laboratory. The performance characteristics that must be evaluated by laboratory include accuracy, precision reportable range, reference interval, analytical Sensitivity, analytical specificity. Documentation of all validation and verification experiments must be kept by laboratory. Control and calibration procedures should be based on performance criteria.

Keywords: Vlidation, Functional Criteria, Molecular Tests, Infectious Diseases

P2

Yaftabad hospital Services Quality Analysis Using Importance-Performance Analysis (IPA)

Sudabeh Vatankhah 1 , Akram Baniasadi 1 *

1- Tums
neg.baniasadi@gmail.com

Introduction: Nowadays service quality and customer satisfaction has become one of the most popular managerial dimensions and customer centralization changed to be the first strategy in service organizations. Quality measurement and management has changed to be one of the most important topics in health care today. This study aims to analyze service quality through Importance-performance Analysis tool in selected hospitals. Methods: This is a descriptive, cross-sectional study performed in Yaftabad hospitals during a specific period. The sample of the study consists of 101 inpatient person selected by random sampling method. The main instrument was a questionnaire consists of two parts "importance" and "performance". Analyzing services quality is performed in 8 dimensions according to IPA rules and descriptive statistics by using SPSS 17.0 and Excel for windows. Results and conclusion: The results of the study indicate that 56% of participants were women and 44% were men. The most important dimensions in patients attribute with 3.43 mean were for "accountability" and "assurance" and the best performance in patients point of view was for "reliability". The key dissatisfier with least importance and performance score was for "service organization". Discussion: Application of IPA to these data showed that empathy and accountability are important dimension that should focuse on. And also in this study according to hospitals performance and importance of each dimensions in point of customers view some practical strategies is offered to programmers and decision makers.

Keywords: Service Quality, Importance-Performance Analysis (IPA), Hospital

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P3

Negative predictive value of the CVS (chorionic villous sampling) in the diagnosis of thalassemia in genetic laboratory of Dastgheib hospital, Shiraz, 2012

Fariba Ghahramani 1 * , Yousef Alimohamadi 2 , Mohammad Mahboubi 3

1- Shiraz University of Medical Sciences, 2- student research committee, Shiraz University of Medical Sciences,Shiraz, Iran, 3- Kermanshah University of Medical Sciences,Kermanshah, Iran,
ghahramani@sums.ac.ir, yousefalimohamadi@ymail.com, mm56m@yahoo.com

Objective: Chorionic Villous sampling is a diagnostic method for determining genetic disorders including major thalassemia.The aim of this study was to determine Negative predictive value of the CVS in the diagnosis of thalassemia in genetic laboratory of Dastgheib hospital. Methods: The present research was an evaluation diagnostic test. 372 cases related to embryos, that were tested through CVS in genetic lab in 2010 and after birth were diagnosed in 2012 by electrophoresis, were investigated. The results in Table 2 &2 sign of sensitivity and positive predictive value (for minor thalassemia) and specificity and negative predictive value of this test were determined. Results: 3 of the embryos (0.8%) were aborted due to testing. In this study, sensitivity and specificity, respectively, 93.7%, 84% and Positive and negative predictive values respectively, 89.5% and 90% were determined. Because all positive cases that were diagnosed with major thalassemia were aborted, sensitivity and positive predictive value was determined based on the results of thalassemia minor. There was no relation between gestational age and test results. Conclusion: The results of this study showed that CVS genetic testing in genetic laboratory of Dastgheib hospital was valid and had high diagnostic value. And minor couples can safely do this test for the prevention of major thalassemia.

Keywords: Thahlassemia, Predictive Value, Chorionic Villous Sampling, Genetic, Laboratory

P4

The status of quality control in Hematology in Medical Laboratories in Kermanshah

AliMaleki *

maleki.hem@gmail.com

Results Among the participating laboratories, 34 laboratories performed daily quality control in Hematology. 36 laboratories used commercial control blood (Mindray in two laboratories, Baker in two laboratories, R & D in two laboratories, Labex in two laboratories, Sands in 4 laboratory, Baharafshan in two laboratories and in 3 laboratories the brand of cell control was not specified). Of these, 28 laboratories only used the normal level, 3 laboratories normal level plus an abnormal level (alternating high and low levels) and 7 laboratories used all 3 levels (normal, abnormally high and abnormally low) of control cells. Only in four laboratories the blood controls made in the laboratory were also used. With respect to the use of control charts, 25 laboratories used Levey-Jennings chart, 13 laboratories had not responded, and no laboratory used Kiusum-Nuden chart. In connection with the evaluation method of commercial cell controls, 20 laboratories used comparison of the responses with the expected range of responses, three laboratories used control charts and evaluated the pattern of responses, seven laboratories used multiple Westguard rules and six laboratories used all the three methods. 17 laboratories were familiar with Brittin control method, of which 16 used it irregularly. 20 laboratories irregularly used the dual test control method. 16 laboratories were familiar with the mobile average method of control. Cell counters from 13 laboratories were equipped with this software, but only one of the laboratories used this method. In all the laboratories, the control method of consistency of the responses with clinical situation of the patient was used, most often done by the technical manager of the laboratory. 35 laboratories participated in external assessment programs, among which 10 participated in external assessment program of laboratory science PhD Forum, 12 in the external evaluation program of Pishgam Iranian, 13 in external assessment program of reference laboratory of Kermanshah and 2 in external assessment program of reference laboratory of Social Security Fund. In 20 laboratories, a computer was equipped with quality control software. There were 12 quality control software of health reference laboratory, 5 Sina quality control software and 3 laboratories did not mention the software.

Keywords: Quality Control, Hematology

P5

Differential diagnosis of liver tumoral masses

Hasan Jahan Hashemi , Fatemeh Talebi , Fatemeh Samiee Rad 1*

jahanihashemi@yahoo.com, f_t206@yahoo.com, fsamieerad@gmail.com

Patients and Methods: For this cross-sectional study data were evaluated from 125 patients who underwent image-guided sampling using (computed tomography scanning guidance) needle core biopsy for liver masses at Rajaee and Velayat Hospitals between February 2008 and December 2012. The data from these participants were obtained by a check list and review of biopsy speciemens.For confirmation of diagnosis and subspecializations, IHC studies were performed.The results were expressed by histopathologic diagnosis.Both descriptive and statistical analysis methods were applied. Results: Age range of subjects in this study was 53-77 years and more common in male patients (%57).The most common chief complains were jundice and weight loss. Laboratory findings including : raising of ESR , liver functional tests and bilirubin .Histopathology findings in (11%) of the patients shown hepatocellular carcinoma , (27%) lung adenocarcinoma, (16%) colonic adenocarcinoma, (9%) gastric adenocarcinoma, (11%) breast invasive ductal carcinoma, (5%) ovarian carcinoma, (7%) prostatic carcinoma, (5%) esophageal squamous cell carcinoma , (.2%) signet ring cell carcinoma , (3%) renal cell carcinoma ,and (4%) lymphoma. Conclusions: The main diagnostic challenges facing the pathologist when studing a liver biopsy include distinguishing hepatocellular carcinoma from other carcinomas with similar features. Most metastatic malignancies in the liver may be correctly diagnosed using standard morphology and immunohistochemical techniques. However, subtyping of some carcinomas and identification of site of unknown primary remains problematic. New technologies may help to further refine our diagnostic capabilities.

Keywords: Liver, Mass

P6

Evaluation of a constant K2.EDTA concentration effects on CBC indexes with different blood volume

Akram Moslehi

akrammoslehi110@yahoo.com

Back ground and Aim: In this study, our purpose was to analyze CBC parameters variation with a constant K2.EDTA concentration in 0.5, 1 and 2ml blood samples, because in some patients we should make a optimal use with a minimum blood sampling. Previous studies were accomplished on other EDTA salts and they have shown different effects in CBC parameters. Methods: 70 persons were eligible in the study and 9 parameters of CBC: Hb, Hct, RBC, WBC, PLT, MCV, MCH, MCHC and MPV were measured by Sysmex Kx 21 instrument, and then obtained results were analyzed by statistics package. Results: The results showed a significant difference in Hct and MCV indexes when 0.5 ml blood had been added to a tube with 4.5 mg dried K2.EDTA, but there is no difference in other indexes. 1ml and 2ml blood samples with similar concentration salt had no variation in parameters; therefore we could use 1 ml as minimum blood volume for CBC tube. Conclusions: Based on the results, it could be suggested that RBC permeability membrane has increased to exposure of K+ of K2.EDTA. The K+ could be solved in the plasma and penetrate into RBC by potassium leaky channels. At last, by mentioned results it could be concluded that both RBC volume (MCV) and Hct are increased together. (According to formula: MCV=Hct×100/RBC)

Keywords: CBC,K2EDTA, Potassium Leaky Channels

P7

Evaluation of quality control systems, cell counters in a few health centers in hamedan

Sima Tavakoli 1 * , Mahdi Kholoujini 2 , Abolfazle Hamidi 3

1- Refreance Hamedan Lab, 2- Shahid Beheshti Hospital, 3- University Of Hamedan
s.tavakoli426@gmail.com, mehdikh1351@yahoo.com

Background: Due to increasing screening tests such as those referred to health centers and do some other tests to differentiate between iron deficiency anemia from thalassemia minor in the specialty of Hematology accuracy and acceptable test results are very important, automatic machines, (cell counters)In this regard, it is appropriate solutions. Methods: We measured the DI for the parameters WBC-RBC-Hb-Hct-MCV-MCH-MCHC-Plt in Cell Counter and health centers in Hamadan, 12 health centers and treatment using blood from control of the company labex was a serial number construction were used in this study. All were SYSMEX KX-21 cell counter model. DI of 0.5 to 2 as Parameter well intended Discussion all health centers parameters WBC, HCT has favorable results were., But the other parameters were only a outside there was a need to review the control and calibration of Discussion: This response can be obtained from a laboratory cell counter compared with the responses of other devices.

Keywords: Cell Counter Mashine, Blood Control, DI Index

P8

Microbiology laboratory Quality Control based on Quality Management System

Seyade Afrooz Azimi , Mohammad Hosein Sadeghi, Nooshafarin Safadel, Soghra Anjarani , Narmin Ghaderi, Seyedeh Mostafa Mostafavi Zadeh , Mohammad Rahbar

afrooz.azimi@yahoo.com, Sadeghi.mohamadhosein@yahoo.com, Safadel@health.gov.ir, anjarani715@yahoo.com, narminghaderi@yahoo.com, m.mostafavi@yahoo.com, rahbar_reflab@yahoo.com

This study attempts to clarify the concept of Laboratory Quality Management System (lab QMS) for a medical testing and diagnostic Microbiology Laboratory in a holistic way and hopes to expand to horizon beyond Quality Control (QC) and Quality Assurance. Background and Aim: Background:We tried to show the Quality Control in Microbiology Laboratories in capital hospitals. QMS in Microbiology Laboratories was instructed in the other country but it is not completed in IRAN and it seems QMS is a new subject. Methods: we prepared map plan for all hospitals in capital. The questionnaire approved by Ministry of health and medical education. We were done grouping the hospitals and date of implementation .It followed by filling the questionnaire, speaking with boss, auditing the organization based on ISO 15189 and QMS analyzing data. Results: The survey was seen the rate of Quality Control in hospitals has incompletely form,all the organizations followed the international standards for Microbiology ,checking the stain,using different strains during the procedure,but it has a poor monitoring the stages and calibration of instruments. Conclusions: A common problem with most of laboratories is that within a day of receiving the status edited laboratory their Quality practices slump back to primitive levels till a few months from neat assessment when they again wake and make a dash for Quality. Likely case is the change in exciting staff with most worrisome being change in the Quality Management (QM).

Keywords: Control, Quality Management System,QualityAssurance, Microbiology Laboratories, ISO 9001, ISO 15189

P9

The Effect of Audit and training on Standardization of Medical Laboratories

Mahmoud Javid * , Masoume Heydariyan , Mohammadreza Hamze , Roya Savadi , Shahram Shayegh

dr.javidm@gmail.com,mheydariyan@yahoo.com,mohammadrezahamze@yahoo.com,savadi_roya@yahoo., rshayegh@yahoo.com

Maintenance of standard principles in medical laboratories results in ensuring quality of output processes and reporting accurate test results. The aim of this study was to examine the effect of training and audit on establishing standardization in medical laboratories. To achieve this goal, the states of observing standards as ;quality control, safety requirements, space, utilities, and documentation principles; in the medical laboratories after and before providing training programs and audit s were compared with each other. Methodology :Using a standardized checklist of Health Reference Laboratory and also respecting ;preliminary audit results and needs assessment of employee training; monthly training programs for the staff of the medical laboratory were designed and also regular audits of lab management in the Social Security of Chaharmahal va Bakhtiari was carried out. The results of the compliance plan during the 18-month period of the study began in (2012) were recorded. Results: The results of the study showed that although training, per se, is helpful, mostly they indicated no existence of its significance in establishment of standardization. Conducting planned audit after training programs showed significant difference as for standardization. Conclusions: Training along with auditing standards has an apparent impact on medical laboratories, but this important issue is not realized unless senior managers support the plan and changes in staff's approaches to standardization happen.

Keywords: Training, Audit, Standardization, Medical Laboratory

P10

Evaluation of Pre-analyticalerrorin hospital laboratories

Alborz Jahangirsisakht 1 * , Ali Palash 2 , Hosain Ghalamfarsa 2 , Maryam Mohamadrezaee 3 , Nahid Mohamadkhani 4 , Zargam Dashtyan 4

1- Yasuj university of medical science,research Center of clinical microbiology,Iran,yasuj., 2- Yasuj university of medical science, Student Research Center., 3- Yasuj university of medical science.Beesat Hospital, 4- Yasuj education, Center for Education Research.,
jahangirsisakht@yahoo.com.au, alipalash@yahoo.com, hosain@yahoo.com, maryam@yahoo.com, namh.2204@yahoo.com, zargham@yahoo.com

Introduction and Objectives: Although there is much scientific literature dealing with increased laboratory quality at recently years, theStudies show that up to 56% of laboratory errors occur during the pre-analytical phase of testing. This phase begins in clinicians' offices with the initiation of the testing requisitionand includes thesteps for identification and preparation of patients' specimens. Strict adherence to proper pre-analytical procedures in the clinicians' offices and in the specimen collection centers and laboratories are essential to maintaining analytical quality and patient safety. We report our results of preanalyticalerror recording in clinical laboratory at a 1-year period. Method: Our errors that have occurred within one year of hospital laboratories and were collected by questionnaire and analyze the data Result: In most cases error in sampling (26.2%),transfer of sample (14.3%),registration of examination ordered by the nurse (12%)and minimum errors relatedmaintained(1.6%) Conclusions: The results of this study raise staff awareness of the samples in the lab will help to reduce errors. So suggest the implementation of a more rigorous methodology for error detection and classification and technologies for error reducing. Also Clinical auditis should be used as a tool to detect errors caused by organizational problems outside the laboratory.

Keywords: Hospital Laboratories, Preanalytical, Error

P11

Validation of In Vitro Assays for the Screening of Drug Activity Against Leishmania tropica

Ramtin Hadighi 1 * , Narges shahmohamad 2 , Amir Hassan Zarnani 3 , Reza Ranjbar 4 , Lame Akhlaghi 4

1- Department of Medical Parasitology, Faculty of Medicine, Tehran University of Medical Sciences, Tehran, Iran, 2- TUMS, 3- 2-Nanobiotechnology Research Center, Avicenna Research Institute, ACECR , Tehran, Iran, 4- Department of Preparation, Iran Blood Transfusion Center, Tehran, Iran,
rhadighi@tums.ac.ir, narges_shahmohamad@yahoo.com,

Efforts for the development of new therapeutics, required for the control of leishmaniasis rely mainly on screening of potentially effective compounds in pathogen growth/multiplication assays. Sensitive and reproducible methods will help us in high-throughput screening. Different methods including direct counting (optical & fluorescence) as standard assay, colorimetric assays (MTT & XTT) and Flow cytometry (FCM) were used to determine and validate glucantime and miltefosine I C50s value activity against L.Tropica promastigote, intracellular and axenic amastigote parasites. IC50s is determined by scoring the mean reduction in the parasitic index. Coefficients of variation (CV) were calculated for the assessment of reproducibility. Comparison of IC50s derived from microscopic and FCM method after 72 h for different parasite source were highly correlated apart from a drug source ($r < 0.997$; $p < 0.001$). Values obtained by XTT and FCM correlated well with parasite number ($r = 0.965$ and 0.97, respectively) and with methods that rely upon the direct counting ($r = 0.96$ and 0.95, respectively).The MTT method had a drawback in the parasites. Direct counting is time-consuming and hard to perform. MTT had a limitation in use because of inactivation of glucantime but XTT found a straightforward, reproducible and inexpensive method. FCM shows high degrees of specificity and provided accurate dose-response curves for drug testing; it was also helpful to determine apoptosis. However FCM needs particular tools and specific experience; moreover, spectrophotometric methods have not been sufficient validated. A reliable, reproducible and simple assay with standardized procedure for screening of new antileishmanial drugs is necessity .

Keywords: Validation, Screening, Drug, Leishmania tropica

P12

Usage of t-student (Brittin) for stability of calibration verification in cell counters with samples on EDTA after 5 days of collection

Soheila Behnam 1 * , Marjan Rahnemayfarzami 1 , Zahra Emami 1 , Farahnaz Darbandi 1 , Mahnaz Mohammadloo 1 , Fateme Miraliyari 1

1- Reference Health Laboratory,
soheilabehnam54@yahoo.com, marjan.farzami@gmail.com, emamiza@yahoo.com, farzadfarrah@yahoo.com, mmohammadloo@yahoo.com, f_miraliyari@yahoo.com

Introduction and aim Regarding to importance of calibration in cell counters in hematology laboratories, WHO recommended when blood control is not found for use as an internal quality control, laboratories can use of t-student (Brittin) for stability of calibration verification in cell counters. Materials and methods This study conducted with samples on EDTA after assurance of EDTA/blood ratio, at first is added 100 µl injection dextrose to these samples and then analyzed on sysmex k1000 and kx21 system. This study only proper for these hematology parameters: WBC, RBC, Hb, HCT, MCV, MCH, MCHC. Results On 70 samples each in 5 after 5 days storage in refrigerator temperature, experiments were performed and the results for all the above mentioned parameters was lower than 2.78. Conclusion Adding dextrose as a nutrient and preservative to samples is caused the stability of hematologic parameters. So according to results of this study ,laboratories with respect to blood/EDTA ratio and cold chain condition can use t-test after 4-5 days holidays for stability of calibration verification in cell counters. It is noted that this study has been done on devices like sysmex k1000 and kx21 system, and if other devices such as Mindray, Nihon kohden...used in the laboratory .can use this method after doing the same study. However, using of this method needs further studies.

Keywords: T-Student, Cell Counter, Dextrose

P13

Opium Increased Expression Of Liver X Receptor Alpha (Lxrα) In Normolipidemic Mouse

Solmaz Pak* , Arash Noori , Ebrahim Acasi Oshaghi , Azam Rezaei , Mohammad Zamanian , Mahshid Mohammadian

solmaz_pak@yahoo.com, eb.abbasi@yahoo.com,

Background: Opium contains several alkaloids and biological active components, which some of them are used for atherosclerosis treatment. The liver x receptor α (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. Methods: 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. Results: 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. Discussion: 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

P14

Quality control protocol for used punchers in New Born Screening Program

Marjan Rahnemay Farzami 1 * , Soheila Behnam 1 , Zahra Emami 1 , Farahnaz Darbandi 1 , Fatemeh Miraliyari 1 , Mahnaz Mohamadloo 1

1- Reference health laboratory,
marjan.farzami@gmail.com, soheilabehnam54@yahoo.com, emami_za@yahoo.com, farzadfarrah@yahoo.com, f_miraliyari@yahoo.com, mmohammadloo@yahoo.com

Introduction & Aim: In according to importance of quality control in newborn screening laboratories and in since the puncher is one of the most important device in these laboratories,It is necessary that we have acceptability practical protocol for quality control of mechanical and automatic punchers. Therefore reference health laboratory as an IVD regulation organization decided to provide quality control protocol of punchers based on radioimmunoassay.This method is used for the first time in country and having high precision and accuracy according to CLSI standards . Materials and methods : This study is based on Radio Immunoassay method and use of human whole blood enriched with Radio label thyroxin . in this study must be use calibrated filter paper by the standard methods and punchers was evaluated with this filter paper. Results : The most important character in evaluation of puncher is serum absorption volum of calibrated filter paper, that it must be CLSI standard interval range (1.54± 0.17) .In this study all results in acceptable range . Conclusion: Regarding to the compatibility of this study with available qualification in Iran laboratories, it seems that designing a QC protocol for comparing producted punchers is possible .and it is cleared of necessity of evaluating the quality of punchers used in DBS-based methods and assuring the compatibility of their characteristics with reference standards .we recommend all the imported different brands of punchers being evaluated based on the introduced protocol which is feasible in the health care network of country.

Keywords: Puncher, Filter paper, New Born Screening, Quality control

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P15

Using Fuzzy Logic To Improve The Quality Of Medical Laboratories

Mesbahoddin Salami *, Mohammad Sadegh Khosravi, Afshin Peirovi, Seyed Mohammad Atyabi

mesbah.salami@yahoo.com , mskhosravy@yahoo.com , afshin700@yahoo.com , mohammadatyabi@yahoo.com

Introduction: a new concept of quality assurance is to maintain and promote health. It is required to use both knowledge and wisdom. The phrase means that the probability of observing a minimum standard of quality assurance processes to maximize quality. The purpose of Fuzzy Logic to establish and develop a new computational method that ensures data system over the practices of thinking and learning to be close. Materials and methods: fuzzy logic, multi-valued logic and the theory of fuzzy sets are used. Definitive collection of fuzzy sets generalizes and extends the results come naturally. To get the best out of the judgment aggregation model hierarchy for determining the highest priority option was used. Results: This is the result of an evaluation system with continuous space The way for operators to assess quality assurance indicators and indices compared with each other and compare the level of service quality, between national laboratories and identify the strengths and weaknesses of these centers provide. This method allows an accurate assessment, provided full and free of personal preference and confidence necessary to bring all the stakeholders. Discussion: The use of multiple scoring models or fuzzy logic for multi Mqdarh current sensing provides quality assurance and accreditation in question. Fuzzy logic is a logic to express infinite behaviors Mqdarh and innovative system makes use of everyday language. In fact, the logic of continuous human approximate reasoning has been modeled for clarification and validation of scoring systems can also be effective.

Keywords: Fuzzy Logi , Quality Assurance, Scoring, Hierarchy

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P16

Comparison of alternative DNA stains with Ethidium Bromide

Alireza Dolatyar Dehkharghani 1 * , Mohsen Imani 1 , Mohsen Ghelman 2

1- Keikhosroshahrokh Alley-Zartoshtian Alley-Junction of Hafez & Jomhuri-Tehran-Iran, 2- Immunology department-School of Allied Medical SciencesTehran University of Medical Sciences(Hemmat Campus)-Tehran-Iranardltyr@ymail.com, imohsen1346@yahoo.com, mohsen_ghelman@yahoo.com

Introduction: Ethidium Bromide staining is usually used for the electrophoresis technique in molecular laboratories. The stained gels are exposed to ultraviolet light, so DNA bands are observed. Ethidium bromide is a cheap material and it‘s easy to use, but it’s a powerful mutagen and toxic. So it is considered hazardous waste and follows from hazardous waste management rules. Ethidium bromide can be quickly absorbed through the skin, so it is very important to avoid contact with it. It also triggers the skin, eyes, nose and respiratory tract. Solutions and equipment contaminated with ethidium bromide should be deactivated before elimination. Objective: Comparison of SYBR® safe ،SYBR® green and Red Gel stains with ethidium bromide. Method: In this study, SYBR® safe، SYBR® green and Red Gel stains were evaluated. Staining with ethidium bromide was used as the standard method. 100 kb ladder was used in serial concentrations to compare resolution and visibility and the gel was stained after electrophoresis. In our study, ability of alternative stains to create high quality images without destainig step, the fluorescence intensity and stability of stains ten days after its preparation were examined. Results: High-resolution images obtained in terms of resolution and visibility in all stains and concentrations. Gels were stained with ethidium bromide requires destaining, but destaining step can be removed by using alternative stains. There was very little difference in fluorescence intensity between the images of the first day and the following days (by seventh day). Discussion: Due to the lower risk of these stains, to create high quality images and the removal of destaining step recommended that molecular laboratories use mentioned stains.

Keywords: SYBR® Safe, SYBR® Green, Red Gel, Comparison.

P17

Red cell alloimmunization among thalassemic major chamahal and bakhtiari province

Kamran Moghaddas Ghafarokhy 1 *

1- Blood Transfusion Organization
kam.moghaddas@yahoo.com

Thalassemia is among the common genetic disorder worldwid particularly in the Middel East and southeast Asia.The objective of this study was to determine frequency of red cell alloantibody among β-thalassemia major patients. Material and method:The present study was cross sectional included 234 patients with β-thalassemia major . Antibody screening was carried out by employing commercial 3 cell panel using standardized blood bank methods. If patients were found to have an irregular red cell alloantibodies then the antibody identification was performed using 12 panel cells . Results: A total of 234 patients were included in the study 130 patients were males and 104 females. Mean age was 16.1±6.1.Five patients developed anti Kell, two patients ant- Lua, two patients anti-Lea, two patients anti-Cw,one them had anti-Cw , one anti-E ,Anti-Kell was most often identified. Conclusion: we concluded the rate of alloimmunization in our subjects composes to other studies was low.

Keywords: Thalassemia, Antibody screening, Alloantibody

P18

Scientific Production of Iran in Immunology

Masoud Soosaraie 1 *

1- Social Security Organization
masoudsoosaraie@gmail.com

Using bibliographic records from the ISI databases, this paper tries to give a complete view of scientific productions of Iran in immunology. The time period considered in this study is 2000-2010. Findings revealed that out of 81416 articles written by Iranian authors during 2000-2010, a total of 1536 articles (1.89 %) were in the field of immunology. Some of these articles are at the result of collaborative works and some of them are non-collaborative ones. Iranian authors of immunology have many collaborative articles with their counterparts in United States. On the other hand, results indicated that ‘’Pourpak”, “Ghavamzadeh” and “Rezaei” with 108, 96, and 92 articles (19.27 %) are the most productive scientists of immunology, respectively. University of Tehran Medical Sciences with 454 records (29.56%) and Shiraz University of Medical Sciences with 209 records (13.61%) are the most productive institutions in the field of immunology, respectively. It should be noted that among the all journals examined, Transplantation Proceedings published the 22.20% of scientific productions of Iran in immunology. Finally, article entitled “Genome analysis linking recent European and African influenza (H5N1) viruses” has received 72 citations; and is the most influential article in the field of immunology.

Keywords: Immunology, Scientometrics, Scientific Production, ISI Citation Databases, Iran.

P19

Evaluation of laboratory science student interns from the personnel knowledge and equipment of laboratories of training hospitals

Morad Rostami 1 * , Mohammad Alimohammadi 2 , Masoomeh Jorfi 2 , Parvaneh Bayat 3 , Alireza Tabibzadeh 3

1- Ahvaz Jundishapur University of Medical sciences, 2- Islamic Azad University of Arak, 3- Arak University of Medical Sciences, morad_r56@yahoo.com, malimohamadi83@yahoo.com, m_j99@yahoo.com, bayat_researcher@yahoo.com, alireza_tabibzadeh@yahoo.com

Introduction and aim: Empowerment Laboratory Science student interns in hospital laboratories, is the last ring of empowerment in these students that may, if there are sufficient facilities and experienced personnel are available and updated. Materials and Methods: In this study, 158 laboratory science student interns participated. Of these, 96 (60.8%) students were pre-interns and 62 (39.2%) students were interns. After completing the questionnaires, the results obtained from these questionnaires were reviewed and analyzed. Results: In this study, 8 laboratories have laboratory of Educational Instructor and 2 also had no training instructor. 94 (59.5%) students believed that there are present other personnel's with higher academic qualification than training instructor in the laboratory. 96 (8/60%) students, knew their training laboratories at the right place to introduce their friends and family. The mean score of the students (from 100-0) for ability of educational ability of teacher, ability of teacher training, scientific ability of personnel, training capable of staff, satisfaction with training received, confidence in the answers given by the lab, to-date information of personnel, management of personnel with student, satisfaction with laboratory equipment and laboratory facilities, were respectively, 68.8, 52.3, 45.5, 35.3, 51.1, 50.9, 41.6, 45.3, 54.1 and 11.2 percent. Conclusion: According to this study, the selection of the coach education, training mode, and the provision of facilities for students and to update the information of staff and …, guidelines will be developed by the competent authorities.

Keywords: Pre-Intern, Intern, Laboratory Science Students, Personnel\>S, Equipment, Laboratory

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P20

Evaluation of panel reactive antibody in renal transplant recipients in the Shahid Beheshti Hospital, Hamedan

Mahdi Kholoujini 1 * , Solmaz Saidi 1 , Sima Tavakoli 2 , Masoud Hamidi 3 , Dawood Musavi Nasab 4

1- Beheshti Hospital Hamedan Iran, 2- Refreance Hamedan Lab, 3- Tabriz Medical University, 4- Tarbiyate Modares Tehran Iran, mehdikh1351@yahoo.com, saray1357@yahoo.com, s.tavakoli426@gmail.com, m.hamidi2008@gmail.com, d.mosavinasab@gmail.com

Objective: The annual incidence of end-stage renal disease significantly in most countries is increasing. Among the factors involved in kidney transplant immunological incompatibilities is of utmost importance. Alloantibodies produced in the sera of patients with human leukocyte antigen donor recipient in front of the main problems in kidney transplantation. The Alloantibodies can be assessed as panel reactive antibodies. The most effective factors in chronic rejection of kidney diseases are genetic factors underlying. We have tried some of these factors should be evaluated. METHODS: Complement-dependent cytotoxicity response panel testing was performed by the method of microlymphocytotoxicity. More than 10 percent of panel reactive screening test was considered as positive. SPSS software using chi-square test ($p < 0.05$) were analyzed by analysis of the findings. RESULTS: Significant correlation between blood, blood taken and made numerous volunteer panel reactive test result was not observed. However, the relationship between duration of dialysis and renal transplantation with positive and negative test was significant. CONCLUSIONS: According to the study, length of term kidney dialysis and History of kidney transplants is the main factors for positive test. Number of children can also be considered as a causing of positive test, the last of which is the need for further studies.

Keywords: Panel Reactive Antibody, Renal Transplantation, Human Leukocyte Antigen

P21

Effectiveness Of Training in the Microbiological Laboratory

Tajaddin Akbarzadeh Khiavi 1* , Hamid Fathollahi

taj_442000@yahoo.com

Methods: This study evaluated a small part of the educational program of microbiological quality assurance in the sector in which to collect information from semi-structured interviews were used. Purposive sampling to select interviewees (Purposeful Sampling), which is a qualitative research, was used. 3 teachers and 10 of the microbiological sector experts participated in the interviews Results: The results show most workers were demanding that these programs more practical and applied aspects considered and microbiological quality control program as part of university courses will be developed and implemented. Seems that programs designed for professionals dealing with it are often cases where virtually no special coordination. Conclusions: Information shown on this important issue in the microbiological effectiveness of educational programs is. Evaluate the effectiveness of the training we need to determine the extent how much training do lead to the development of practical skills as the organization has which can improve the quality, appropriate and logical sequence of training, allowing staff participation, compliance issues microbiological department personnel training needs, the necessity of looking at issues of educational programs, and ongoing needs, enhancing the quality of education and enhance staff motivation, effectiveness of process and otherwise met the microbiological quality assurance of effectiveness will not be enough.

Keywords: Microbiological, Effectiveness

P22

Evaluation of hemovigilance system in Qazvin shahid rajaee hospital

Mostafa Irandost 1 * , Azam Molapour 2 , Parivash Molapour 3

1- Qazvin padeghgan street shahid rajaee hospital, 2- qazvin padegan street shahid rajaee hospital, 3- qzvin padegan street shahid rajaee hospital,
arandost@yahoo.com, amolapour@yahoo.com

Introduction: The hemovigilance system is a set of surveillance procedures covering the whole transfusion chain from the collection of blood and its components to the follow- up of recipients and is intended to collect and assess information on unexpected or adverse effects resulting from the therapeutic use of blood products and to prevent their occurrence or recurrence. Materials and methods: In this descriptive – analytical study, during the first 12 months after the implementation of hemovigilance in hospital, 3052 hospitalized pations received blood and the incidence of adverse reactions, technical, organizational and human errors were evaluated. Results: From 1850 blood cross maching, 3052 blood (packed cell) was transfused. The overall ratio of cross match to transfusion (C/T) were3.22 that to be not optimal as compared with the standard figures (C/T <2.5) 6 case of adverse reaction was reported and been ABO incompatibility and human errors. Discussion and conclusion: The present finding show that adherence to appropriate for blood order can base MSBOS (maximum surgical blood order schedule) with cooperative hospital blood transfusion committee and medicin group considerably reduce therate of redundant orders. Hemovigilance may be a useful tool not only to make the medical community aware of blood transfusion- related side. But also to assess the efficacy of a new safety measure.

Keywords: Hemovigilance, Hospital, Blood Transfusion, Adverse Reactions

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Reciprocal rights at administrative systems

Ghasem Talea 1 *

1- Nortern Amirabad Av.6 St. No.34
talea20@yahoo.com

Introduction: the mutual rights of individuals in social relations, the most important issues in social life. Neglect of this important cause injustice and irresponsibility in society that serious consequences will follow. So when people do not know each other and they do not comply with the law, was not a fair administrative relations. Many of injustice and unethical behavior because of their failure to comply is not recognizing each other's rights. Recognition of mutual rights and guarantee their administrative ethics administrative formation is desirable. No reciprocal rights, social and administrative system will have a lot of moral dilemmas. Aim: The aim of this study was to provide a mechanism for learning and culture in fields of mutual rights, especially in light of its administrative system so as to better achieve the organization in light comfort and intimacy. Methods: This study documents the methods and libraries used. Results and Discussion: The correct attitude and approach to their own employees, public officials and their tasks, the most important thing is to organize administrative ethics. Insight for Executives and staff organize office systems require an approach based on dignity, honor, service, agency, fiduciary and benevolence towards his work, responsibility, and public officials are. Recognition of mutual rights and a commitment to pay the salaries of circuit and make relations administrative rights expressed to be fair. Appropriate administrative ethics when it comes to people based on their qualifications and abilities are in their rightful place.

Keywords: Mutual Rights, Administrative System

P24

Implication of ethics in laboratory

Mohammad Hossein Ghahramani 1 * , Nasrin Shokrpour 1

1-shiraz university of medical scienses
Gharam@sums.ac.ir, Shokrn@sums.ac.ir

Ethics in a community and organization refers of the "appropriate" or lack of inappropriate "performance, which needs to be expressed. Observing ethics and appropriate or lack of in appropriate behavior in lab is based on human basic rights including: 1- Access to lab services: 2- Lack of discrimination in lab services and attempt to function in the best way possible. 3- Lack of violation of the patients' privacy and confidence 4- Provision of necessary conditions for prevention of patients loss Considering the above – mentioned points, ethics in the laboratory has an extensive application. The most important of which are: 1- Decision making, for example in special situations, the necessity to fold or unfold a patient's positive HIV test in different conditions or necessity of reporting or not reporting a personnel's failure in performing the tests to authorities even if leads to an intimate friend's dismissal. 2- Has a close relationship with functioning scientifically 3- Causes the employment of more efficient personnel with higher degrees. 4- Causes the personal to do their best to perform the test precisely. 5- Leads to lack of any cheats in lab tests. 6- Leads to establishment of proper relationship among human resource and creation of relative welfare for them. 7- Makes a secure and healthy environment for the patient and personnel. 8- Prevents any deals between laboratory and physician as to the patients good. 9- Leas to defining the ethical aspects of laboratory activities. Conclusion: To establish ethics in every organization, one should take it's implication into account. To do this the ethical aspect of laboratory activities should be defined, attended and utilized.

Keywords: Ethics, Lab, Patient, Personnel, Physician

P25

The culture of laboratory work

Mohammad Ghahramani 1 * , Nasrin Shokrpour 1

1-shiraz university of medical scienses
ghahram@susm.ac.ir, Shokrn@sums.ac.ir

To manage a laboratory efficiently, a manager should be able to arrange a system culled "Lab culture". To do this, The following points are essential. 1- All the affairs in a lab should be scientific. 2- There should be a clear relationship between the manager and personnel. 3- The personnel are expected to do specific functions which should be pointed out clearly. 4- There should be a mutual trust between the manager and personnel. 5- The personnel should consider the lab as their second home. 6- Ethics should be observed in all procedures and processes Therefore to establish the above mentioned issues there is a need for an appropriate relationship between the manager and personnel. Such a relationship is based on the following Points: 1- Protection of the personnel's dignity 2- Charity in relationship and determination of the expectation's 3- In tersest in the personnel's fate 4- justice and lack of discrimination 5- Rewarding the personnel for their achievements 6- Holding regular meetings about lab issues. Holding regular scientific meations. 7- Holding regular scientific meeting's 8- Constant supervision on the appropriate management of affairs. 9- Attempting to inclued associations as a main compoment of this culture. As to these associations, the following points are essential: a. What should be discussed in communications. b. How should we establish a relationship? by discussion in meetings, on the phone, through email or meetings, etc. By and large, a lab culture, should be established in labs so that each individual familiar with laboratory affairs recognize the general dominant philosophy and the goal of laboratory by observing the activities, Discipline, proper relations and appropriate management of affairs.

Keywords: Culture, Lab, Management, Relations

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Ethical Considerations & Laboratory Animals In Clinical & Research of Lab

Mahmoud Abbasi 1 , 2- Majid Ganjbakhsh 2 * , Abdolmajid Fata 3 , Fariba Berenji

1- The Iranian Research Center For Ethics & Law In Medicine – Shaheed Behashti University Of Medical Sciences , 2- Researcher Of The Iranian Research Center For Ethics & Law In Medicine & Mashhad - University Of Medical Sciences , 3- Cenreral Of Lab, Of Educational ,Research And Cure Of Imam Reza Of Mashhad

Introduction and objectives: Despite medical advances, especially the stunning modern development of new methods of molecular biology and biotechnology, medical and biological research using animal models have gained importance. Using a variety of animals such as rats (rat) and small (mice), rabbits, guinea pigs, Hindi, dog, cat, frog and ... The Research & laboratories, led to the discovery of drugs and methods are useful in the world, has saved many. Methods: This study examines the conquest and domination of man over animal rights and animal limit from the perspective of international Law ,Iranian and Islamic work ethical considerations in research laboratory . Discussion: Advances in genetics and issues such as the simulation of many. discussions about the rights of animals in the world, has been devoted to the basic qustions including: 1-Molecular structure of the primarily genetically modified organisms, including animals and the risks it is permissible for nature and the environment? 2-It is fundamentally an authorized person for the purposes of their research, the use of animals in a way that is detrimental to their health? And ..... The issues that are controversial in scientific circles occasionally cause, it is a moral and legal world, since some of these improvements in the legal framework Nmygnjnd definitions and ethical boundaries and go beyond.

Keywords: Laboratory Research, Medical Ethics

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Terms of laboratory research ethics

Abdolmajid Fata1 , Fariba Berenji1 , Majid Ganjbakhsh 1 *

1-Mashhad University of Medical Science – Mashhad - Iran

mganjbakhsh14@gmail.com

Introduction and objective: Today the stunning advances in medical science, medical and molecular genetics laboratories in reseraches important things rich mix of data sources are potentially abundant & in various high ethical issues involved and has raised legal challenges. Method: This study addressed the research laboratory and research group has attempted to include Ethical considerations legal ethics in research laboratories in specially to explain. Discussion: Some research laboratories especially Western countries, particularly in the genetic structure and use of laboratory animals as experimental models for the study of human diseases and how drugs are effective. Among the types of animals susceptible to disease and cancer as a model to study the pathogenesis of human use. Such forms altered by genetic engineering techniques, it Kumous or mice is modified Harvard. Harvard mouse is a normal mouse that has been genetically engineered. Results from that study showed that the proposed rules Some in the scientific community Research Committee, one of the ethical responsibilities of researchers, their responsibility is to the animals under Maintain control. Cases like: Location, maintenance, nutrition, heat, cold, and health care for the welfare of animals is considered by the investigator.

Keywords: Laboratory Research, Ethical Requirements, Research Lab

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The reciprocal rights of medical diagnostic lab operators and patients and the analysis of their professional code of ethics

Amir Hadi Sheni1 , Kereshmeh Fakharzadeh 1*

amirsheni@gmail.com, fakharzad@yahoo.com

To be obedient and to be a good citizen doesn't necessarily mean to be ethical but we can definitely expect higher from a good citizen to adapt himself to the rules and regulations of moral virtue than others, in other words the potentiality of the display of moral virtue in good citizens is much higher than disobedient people. The human beings are inevitable to deal with mental and physical diseases due to hygienic and environmental conditions. Doctors also have invented very new modern ways of cure and remedy for the old and new diseases. One of the methods and mechanism of disease diagnosis is through medical diagnosis lab service which is most of the time the only-ever choice of the patient to take. So in this case who is liable for the damages and injuries imposed on the patient? To answer this fundamental question, we need to see both legal and ethical approaches. We will see to these two approaches with the help of descriptive- analytic method of research based on different sources including hadis,verses of QORAN and reference books and articles and eventually we will reach a legal-ethical solution. In Ethical Approach, with a brief look at three fundamental ethical schools i.e. the school of dutyism,the school of resultism and the school of moral virtue and naming some the samples of the lab services, the results in each school will be discussed. And the need of modern society to moral virtue will be elaborated. In Legal Approach we will discuss the legal liability of lab service owners and operators and the mutual expectations and liability of patients and we will give comments on the current laws regarding medical diagnosis lab clients considering rules,regulations,supreme court decisions as a unified judicial precedent, Islamic legal formulas, principle of harm,nosh,the relationship between nama and darak,jahzir. The use of lab service companies from disposal tools, cheap tools, to the standard tools, less painful machines, the level of accountability to the client's needs in all stages, duty of informing the sampling side effects to the patients, observing the suitable conditions for experimenting, secrecy and the legal liability of not observing them will be also discussed.

Keywords: Civil Liability ,The Reciprocal Rights , Professional Code Of Ethics ,The Golden Rule

Iranian Association of Clinical Laboratory Doctors

Laboratory and Clinic: Laboratory and Eye Infections P29 - P35

P29

Study of 191 patients eye toxoplasmosis referring to hospital Tabriz – Iran

Esmaeel Fallah 1 * , Leila Mahami , Alireza Javadzadeh , Mahmoud Mahami , Fatemeh Hamzavi , Hamid Monajjem

1- Tabriz University of Medical Sciencesfallahe@tbzmed.ac.ir

Toxoplasma gondii the protozoan parasite. Toxoplasmosis is a zoonosis of broad geographic distribution. This disease is caused by infection with the protozoan parasite Toxoplasma gondii infection with the parasite congenital toxoplasmosis can result in fetal death or severe neurological sequel and blindness. Materials & Methods: This survey is retrospective & descriptive, all of information patients eye toxoplasmosis referring to hospital Tabriz – Iran during last 6years of has evaluated.The results were then analyzed by Instate software program, Chi square test. Results: 191patients are under the study, so are 87 male and are 104 females .the median age of ocular Toxoplasmosis was 32 years. Vision loss is common cause referring% 89. floaters, eye pain, Vision loss, nitre, redness epiphora, strabismus, headache, cataract, light fear the other cause of referring patients. The clinical features Vision loss was most frequency. 178cause congenital toxoplasmosis and 13 cause acquired diesis. The most prevalent cause ceros retinal detachment. Fewer rhegmantogenous retinal detachment. The eye disease are common active and the most large disc .%.84/4patian had affected one eye. Conclusion: According toxoplasma the results of this study although toxoplasma infection is like other parts of country in regard to low immunity level and risks due to infection during pregnancy,public, education in helth system for infection is very important.it is suggested that of high prevalance of toxop lasmosis should be given more attention and that the ophthalmologists in tabriz shuld be more aware of this disease- especiall young adults should more often include toxoplasmosis in the differential diagnosis of the ocular diseases. These patients should be undergone the antiparasitic treatments.

Keywords: Ocular toxoplasmosis, Tabriz, Patients

P30

Detection of Pseudomonas aeruginosa keratitis by polymerase chain reaction

Narges Gharib , Mohammad Hassan Shahhosseiny * , Fahimeh Ostadgholami Rezaei , Fahimeh Baghbani Arani

na.gharib.1988@gmail.com, shahhosseiny@yahoo.com, gholamyfa@yahoo.com, baghbani.f@gmail.com

Introduction and Aim: Pseudomonas aeruginosa is a major cause of illness in the genus Pseudomonas, which are different virulence factors. The organism is an opportunistic pathogen that is commonly found in all individuals included weak immune system can lead to illness. Among the diseases caused by Pseudomonas aeruginosa, keratitis with corneal epithelium and is usually due to the use of soft contact lenses may occur. First a superficial wound, but overall it may affect the cornea. Given the high risk of the disease, the need for a rapid and reliable technique for diagnosis of infection with this organism is felt. The aim of this study was to develop a reliable method for the detection of Pseudomonas aeruginosa, is based on the use of polymerase chain reaction. Method: Pseudomonas aeruginosa ATCC 27853 DNA was extracted using DNG-Plus. Primers Designed on the basis of oprl gene and optimized PCR test, and sensitivity and specificity were evaluated. The 70 suspected cases of Pseudomonas keratitis were collected from Labbafinejad Tehran hospital. All DNA samples were extracted with DNG-plus and Boiling and PCR testing was performed on DNA samples. Results: PCR test optimized on DNA extracted from standard strain and was observed 504bp amplicon. There were no unexpected features of the product and the test sensitivity has been 50 CFU. The study of 70 samples from suspected Pseudomonas keratitis, 15 samples were positive. Discussion: Between methods of Pseudomonas aeruginosa detection in recent years, PCR methods have significant growth for detection of these opportunistic bacteria. According to the results a PCR technique can be acknowledged, to be sensitive and specific for detection of Pseudomonas aeruginosa keratitis, that it can be used in diagnostic centers.

Keywords: Pseudomonas aeruginosa, PCR, Detection, Keratitis

P31

Diagnosis of herpes keratitis by PCR and LAMP technique

Bardia Firouzi 1 * , Mohamad Hassan Shahhosseiny 2 , Ramin Yaghoobi 3 , Elham Moslemi 4

1- Department of microbiology, Fars Science and Research Branch, Islamic Azad University, Fars, iran, 2- Department Microbiology, Islamic Azad University, Shahr-e-Qods Branch, Tehran/Iran, 3- Department of virology, medical science of shiraz, namazi hospital, 4- Islamic Azad University, East Tehran Branch, Biology department, Tehran/Iran.
bardia.firoozi@yahoo.com, shahhosseiny_igf@yahoo.com, rayaviro@yahoo.com, elham_moslemi60@yahoo.com

Herpes simplex virus causes variety of human diseases and is prone to hide in nervous system. There are, much more technique for HSV diagnosis such as serological test, cell culture and molecular tools which there is problems in front of each others. In this study, illustrated comparison between two technique LAMP and PCR for diagnosis of Herpes keratitis. Material and Method: DNA of 100 samples suspected to viral superficial stromal keratitis, were extracted using SINAGEN DNA kit. Six primers for HSV DNA polymerase virus were defined for the LAMP technique and the specificity and sensitivity of LAMP and two primers for PCR technique in diagnosing HSV infection were investigated. Results: Among the 100 eye samples, only 35 cases were PCR positive but 55 cases were LAMP positive. As the Mather of fact, in 35 cases LAMP and PCR assays were both positive. The PCR sensitivity up to 50 particles was observed and the LAMP sensitivity test was verified up to 5 particles. Conclusion: It brings about we, had just 55 positive cases, because of the failure in differential diagnosis of corneal edema as one of the manifestation of herpetic keratitis.In one hand, this study showed a 100% specificity of LAMP technique for early diagnosis and prevention of the HSV infection. LAMP is a cost effective and fast diagnostic procedure in detecting herpetic ocular infection. In the other hand, LAMP technique is more sensitive than PCR in HSV diagnosis and amplifies the target DNA with higher efficiency and is simple and easy to perform that no need to advanced and highly priced instrument such as thermal cycler.

Keywords: PCR , LAMP, HSV

P32

Study of fungal infections of Cornea (Mycotic Keratitis)

Fariba Berenji 1 * , Abdolmajid Fata 1 , Hamid Khakshour 2 , Akbar Darakhshan 2 , Ali Naseri 1 , Majid Ganjbakhsh 1

1-Department of Medical Parasitology& Mycology, Imam Reza Hospital, School of Medicine, Mashhad University of Medical Sciences, Mashhad 2- Khatamollanbia Hospital, School of Medicine, Mashhad University of Medical Sciences, Mashhad berenjif@mums.ac.ir, fataa@mums.ac.ir, khakshourh@mums.ac.ir, darakhshana@mums.ac.ir, naseria@mums.ac.ir, mganjbakhsh14@gmail.com

Background: Bacteria,amoebae and fungi usually cause keratitis. Mycotic Keratitis is the infection of cornea due to different types of fungi including molds and yeasts. Predisposing factors are Trauma (vegetable matter), surgery & Prolong use of steroids. In order to investigate the Prevalence of mycotic keratitis among the patients suffering from infection of cornea/a study was undertaken over a period of 6 years. We retrospectively reviewed the medical the medical records of patients whom referred to Mycology lab. Materials and Methods: After admission of each patient in mycology lab, a questioner including personal & clinical information was completed for him / her. Sampling by ophthalmologist & fresh smear and culture were performed for each patient. Fresh smears with 10% KOH were prepared and examined directly under the microscope. For fungal cultures, all samples were inoculated on each of two isolation media (1) Sabouraud dextrose agar (SDA,&) (2) SDA with 5% chloramphenicol and cycloheximide. Results & conclusion:The results showed that %57 of the patients were male & the others were female Aspergilus spp & Fuzarium solani were isolated from 55% & 7% of the cultures respectively. Trauma due to penetration & plant particles was the common predisposing factor. The disease was a mostly seen in farmer. It is concluded that fungal keratitis should be considered in the differential diagnosis of keratitis especially if predisposing factor is trauma due to plant matter.

Keywords: Fungal Infection, Mycotic, Smear, Culture, Keratitis, Aspergilus, Fuzarium

P33

Molecular diagnosis of Fusarium solani in corneal samples from suspected herpetic keratitis cases

Atousa Ferdousi 1 * , Mohammad Hassan Shah Hosseiny , Mansour Bayat 1 , Jamal Hashemi , Mohammad Ghahri

1- Department of veterinary mycology,science and research branch,Islamic azad university, TEHRAN,IRAN atousaferdousiir@yahoo.com, shahhosseiny@yahoo.com, dr_mansour_bayat@yahoo.com, jhashemi@yahoo.com, ghahri14@gmail.com

Methods: 73 samples of DNA which were extracted by DNG method from scrappy of ocular ulcer, suspected to herpetic keratitis were collected. These samples belonged to FARABI Hospital, which were negative for HSV by both PCR and LAMP methods. The PCR test with specific primers Ffuso1 and rfuso2 and mt ctyb as the target gene with 330 bp product was optimized. The specificity and sensitivity of the test were surveyed. Results: Among 73 negative samples for HSV, two samples were positive for Fusarium solani and the PCR 330 bp product were amplified in these two cases. The sensitivity of the test was one fusarium solani and specificity was examined by HSV and other species of fusarium genus except F.solani. In none of these organisms the PCR product was not observed. Therefore the specificity of the test was 100%. Discussions: The epidemiologic pattern of fungal keratitis is varies from country to country. Fusarium solani is predominant etiologic agent of mycokeratitis in many surveys, while aspergillosis spp. And candida spp. are predominant in other studies. Fusarium keratitis may occur as a mixed infection with bacteria or herpes simplex virus. PCR is a gold standard for diagnosis etiologic agent with rapidity and accuracy in early stages of disease. Mt ctyb as the target gene in this study is a suitable gene for diagnosis the species. Among 73 negative HSV samples, two(1/46 %) were positive for F.solani. The results of PCR test and specificity showed that the designed primers were specific and suitable to identify the species of F.solani. In addition; the sensitivity of the test was one fusarium solani , therefore ; it is possible to detect even one organism in the sample, before it can propagate and cause infections. It is clear that, rapid and specific diagnosis is very important for treatment and prevention of unfavorable consequences.

Keywords: Kertitis , PCR , Fusarium Solani

P34

Identification of fungal keratit agents in the eastern area of Mazandaran by Polymerase Chain Reaction(PCR) and culture methode

Shaghayegh Nikpour Moghadam 1 *

1- Delta-3rd floor-Dr.Hashemi building-imam square- Bahnamir-Babolsar-Mazandaran,
sh.nikpour@yahoo.com

Aims: To evaluate a Polymerase Chain Reaction (PCR) and culture based assays to identification fungal agents.Introduction: Fungal infections causes extensive infective ocular ulcer worldwide and can due to morbidity and blindness. Keratitis is prenalent in tropical and developing countries. for diagnosis and treatment fungal infection is one of the most challenging cause of corneal tumult and ulcer. The most common predisposing factor is trauma to the eye with external matter. For diagnosis of fungal keratit corneal scraping is done by sterile spatula in the eastern area of Mazandaran.results: PCR assay were positive in 22(73.3%) of 30 and 8 cases were negative. fungal cuture were positive in 16(53.3%) of 30 samples that 15 ones were PCR positive, too. in 7(23%) specimens were PCR and culture negative, 4 of these appear bacterial growth and 3 samples had shown no growth. based on this study PCR and fungal culture results matched in 16(53%) cases.conclusion: PCR is promising as a mean to diagnose fungal keratitis and offers some advantages over culture method, including analysis specimens rapidly and far from where they are collected.

Keywords: Fungal Keratit Knfections, Eastern Area Of Mazandarn, Polymerase Chain Reaction, Culture Method

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P35

Isolation of Acanthamoeba from keratitis patients referred to Farabi hospital

Zarrintaj Valadkhani 1 *, Mir Mostafa Ghamilouie 2 , Firoozeh Rahimi 3 , Farideh Khoshzaban 4 , Nayyereh Hassan 5 , Zohreh Aghighi 6

Pasteur Institute of Iran, Tehran, Pasteur Institute of Iran, Tehran, 3-South Karegar st. Farabi hospital, 4-Keshavarz Bulvard, 5-Pasteur Institute of Iran, Tehran, 6-Pasteur Institute of Iran, Tehran,
z_Aghighi@yahoo.com , .zarrin@gmail.com , valad.zarrin@gmail.com , firoozehrahimi@yahoo.com , nayrreh_hassan@yahoo.com , fkhosh_99@yahoo.com , m.ghamilooye@yahoo.com

Introduction and Aim: Amoebic keratitis is caused by free living Acanthamoeba spp. which is abundant in environment, soil, dust, and water, and can also be found in contact lens and eyewash solutions. Ulceration of the cornea is one of the symptoms cause from Acanthamoeba infection. Diagnosis of Acanthamoeba infections can prevent clinical symptoms from worsening. The aim of this study was to evaluate the amoebic keratitis in patients with karatitis symptoms. Methods: Corneal scrapings were obtained by physicians in ophthalmology section. The corneal specimen was mixed into saline and dropped on 1.5% non-nutrient agar plates made with Page>s amoeba saline and overlaid with Escherichia coli. The plates were sealed and incubated at 30°C and examined directly under inverted microscope daily for 14 days. Laboratory diagnosis of this parasite relies on the demonstration of trophozoite or cyst form in cornea scraping under microscopic observation directly or isolated from the culture. Results: Total 85 corneal scraping were collected from the patients, that three were positive for acanthamoeba (3.5%). The plates were showed positivity between 5-9 dayes in non-nutrient agar incubated at 30°C. All patients were wearing contact lenses, two of them wearer medical lens with duration of 2 years, and one patient was using color lenses with duration of every 2 days for three months. Conclusion: The most common risk factor for development of acanthamoeba keratitis is contact lens wearing, infection is caused by the inefficacy of contact lens solutions against Acanthamoeba cysts. Contact lens wearer should aware of using sterile eyewash solutions in order to prevent any contamination. Acanthamoeba can also cause granulomatous encephalitis in immunocompromised patients.

Keywords: Acanthamoeba Keratitis, Contact Lense, Diagnosis

Iranian Association of Clinical Laboratory Doctors

Laboratory and Clinic: Laboratory and Gastrointestinal Malignant Tumors P36 - P50

P36

Evaluation of effect of renal dysfunction and hemodialysis on the serum tumor markers (CEA, CA19-9, AFP, CA15-3)

Rasoul Estakhri 1 * , Amir Vahedy 1 , Behrooz Pourasghary 1 , Ali Arbatan 1

1- Tabriz Medical Scinece University
estakhri@tbzmed.ac.ir, amirvahedy@gmail.com, pourasgarybehroz@gmail.com, a.arbatan@gmail.com

regarding to decreased metabolism of tumor markers in kidney and hepatic failure, and elevation of some serum markers in chronic kidney disease without malignancy, there is controversy About usage of tumor markers for diagnosis and follow up of patient with chronic kidney disease and hemodialysis. In this study, we investigate significant difference between the levels of serum tumor markers in patient with chronic kidney disease and patients under hemodialysis Methods: From patients of imam reza and amiralmomenin hospitals from jun2011 to oct 2012, after considering excluding items, we have 100 patients which are divided to three group: healthy, under hemodialysis and patient with chronic renal failure. Last group additionally subdivided to three groups according with creatinine clearance. Results: there are no significant differences between CEA (p=0.99) and CA19_9 (p=0.29) levels. There is significant differences between AFP (p<0.001), CA15-3 (p<0.001) levels. There is no correlation between CCr and CEA (p= 0.625, r=0.05) and between CCr and CA19-9(p=0.089, r=-0.17). There is significant correlation between CCr and AFP (p <0.001, r=0.53), CCr and CA15-3 (p=0.00, r=-0.412). Conclusions: serum tumor markers in patient with altered renal function should be applied with caution.

Keywords: Chronic Kidney Disease, Hemodialysis, Tumor Markers

P37

Cytotoxic effects of Taraxacum syriacum and Nectaroscordum tripedale extracts on human leukemia cell line (KG-1a)

Masoumeh Motamedi , Behrouz Ezatpour 1 * , Masoud Alirezaei , Yadollah Pournia , Yousof Karamolahi , Marzieh Rashidipour

1- Razi Herbal Medicines Research Center, Lorestan University of Medical Sciences, Khorramabad, Iran
masomeh_ims@yahoo.com, bezatpour@gmail.com, alirezaei_m54@yahoo.com, ypournia@yahoo.com, bezatpour@gmail.com, m_rashidi80@yahoo.com

Objective: The main objective in the present study is to evaluate the effects cytotoxic of Taraxacum syriacum andNectaroscordum on leukemic cell line (KG-1a). Materials and Methods: The leukemic cell line (KG-1a) was routinely cultured in RPMI Containing 10% fetal bovine serum (FBS). Quantitative effects of Taraxacum officinale and Nectaroscordum on concentration responses and time courses of cytotoxic effects of cultured leukemic cell line (KG-1a)with MTT assay. Results: Taraxacum syriacum displyed increased cytotoxic effects than control (methotrexate and Normal Lymphocyte cells) and Nectaroscordum. Conclusion: Result our show high Cytotoxic effect of Taraxacum syriacum on leukemic cells line (KG-1a) and low effect toxic for normal lymphocyte cells. so we suggest further investigations to be carried out to check a more exact effect of Taraxacum syriacum so use on other leukemic cells line and may be recommend it as a therapeutic medicine, if positive results proved.

Keywords: Taraxacum Syriacum, Nectaroscordum, Cytotoxic and KG-1a

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P38

High quality interaction between Laboratory and clinical department by Software of Colorectal Cancer Screening in Iran

Elham Maserat * , Elnaz Maserat , Mahdi Edalati , Mohammadreza Zali

elhammaserat@gmail.com

Introduction and Aims: Colorectal cancer is one of the most common cancers on the worldwide. A dramatic increasing in the incidence of colorectal cancer occurring in Iranian population especially in the younger than 50 years in Iran. Understanding the genes and pathways that cause CRC would no doubt contribute to better surveillance, early diagnosis and thus reduces cancer morbidity and mortality. Software of Colorectal Cancer Screening manages colorectal cancer by high quality interaction between laboratory and clinical department. Method and materials: National software of colorectal cancer was designed according to standard and international of genetics and laboratory algorithms. Pilot of plan was implemented in Taleghani hospital (educational hospital and core of national screening plan) and evaluated by gastroenterologists, pathologists and genetics experts of research center gastroenterology and liver disease and approved by ministry of health of Islamic Republic. Data of 1138 patients was analyzed. Result: This software was integrated and analyzed demographic, clinicopathological and genetic characteristics for supporting of treatment and prevention decisions. In addition, this technology evaluates analyzed information by standard algorithm and pathways. Of 1138 colorectal cancer patients in national plan of screening 592 cases were HNPCC and 63 cases FAP. Incidence risk of colorectal cancer was 6 times greater in patients with a positive family history of colorectal polyps than those with a negative history after adjustment for age and gender. Discussion: Software of Colorectal Cancer Screening was decreased and prevented cancer via integration of information of laboratory and clinical department. This software play key role in detecting and managing of high risk and average risk relatives of patients with colorectal cancer.

Keywords: Software, Colorectal Cancer, Laboratory, Interaction

P39

Comparison PCR method and Rapid urease diagnostic test to detect Helicobacter Pylori in the gastric biopsy tissue samples

Parastoo Chamanrokh , Mohammad Hassan Shahhosseiny 1 * , Mahnaz Mazaheri Assadi , Taher Nejadsattari , Davood Esmaili

1- Department of Microbiology, Islamic Azad University, Qods branch, Tehran, Iran-Iranian Gene Fanavar institute (IGF), Tehran, Iran
p.chamanrokh@gmail.com, shahhosseiny@yahoo.com, mahnazmazaheri@gmail.com, nejadsattari_t@yahoo.com, esm114@gmail.com

Introduction and aim: Helicobacter pylori is recognized as a main cause of gastro and duodenal ulcer and gastric cancer risk, which may lead to long time gastro infection by locating in the terminal section of stomach. In fact, Helicobacter pylori is the exclusive bacteria which may live and grow in the stomach beside of stomach juice. Because of different laboratory reasons, some tests such as culturing and urea breath test are not completely satisfying. Therefore to diagnose this bacteria, an appropriate method is needed. The aims of this study are detect Helicobacter pylori using rapid urease test (RUT), and also comparison PCR method in patient gastric biopsy samples. Study method: In this study 100 biopsy samples were provided. First, RUT was run on the entire gathered biopsy samples. PCR test was designed based on glmM gene and its sensitivity and specificity was studied. DNA extraction was done on the obtained samples using DNG method. Then, the entire samples were studied using PCR method regarding Helicobacter pylori existence, and resulting data was analyzed by SPSS software. Results: The 294 bp product was amplified in the optimized PCR test. Test sensitivity was detected on 10 CFU. Any unwanted product was not observed in specificity test with other DNA samples. Of 100 gastric biopsy tissue samples, 64% and 76% were reported as positive using Ureas and PCR test, respectively. In this study, 22 samples with Ureas negative test, were reported as positive using PCR. Discussion: Considering higher PCR sensitivity and specificity comparing to rapid Ureas test, therefore this method may be used to final approval in H.pylori detection test.

Keywords: Helicobacter Pylori, Glmm, PCR Method, Rapid Ureas Test

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P40

LAB and G.I Malignancy

Hassan Kazemi 1 *

1- Satarkhan Avenue . Nemazi St - Block 1 - Number 81,
amirhossein_shz@yahoo.com

This study was done on 5000 endoscopic and colonoscopic Biopsies which performed is Shiraz Central Hospital during 1386-1391. Include pathologic epidimediologic and etiologic studies. Two hundred cases of gastric malignancy which followed by gastrectomy specimen. 90% of the cases are gastric adenocarcinoma and 10% are lymphoma. G. I.S tumor and carcinoid tumor. In all cases, Giemsa stain also is performed and 60% , they were positive. 20 cases of esophageal cancers (epidermoid carcinoma) and 15 cases surgery was done. 120 cases of colon cancer which in 110 cases colectomy performed. This Studies include the epidemiologic as well as pathologic. And the result in comparison to other studies which performed in foreign countries and inside the Iran medical centers have good correlation.

Keywords: Incidence Of G.I Malignancy In Endoscopic Biopsy In Shiraz Central Hospital

P41

Colorectal malignant masses

Hassan Jahani Hashemi 1 , Zahra Ghasemi 1 , Abbas Danandeh Pour 2 , Fatemeh Samieerad 2 *

1- Medical University Of Qzavin , 2- Ministry of Health
jahanihashemi@yahoo.com, z_ghasemy@yahoo.com, danandehpour@yahoo.com, fsamieerad@gmail.com

Background: Epithelial neoplasms of the colon and rectum are frequent histopathologic events and deserve to be histopathologically reported with precision,accuracy and completeness. Colorectal cancer is one of the more common malignant tumors around the world and the US it is the second cause of malignancy-related death. Most common form of colorectal carcinomas, about 85% of them are usual adenocarcinomas,and mucinous adenocarcinomas (mucinous component >50%) are seen in10 to 15% remainder. The other neoplasms are rare. Tumor subtyping does not have major prognostic value, but signet-ring cell carcinoma and small cell carcinoma have been shown to have adverse prognostic significance independent of tumor stage. Our objective is to evaluate the differential diagnosis of colorectal masses in the Rajaee and Velayat Hospitals.The results were expressed by histopathology diagnosis. Both descriptive and statistical analysis methods were applied. Results: Age range of subjects in this study was 31-83 years and more common in male patients (%59). The most common chief complains were melena, weight loss and abdominal mass. Laboratory findings including:positive occult blood,OB,raising of ESR and leukocytosis. The family history of GI tract malignancy documented in (16%) of patients. Histopathology findings in 3 (2.3%) of the patients shown anal squamous cell carcinoma,15 (12.2%) mucinous adenocarcinoma, 87 (68.3 %) colonic adenocarcinoma (NOS), 16 (12.5%) colonic signet ring cell carcinoma,1 (0.8%) malignant melanoma and 5 (3.9%) GI tract lymphoma. Conclusions:Today,the screening colonoscopy, as recommended by medical professional societies and as approved and planned by Medicare and most private medical insurance companies. It can largely avoid the cancer associated morbidity by colonoscopic excision of premalignant colonic polyps,and also by early colonic cancer detection at a early curable stage.

Keywords: Colorectal, Mass

P42

Presence of Helicobacter pylori in dental pocket as the source of GI infection

Hamid Shoraka 1 , Behnam Behdani 2 *

1- 2nd Kafaii st 43, 2- Social Security concil,
hamid_shoraka@yahoo.com, bhbehdani@yahoo.com

Introduction: Helicobacter pylori is one of the known causes of gastritis and gastric cancer. Periodontal space is an important place in the oral cavity, which could be a container for different microorganisms, and has known as one of the most important sources of blood-born infections; eg, endocarditis and aspiration pneumonia, and …. Subject and method: A group of patients selected and visited during 5 months, due to their dental and oral problems. Patients evaluated in the first step for dental and oral health; in the second step periodontal pocket measured in those who had gingivitis. Pieces of calculus removed for bedside RPT (rapid pylori test) and microbiologic study. In the third step patients referred for endoscopy. So, 50 patients became candidate for endoscopy, 34 women (mean age 37 years) and 16 men (mean age 40). Result: 82% of patients had positive RPT for dental pocket material. Only 20 cases out of 50 let to be evaluated by endoscopy (39.6%). Pieces have obtained during endoscopy from Esophagus, Body, Antrum and Duodenum, for evaluation by the same RPT kit; and pathologist study. RPT showed highly positive values in 84.2% body and 73.7% antrum. 13 patients or 65% had H.pylori positive in report of pathologist evaluation. Conclusion: Findings of this study with positive material of dental pocket for H.pylori; and the pieces taken from stomach revealed that poor dental hygiene could be one of the most important and dormant sources of H.pylori, and correcting periodontal space can prevent many unwanted health problems.

Keywords: H.pylori, Periodontitis, RPT, Gastritis, Gastric cancer

P43

Investigation epidemiology of parasitical infections in who referal central of lab in Qazvin city

Zahra Fallah 1 , Nafiseh Gorgi 1 * , Masoumeh Ebrahimi 1 , Maryam Azimi 1

1- Shahid Bolandian
zfallah.91@mail.com, keshavarzsafariali@yahoo.com, tobar2056@yahoo.com, a.mahdian@plste-co.com

Introduction: Parasitic dieases contribute significantly to medical , economic , and social problems of the world. They are divided to protozoa & metazoa. Thus they are very dangrous and damage for living people in the wide of the world that we will be explained in that Purpose: investingation epidemilogy of parasitical infection who referal central lab in Qazvin city. Methods material: We studied prospectin cross sectional in 1000 sample prepared those sample for checkin by smear and then microscope(*40) Findings: 4.1% Giading 80.3% h.nana & 0.1% A.lambericoids & 5% Histolytica and 4% e. coli Result conclusion If althou the statistion is low but it is very important and notabl as who referal this sectin for giving of health cart and they can play agent infectious to another one.

Keywords: Parasitical, Protozoa, Metazoa

P44

The role of the laboratory in timely diagnosis of gastrointestinal tract malignant disease

Behrooz Afarideh 1 *

1- Iran , Tehran ,Fayaz bakhsh hospital,
afaridehb@yahoo.com

The period study was 3 years, and we prepared questionnaire, patients were asked the following questions: 1) When you understand your disease? 2) Had you done the laboratory check up tests such as OB, CEA, CA19-9 before your illness? 3) Do you have the risk of gastrointestinal cancers on your family? 4) we also asked about their age, sex and diet. Results The results showed: 1) 52 patients could recognize their cancer with prior tests such as OB, CEA, CA19-9 and the subsequent follow-up method (endoscopy and colonoscopy), they could limit and treat their disease, unfortunately 1602 of patients did not don any lab screening tests and they had clinical signs such as bleeding in gastrointestinal tract and changing on color of stool. 2)The results showed that 34% of patients in this study had hereditary and familial field. Unfortunately, 66 % of patients were the persons that they had the high risk factors that mentioned in the introduction. 3) The number of men diagnosed with gastrointestinal malignancy in this study were 1,050 people, and 604 person were women . And only 2 patients were under 40 years and 1652 patients were above 45 years. Conclusion Early detection and screening tests for malignancy of gastrointestinal disease has Important role in the successful treatment and reducing the social and economical consequences. fortunately The modern diagnostic facilities and methods can help us on testing and monitoring of gastrointestinal cancers such as the OB, CEA, CA19-9 , which we can perform them as an annually check-up, Especially for people who are over 45 years , because they are in high-risk age .by mentioned manners we Can save the life of many patients , and Enhance the position of the laboratory in diagnosis and monitoring of gastrointestinal cancers , we can reduce the heavy budgets that spend for treatment of cancer patients annually and we can use these budgets to prevention and timely diagnosis of gastrointestinal disease.

Keywords: Laboratory,Timely Diagnosis, Gastrointestinal Malignant Diseases

P45

Practical laboratory techniques to identify productive coliform contamination of drinking and mineral water

Ezzat Nourizadeh 1 * , Seyed Jalal Zarger 2

1- Ardabil-University Of Mohaghegh Ardabili, 2- University Of Tehran,
nourizade@yahoo.com, Zargar@khayam.ut.ac.ir

Background & Objectives: Water play an important role in the life of organisms, there are different kinds of water in the nature that one of them is the mineral water springs or spa. These spas are part of human environment that have a direct relation with human health. Water used for drinking and bathing should have high quality. Human life depends on healthy and germless water. IRAN province have many natural spas that could be precious assets. In this research, by considering that. IRAN spas have therapeutic effects, Practical laboratory techniques to identify productive coliform contamination of drinking and mineral waters. Methods: water bacterium experiments were performed to determine contamination rate or disease producing potential. coliforms are used as an index in the contaminated waters. Sampling from mineral waters were performed in different seasons and to determine probable coliforms amounts, most probable number (MPN) was used. Then confirmative, complimentary and differential tests (IMVIC) were performed to identify coliforms; also to analyze the data variance analysis was used. Discussion: From the ancient turn over today the mineral waters Spas have been used for the treatment purposes and in many cases good results were obtained. Therefore it is necessary by obeying hygienic condition to keep these waters clean and healthy. Most of mineral waters spas are contaminated with coliforme in some seasons. Therefore, they are not safe for bathing and swimming and they must be free from these contaminants. The important factors playing role in the contamination of these spas with coliforms including misuse of mineral water, over population and crowding, lack of proper and standard instillations in a few spas, in some of them which is roofed and require continuous control by the regional health authorities. In contaminated samples microorganisms such as Escherichia coli, Escherichia froundii, Aerobacter aerogenes were observed.

Keywords: Contamination, Spas, Drinking And Mineral Water, Coliforms

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P46

Diagnosis of Mastocytosis by Allele-specific PCR for the KIT D816V Mutation

Toomaj Sabooteh * , Aboolfazl Zendedel , Hossein Azizi , Mina Zand , Zohreh Sadeghi

tsabooteh@gmail.com, a.zendedel@yahoo.com, azizihosein23@yahoo.com, minazand@ymail.com, dr.sadeghi68@gmail.com

Background and Aim: Mastocytosis is a heterogeneous disorder characterized by the expansion and accumulation of mast cells in different organs and tissues such as the skin, liver, gastrointestinal tract, bone marrow, spleen and other lymphoid tissues. Most important biological markers of the disease are increase serum tryptase levels, an aberrant CD25+ and CD2+ immunophenotype of bone marrow mast cells and the presence of the KIT D816V mutation. Allele-specific PCR is one of the methods for identification presence of KIT D816V mutation. The aim of this study is investigate for diagnosis of mastocytosis by allele-specific PCR for the KIT D816V mutation. Methods: This article is based on the published literature on mastocytosis, selective review of the more recent publications found by searching for keywords “diagnosis”, “mastocytosis”, “Allele-specific PCR” and “KIT D816V mutation” in PubMed, Google Scholar and Science direct. Results: Results of studies displayed traditional techniques such as DNA sequencing often has not enough sensitivity to detect mutations, while allele-specific PCR has enough sensitivity and specificity for detection of the D816V mutation in mastocytosis patients. By this technique D816V mutant amplified successfully in all cases of mastocytosis, while this mutant was not amplified in all cases without mastocytosis. Serial dilution experiments demonstrated high sensitivity and accuracy of this method. Conclusions: Other studies findings demonstrate that the Allele-specific PCR assay combined with enriched sequencing of mutant alleles (ESMA) is a rapid and highly sensitive approach for detection of KIT D816V mutation in mastocytosis patients. Rapid detection of the KIT D816V mutation by allele-specific PCR is very helpful to correct diagnosis of mastocytosis in all the puzzling morphological findings or difficult cases with low degree of bone marrow infiltration.

Keywords: Mastocytosis, Allele-specific PCR, KIT D816V mutation

P47

Epidemiology Prevalent cancers women in Kermanshah province - 1389-1388 years

Nahid Khademi 1 * , Kaivan Khassi 1

1- Kermanshah University of Medical Sciences and Health Services Health Department,
nahidkhademi2003@yahoo.com, khassikaivan@yahoo.com

Introduction: The three women>s health in recent decades Iran enhance their overall health and especially that all development indices are not comparable with any period of health increase vaccination increase awareness and education of women and ...health goals. Materials and Methods: This descriptive study based on data from the cancer registry has been in the years 1389-1388. Specialized statistical software for data collection and the use of cancer registry data were analyzed using SPSS software. Results: - Percent And the incidence of cancer in women - in 1388: Breast 23.5 -22.5 percent incidence rate per 100,000 - Skin 11.2 percent – 10.7 at the rate of 100,000 - the colon, rectum, 8.2 percent 7.8 of the incidence 100000 Esophagus 6.8 percent - 5 / The incidence of 6 per 100,000 - Stomach 6.16 percent – 5.8 rate per 100,000 - the liver, bile Tract 5% -4.8 rate of 100,000 - the lung, bronchus, larynx 4.9 percent -4.7 incidence per 100000 - uterus and cervix3.6 percent of -3.4 rate per 100,000 - Ovarian 2.7 percent -2.6 incidence per 100000 - kernel 2.1 percent incidence rate per 100,000 -2 - Kidney 2% 1.9 incidence of 1 in 100,000 - Percent And the incidence of cancer in women - in 1389: Breast 22.4 -11.8 rate of 100,000 percent - of the stomach and esophagus, 22.1 -11.7 percent incidence rate per 100,000 - Skin 11.5% of -6.1 incidence per 100000 - Colon and Rectal 10.7 percent – 5.6 rate per 100000 - Female Genitalia 6.6 of 3.5 rate of 100,000 - the liver and bile ducts 3.5 percent -1.9 incidence rate per 100,000 - Kidney 2.8 percent, -1.5 The incidence rate per 100,000 - Lung and bronchus, larynx 2.6 percent -1.4 incidence per 100,000 - Brain 2.5 percent -1.3 incidence per 100000. Conclusion: Due to the hidden nature of cancer disease symptoms are not detected early or treated as individual subscribers stage surface sadly Patients complications life is short, so it is necessary to design preventive measures in this regard. These preventive measures need Screening intervention, early identification, treatment, education and information.

Keywords: Kermanshah, Cancer - Women

P48

Evaluation of IL-12p40 promoter region polymorphism in MALT lymphoma Patients

Mehdi Talebi 1 * , Ali Khodadadi 2 , Mozhgan Moazami Gudarzi 2 , Malihe Najafpour 2 , Mozhde Mohammadian 2

1- Hematology and Transfusion medicine Department- Faculty of Medicine, 2- Immubology Department- Faculty of Medicine-Ahvaz University of Medical Sciences,
mt09143163667@yahoo.com, alkhodadadi@yahoo.com, mgn_moazami@yahoo.com, mmahsa_22@yahoo.com, mozhde1363@gmail.com

big challenges on the etiology and staging of the cancers. In the gastro-intestinal tract the conditions are quite similar to others. Based on the Immune surveillance theory one of the most important points in natural cancerous processes protection is the switching point of innate to adaptive immune response, that the IL-12 cytokine plays the pivotal role on it. IL-12 or formally IL-12p70 consists of two subunits, IL-14p40 and IL-12p35, the p40 subunit plays the key role on IL-12 functions, excess amounts of this subunit can produce p40-p40 hemodimers that can bind to IL-12 receptors with no intercellular signal induction, thus these dimmers play as an antagonist of IL-12 and so can block the natural innate immune system's functions. It has been shown that, some polymorphisms in the promoter region of the IL-12p40 gene, can affect the expression level of the IL-12p40. In this study we have evaluated this polymorphism's (-1188A/C) prevalence in group of MALT lymphoma patients.The PCR protocol have been carried out and RFLP for evaluating the polymorphism status have been done by the TaqI restriction enzyme. The digested DNA has been run on 1% agaros gel. The statistical analysis have been done by IBM SPSS 20 software and P-value<0.05 regarded as statistically significant. Results: RFLP results have shown that, Of 76 patients, 32.2%AA, 45.7%AC and 22.1%CC, the results was 38.3%AA, 51.1%AC and 10.6%CC in control group. The CC polymorphism prevalence was significantly higher in patients group (p-value<0.05). Discussion: Recently it has been shown that the CC polymorphism can induce IL-12p40 production. But from the results of this study we can't conclude that the CC polymorphism alone can cause the MALT lymphoma propagation. We recommended that the relationship between these polymorphisms and the serum level of IL-12p40 and/or gene expression levels should be carried out to best conclusion.

Keywords: IL-12, IL-12p40, MALT, Lymphoma, Gastro-intestinal Tract

P49

Cancer incidence In beheshti hospital Of Hamedan ,west of Iran

Mohammad Jafari 1 * , Mahdi Kholoujini 1 , Parisa Rasooli 1 , Hamid Hamedani 1

1- Shahid Beheshti Hospital
mj105105@yahoo.com, mehdikh1351@yahoo.com, saray1357@yahoo.cim, mehdikh1351@yahoo.com

Background: Cancer is third main cause of death in Iran. This report was provided for explaining cancer incidence because suitable information of different cancers in special areas can help define medical programs for treatment and screening of high-risk groups. This mini-review was carried out to provide a general viewpoint on common cancers incidence in beheshti hospital and to explain incidental difference that may help us to establish early detection programs and investigate population risk factors Patients and methods: A comprehensive search was under taken to survey and register all cases of cancer during the first six month in beheshti hospital of hamedan. diagnosis of cancer was based on histopathology and all data analyzed by spss soft ware RESULTS: In the 1533 patients that admitted in beheshti hospital. pathology center, a total of 209 patients with cancers were found during this study. of these 175 (83.7%) were in males, bladder cancer was the most common tumor with an incidence rate 34% gastric cancer was 26.3% ,followed by prostatic malignancies 24.9% colon and kidney with 4.8%, esophagus cancer with 4.3% and duodenum with 1% was The less cancer in this study Conclusion: Bladder cancer aLone constitutes one-third of all cancers in beheshti hospital of hamedan because this hospital is the center of urology in hamedan province and gastric cancer is second cause and most common GI tract cancer in this study, therefore supplementary studies about bladder cancer and gastric cancer in hamedan provience is recommended.

Keywords: Cancer Incidence ,Beheshti Hospital, Bladder Cancer

P50

Evaluation of KRAS & BRAF genes mutations in patients suffering from colorectal cancer

Fatemeh Sheikh Sofla , Shirin Boulori , Tolou Golkar , Fatemeh Roudbari , Mojtaba Ghadyani , Amir Hossein Emami , Gelareh Khosravi Pour , Masoud Parsania , Behzad Poopak *

f.sheikhsofla@gmail.com,shirinbolouri@yahoo.com,golkar@yahoo.com,roudbari2001@yahoo.com,ghadianymojtaba@yahoo.com,emamiami@yahoo.com,rastakhiz17_1987@yahoo.com, bpoopak@yahoo.com

Introduction: KRAS and BRAF genes mutations are common in patients suffering from colorectal cancer (35-42%& 7-26% respectively) and have predictive value. In patients with KRAS mutation, treatment protocol is completely different from patients without mutation. Tumors with a mutation in KRAS and BRAF genes are essentially insensitive to EGFR inhibitors such as cetuximab or panitumumab. Patients with KRAS and BRAF genes mutations should not be treated with either ones, either alone or in combination with other anticancer agents, as there is virtually no chance of benefit and the exposure to toxicity and expense cannot be justified. Objective: The main objective of our study was determining the frequency of KRAS & BRAF mutations in Iranian patients suffering from CRC and comparing the result with other studies were done worldwide. Material and Methods: In this study 41 paraffin embedded tissue blocks of patients with confirmed CRC using Histopathology and IHC were studied. 29 and 12 patients were male and female, respectively with mean age of 55.9 years old. DNA extracted from 5- 10µm sections of paraffin embedded tissue blocks and after quality control PCR amplification and detection were performed using reverse dot blotting method. Results: KRAS and BRAF mutation rates were 43.9% and 4.87% , respectively. In 12 of these patients one mutation were found in codon 12, and 6 of patients showed mutation of codon 13. In 23 patients no mutations in codon 12 , 13 & 61 were detected. In 2 of these patients mutation were found in exon 15 BRAF oncogene. Discussion: KRAS and BRAF mutations were detected in approximately 44% & 5%, respectively, of cases which are comparable with other studies in the world. So due to significant frequency of these mutations in Iranian patients this type of analysis should be done for any patients with diagnosis of CRC. With this approach we can save the costs, time and most importantly affect our patient>s outcome.

Keywords: KRAS Oncogene, BRAF Oncogene, Colorectal Cancer

Iranian Association of Clinical Laboratory Doctors

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P51

Effects of helicobacter pylori eradication in blood level of biochemical parameters related to coronary heart diseases

Rasoul Estakhri 1 * , Amir Vahedy 1 , Behrooz Pourasgary 1 , Ali Arbatan 1

1- tabriz medical scinece university
estakhri@tbzmed.ac.ir, amirvahedy@gmail.com, pourasgarybehroz@gmail.com, a.arbatan@gmail.com

Backgrounds and Objectives Helicobacter pylori (H.Pylori) infection is the most common chronic bacterial infection in the world. The possible role of the H.Pylori infection as a determinant of extra-gastric manifestations such as atherosclerotic processes and peripheral vascular disorders is matter of debate. Acute and chronic infections causing the inflammation of arteries may promote the atherosclerotic cascade. Proposed mechanisms include macrophage transformation, endothelial injury, chronic inflammation, and thrombosis. The aim of this study was to determine whether eradication of H.Pylori infection affects serum lipid profile, serum C-reactive protein (CRP) and serum level of fibrinogen. Methods & Materials In this before and after clinical trial, 114 patients with H.Pylori infection were recruited during a 12-month period in Tabriz Imam Reza Hospital. Basal serum lipid profile including total cholesterol, high-density lipoprotein (HDL), low-density lipoprotein (LDL), triglyceride, as well as the serum level of CRP and fibrinogen were obtained. After a 2-week routine quadruple therapy, H.Pylori was eradicated in 79 patients. Six weeks later, the basal laboratory tests were repeated in 73 remained H.Pylori- patients. Results Total 73 patients, 34 males and 39 females with the mean age of 32.0±10.0 (19-63) were enrolled. The median basal serum total cholesterol, triglyceride, CRP and fibrinogen levels, as well as the mean basal serum HDL and LDL levels were 259, 110, 90, 289, 49.6 and 180.5 mg/dl, respectively. The median post-eradication serum total cholesterol, triglyceride, CRP and fibrinogen levels, as well as the mean post-eradication serum HDL and LDL levels were 266, 112, 50, 305, 52.5 and 181.1 mg/dl, respectively. The median CRP decreased significantly after H.Pylori eradication ($p<0.001$). The change of other parameters was not significant. The mean level of serum HDL increased after eradication in the males and the median serum level of fibrinogen decreased after treatment in patients ≤40 y, as well. Conclusion Based of our findings, H.Pylori eradication may have role in decreasing the risk of CAD. Gender and age are two contributors in this regard.

Keywords: Helicobacter Pylori, Coronary Artery Disease, Cholesterol, Triglyceride, C-Reactive Protein, Fibrinogen.

P52

The impact of a community trial on the pharmacological treatment in the individuals with the metabolic syndrome: findings from the Isfahan Healthy Heart Program, 2001-2007

Mojghan Gharipour 1 , Mohsen Masjedi 1 * , Roya Kelishadi 2 , Ali Reza Khosravi 2 , Shahin Shirani 2 , Nizal Sarrafzadegan 2

1- Isfahan university Of Medical Sciences, 2- Isfahan university Of Medical Sciences
mojgharipour@yahoo.com, masjedi@med.mui.ac.ir, kelishadi@med.mui.ac.ir, alikh108@yahoo.com, Shirani@med.mui.ac.ir, nsarrafzadegan@gmail.com

Introduction and objective: Pharmacological therapy is a crucial step in the management of the individuals with the metabolic syndrome, when lifestyle modifications alone cannot achieve the therapeutic goals. The present study aimed to evaluate the efficacy of comprehensive interventions with the pharmacological treatment in the individuals with the metabolic syndrome. Methods: A cross-sectional population-based survey examined a sample of adults before and after conducting a community trial. Physical examination and blood sampling, data regarding the demographic characteristics, medical status and history of medication use were obtained. Pharmacological treatment related to the metabolic syndrome's components was also determined. Findings: The most common pharmacological agents consumed by the individuals with the metabolic syndrome were beta-blockers (26.1% and 30.4% in 2001 and 2007, respectively, followed by lipid-lowering agents (5.4% and 14% in 2001 and 2007, respectively) with significant differences before and after intervention. The prevalence of metabolic syndrome was higher in women than in men both before (36.4% vs. 14%) and after the community trial (26.1% vs. 16%, respectively) in the intervention area ($p<0.001$). Conclusions: We found a significant increase in medication use to control the blood pressure and dyslipidemia among the individuals with the metabolic syndrome, notably in the intervention area. In addition to the population approach, the high-risk approach should be considered in the community trials for prevention and control of non-communicable diseases.

Keywords: Metabolic syndrome, Pharmacological treatment, Community trial, Iran

P53

Investigating And Evaluating Infectious Causes Of Acute Idiopathic Mycocarditis And Cardymyopathy In People With Heart Transplant

Mohammad Javad Hosseini 1* , Atefe Shahravi 2 , Fariba Bakhtiyari 2 , Massome Khademi 2 , Setareh Haghighat 2

1-Molecular Biology Research Center, Baqiyatallah , 2-Islamic Azad University, Medical sciences Branch, Tehran, Iran
dr_mjhossbiani@yahoo.com

Introduction and aim: Myocarditis is an inflammatory disease of myocardiom .Mostly they are not diagnose Because in the primary phases there is no particular sympthom.In case of not diagnosing and immediate therapy the disease will develop as cardiomyopatyand permanent enlargment of left venticular and lack of venticular contraction and in this phase heart transplantation is only curative therapy. The aim of this study was to investigate infectious causes(viruses, baceria) cause of cardiomyopathy in patients with heart failure and heart transplant recipients in hospitals BaghiatollahAzam (AS) and MasihDaneshvari in molecular methods (PCR, Nested-PCR). Methods: About 15 samples of endomycards from 15 young people who suffered from heart failure with cardomypati who were repentance of heart transplantation in which with molecular method (nested PCR,PCR)higher prevalance of risk factors such as viruses or cytomegalo virus (CMV(, influenza,coxsacki virus, adenoviruses, parvovirus,and bacteria,, staphylococcus aureus, streptoccuspyogenes,Borreliaburgdorferi (Lyme Disease). Results and Discussion: According to the studies in developed countries and our study it seems that infectious factors and viruses are most prevalent causes of cardiomyopaty because of the significance of virus factors in causing cardiomyopaty diagnosing these factors immediately in primary phases and with sensetive and meticules molecular methods like PCR is necessary till with diagnosing infectious factors and determining frequency by presenting a method in primary preventing (vaccination)and secondary (antivirus therapy)stop the process of myocardit and intense heart failure and can be effective in reducing costs of heart failure and transplant.

Keywords: Myocardit, cardimyopaty, NestedPCR, PCR.Hearttransplantation, Virus.Bacteria

Iranian Association of Clinical Laboratory Doctors

Laboratory and Clinic: Laboratory and Thrombophilia P54 - P66

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The association between MTHFR C677T polymorphism and cerebral venous thrombosis risk

Mohammad Soleiman Soltanpour 1 * , Zahra Soheili 2 , Ali Akbar Pourfathollah 3 , Shahram Samiei 4

1- Department of Laboratory Sciences, School of Paramedical & Health, Zanjan University of Medical Sciences, Zanjan, Iran, 2- National Research, 3- Department of Immunology, Faculty of Medical Sciences, Tarbiat Modares University, Tehran, Iran, 4- Iranian Blood Transfusion Organization, Tehran, Iran,soltanpour86@gmail.com, z.soheili@gmail.com, pourfa@modarres.ac.ir, shsamie@yahoo.com

Introduction: Cerebral venous thrombosis (CVT) is an uncommon condition characterized by severe clinical manifestations and a high mortality rate. The C677T polymorphism of methylenetetrahydrofolate reductase (MTHFR) gene remains a controversial risk factor for development of CVT. The aim of the present study was to investigate a possible association between fasting plasma homocysteine level and MTHFR C677T polymorphism with cerebral venous thrombosis in Iranian CVT patients. Material and methods: 50 patients (20-63 years old) with a diagnosis of CVT and 75 healthy subjects (18-65 years old) as controls participated in our study. Genotyping of the MTHFR gene polymorphism was performed by PCR-RFLP, and homocysteine was measured by enzyme immunoassay. Statistical analysis was performed by SPSS 15 software. Results: The prevalence rates of 677CT heterozygote were 36% and 42%, whereas those of 677TT homozygote were 4.0% and 6.0%, in the controls and patients, respectively. Neither heterozygote [OR= 1.35, (95% CI, 0.64-2.84) p=0.55] nor homozygote [OR= 1.73, (95% CI, 0.32-9.21) p=0.83] genotypes were significantly associated with CVT. Moreover, No significant differences were observed in the frequency of mutant T allele between CVT patients and controls [OR= 1.31, (95% CI, 0.69-2.50) p=0.51] .Total homocysteine level in fasting plasma was significantly higher in patients than controls (P=0.015). Conclusions: Our study demonstrated that elevated plasma homocysteine concentration is a significant risk factor for CVT, and screening for C677T polymorphism does not seem to be necessary in the diagnostic work-up of Iranian CVT patients.

Keywords: Homocysteine, Methylenetetrahydrofolate Reductase, Polymorphism, Cerebral Venous Thrombosis, PCR-RFLP

P55

Designing and manufacturing of intelligent angiocatheter

Saeed Mohammadi Nezhad 1 * , Ali Akbar Shakeri 2

1- Shiraz University, 2- Jahrom Technology Incubator,
saeed.mn2000@yahoo.com, jpteb@yahoo.com

Introduction: Returned blood from vessels into the serum tube is a relatively common problem for inpatient treatment processes in the various parts of clinics and hospitals. If the unawareness of patients companions or treatment team, (for example, during sleep) blood, in dealing with walls will be hemolysis and clotting, which lead to corporal and economic damages such as: Interference with passing drug or fluid through the serum path as a result of the clogging of blood imported by the serum tube. Waste of time for medical staff (considering the necessity of changing the serum IV set) Economic costs related to the replacement of IV set and loss of sensitive and expensive drugs during the discharges of blood clots. Help in developing phlebitis The aim of this research is presenting a suitable method for early diagnosis of the arrival of blood from vessel to IV line. So an Initiative model was designed and made and evaluated. Material and method: The main part of this System includes an electronic eye circuit that its duty is IV line monitoring. The circuit output -as a signal alerts -was sent to nursing stationary from nurse call button. Result: Due to the laboratory test result to evaluate the effect of blood Concentration changes on System sensitivity was shown that the effect of this parameter is not meaningful on system Accuracy. In other words, the system usage is suitable for bedding patient especially patient without companions' hospital parts.

Keywords: Warning, Blood, Vessel, IV Line

P56

Differential methylation, one of the most recent methods used in prenatal diagnosis

Zahra Salehi , Reza Nekouian 1 *

1- Central research laboratory, School of allied medicine, Tehran University of Medical Sciences,
salehi_zahra1368@yahoo.com, rnekouian@tums.ac.ir

Introduction: Prenatal diagnosis is testing for diseases or conditions in a fetus or embryo before it is born.For detection of gene disorders, invasive procedures like amniocentesis is one of the methods which of course is accompanied by risk of miscarriage. Maternal biochemical screening and ultrasonography are noninvasive methods which provide indirect information on the status of fetus rather than detecting the core pathology associated with abnormalities. Thus, to obtain direct and definitive information about the gene defects involved, cell free fetal DNA (cff DNA) existing in maternal whole blood is a method of choice which could be directly targeted. Main idea: Using epigenetic differences between maternal and fetal DNA in maternal blood might be the next frontier for non-invasive prenatal diagnosis. Epigenetics is the study of molecular phenomena affecting gene expression which do not involve a change in DNA sequence that differential methylation of CpG islands between fetal and maternal DNA is a good representative of it. However, using differential methylation is an area of interest for prenatal detection of gene disorders not only for discrimination between maternal and fetal DNA but also because firstly, variety of vital cellular processes are regulated by changes in methylation profiles and secondly, aberrant methylation pattern is consistent with many human diseases like cancer and imprinting disorders. These differentially methylated sites are abundant in DNA and are targeted with a simple process composed of bisulfate modification, methylation-specific PCR and primer extension. To avoid DNA degradation caused by bisulfate treatment, developed procedures such as microarray and digital PCR have been used which can make differential methylation a qualified method for prenatal abnormalities diagnosis. Conclusion: As a result, non-invasive, absolute and sensitive identification of prenatal gene disorders could be achieved by directly comparing differential methylated markers existing in fetal and maternal DNA.

Keywords: Prenatal Diagnosis, Non-Invasive Method, Epigenetics, Differential Methylation

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Preparation of Infusible Platelet Membrane and evaluation of its effectiveness in animal

Ali Talebian 1 * , Saeed Rivandi 1 , Setareh Gholizadeh 2 , Latif Hamidpour 2 , Majid Heidari 2

1- Shahid Hemmat, Next to Milad TowerIranian Blood Research and Fractionation Co., 2- MS student,
talebian@ibrf.ir, s.rivandi@yahoo.com, setareh_gholizadeh@yahoo.com, latifhamidpour@yahoo.com, Majidhaydari@yahoo.com

Material and Methods: IPM was prepared from 8 outdated platelet units of Tehran Blood Transfusion Center. The units were pooled and centrifuged to remove contaminating red cells and white cells. The supernatant was centrifuged to remove plasma. The precipitate was resuspended in physiological saline solution. For lysis and disruption of platelets, freeze-thaw procedure was repeated three times at -80°C and room temperature for 6 and 2 h respectively. After washing the precipitate was resuspended in 45 ml of the same solution. The sample of IPM with 0.4 M sodium caprylate concentration was prepared and heated at 60°C for 20 h to inactivate possible viral or bacterial contaminants and formulated with sucrose 1 M and human serum albumin 0.1%. The hemostatic activity of IPM was measured by bleeding time assay to correct prolonged bleeding time in thrombocytopenic rabbits. Rabbits were made thrombocytopenic by subcutaneous administration of busulfan dissolved in polyethylene glycol 400. We measured platelet count and bleeding time on Day 7,9,11. Animals with prolonged bleeding time (≥7 min) were used in this assay. For bleeding time assay, a standard device (ITC Surgicut Bleeding time, Fisher Scientific Inc.) was used. The preinjection bleeding time in one ear and administrated IPM at a dose of 2 mg per kg by injection into the marginal vein of the other ear were determined. The bleeding times was then measured at various times after injection, 2, 4, 6 and 24 hours. All bleeding time assays were performed in duplicate. This protocol was repeated by 0.5 mg per kg injection dose. Results and Discussion: During IPM preparation, concentration of sodium caprylate of samples were 0.4, 0.2, 0.1 and 0.05 M. After pasteurization, turbidity of samples was measured with spectrophotometer at optical density of 450 nm and were found 0.662, 1.890, 2.300, 2.365 respectively and it was concluded that sodium caprylate concentration of 0.4 M is suitable for pasteurization of infusible platelet membrane product. The values of bleeding time in the 80 data sets were obtained. Reduction in the percentage of bleeding time elevation during 2, 4, 6 and 24 hours after injections of 0.5 mg/kg were found 56.8, 66.0, 73.7 ,96.8 and after 2.0 mg/kg injections were observed 24.8, 39.0, 52.4 and 95.6 respectively.Conclusion: It was concluded that: 1) turbidity assay is a simple and efficient method for determination of biological status of IPM during its pasteurization at 60°C for 20 h; 2) sodium caprylate at 0.4 M is the favorite concentration to preserve IPM during heat treatment and can be applied for this process; 3) IPM can significantly reduce bleeding time in thrombocytopenic rabbits; 4) confirms its dose-dependent response property; 5) shows maximum decrease in the percentage of bleeding time elevation after two hours of injections; 6) may support its clinical potential utility as a transfusion substitute for platelets.

Keywords: Infusible Platelet Membrane, Platelet Substitute, Thrombocytopenia, Animal Study

P58

Effects of aqueous extract celery (Apium graveolens) on Serum cratinine and uric acid levels in the normal male rats.

Mohammad Reza Afzal Zadeh * , Ashraf Amir Zargar

eleganc2008@yahoo.com, amirzargar57@yahoo.com

Background: Iran has a rich tradition of plant based knowledge on healthcare. A large number of plants are used by folklore traditions in Iran for treatment. In iran, celery is used traditionally for various types of diseases. Hence, The aim of the present research is to investigate The effects of aqueous extract celery (Apium graveolens) on Serum cratinine and uric acid levels in the normal male rats. Methods: Fifteen colony of adult healthy rats .was prepared, then divided into 3 groups: control, low dose and high doses. Control group Do not get something and treatment groups received 1ml water extract of celery in two doses; 100 and 200 mg/kg/BW to administered by gavage at 30 consecutive days. At the end of this period, all animals were decapitated and blood samples were collected. Serum uric acid and creatinine levels were determined. Data were analyzed by analyses of variance (ANOVAs) followed, where appropriated, by independent t- tests. Results: The results shown a significantly decrease Serum creatinine level at high and low doses of extract0/64 ±0/02 and 0/58± 0/02respectively vs. control 0/8 ±0/05, P≤0.05. Also this results was dose dependent increased significantly at the Serum uric acid level at high and low doses of extract 3/18±0/62 and 1/94±0/77respectively vs. control 0/07 ±0/02 was shown P≤0.05. Conclusion: Decrease Serum creatinine level Shows Celery is usefulness. According to Increase Serum Uric acid Should being studied Uric acid level of consumer For the prevent the disease.

Keywords: Aqueous Extract, Apium Graveolens, Creatinine, Uric Acid

P59

Effects of Alpha thalassemia mutation on male and female blood indices

Akbar Dorgalaleh 1 * , Shaban Alizadeh 1 , Rima Manafi 1 , Zahra Kashani Khatib 1

1- Allied Medical School, Tehran University of Medical Sciences,
dorgalaleh90@gmail.com, haematology83@gmail.com

Back ground: Alpha thalassemia is one of the most common autosomal recessive disorders in the world that characterized by decreased or absence of α- globin genes. There are at least 40 different deletion in alpha thalassemia gene and in non- deletion type of the disorder. Mutations variants in a- thalassemia have different effect on blood indices including MCV and MCH and all patient have variable degrees of anemia. The aim of the study is to identify the effect of mutation --/aa on blood indices in male and female. Method and material: This descriptive study was conducted on 353 male and female patients with --/aa mutation. Blood samples were collected in EDTA anticoagulant tube. Complete blood count and hemoglobin electrophoresis analysis were carried out. Alpha thalassemia analysis was done by PCR, and Gap-PCR methods. Eventually statistical analysis was done by spss software. Result: Among the 181 male and 172 female patients HbA2 showed greater reduction in male than female but the result showed greater depletion in MCV and MCH value in female in comparison with male. Conclusion: Knowledge of the effect of alpha thalassemia mutation in blood indices in male and female can help to discover the better approach for treatment the disorder.

Keywords: Alpha Thalassemia, Blood Indices, Hb A2

P60

Prevalence of molecular risk factors FV Leiden and FII in suspected Iranian patient to thrombosis

Ahmad Reza Kamyab 1 , Ali Akbar Amirzargar 1 *

Molecular diagnosis dept., Noor pathobiology Lab., Tehran, Iran,
kamyab10000@gmail.com, amirzara@tums.ac.ir

Objective and Introduction: Factor V Leiden (FVL) and prothrombin (FII) gene mutation are well established independent risk factors for thrombosis. In FVL (G1691A) arginine is substituted by glutamine at amino acid residue 506, increasing the risk of venous thromboembolism in homozygous individuals. In FII (G20210A), a Guanine to Adenine transition at position 20210 of the 3' untranslated region of the FII gene has been found to be associated with increasing prothrombin level and risk for venous thrombosis in homozygous individuals. Method and MaterialsThe interest population consisted of 412 patients suspected to thrombosis were refereed to Noor pathobiology Lab between November 2011 and March 2013. 2mL of peripheral whole blood was collected from patients. Then, DNA was isolated using high pure PCR template preparation kit. DNA quality and concentration was measured by Nano spectrophotometer. Consequently, Multiplex PCR and reverse hybridization were performed by GenID kit to detect SNPs. Finally, mathematical and statistical analyses were performed to calculate genotype frequency. Result For G1691A mutation, the prevalence of wild homozygous, heterozygous and mutant homozygous showed 89.3% (n=368), 10.4% (n=43) and 0.3% (n=1), respectively. Furthermore, the prevalence of wild type and heterozygous for G20210A were 96.1% (n=396) and 3.9% (n=16), respectively. In the study, it has not seen mutant homozygous for prothrombin mutation. Conclusion The GA1691 mutation frequency in the patients was different statistically with Caucasian normal population (10.4% versus 5%, P value <0.001).

Keywords: Thrombophilia, Multiplex-PCR, Factor V-Leiden, APC, F II

P61

Management patients at high risk of thromboembolism by anticoagulation monitoring service

Marzieh Gholampour 1 * , Shams-O-Reza Tabriznia Tabrizi 2

1- Haematology and blood banking Department, Ghaem Hospital, Mashhad University of Medical Sciences, Mashhad, Iran, 2- Mashhad, ghasem Abad, Fllahi84, plaque 68, devision4,
m67_m89@yahoo.com, rezatabriznia@yahoo.com

Introduction: Anticoagulation therapy is most commonly required for patients at high risk of thromboembolism, either following an episode of venous thromboembolism or in those with atrial fibrillation (AF) or prosthetic heart valves. Warfarin is being used in the management of increasing numbers of patients, While it is a very effective drug in these conditions, it can also have serious side effects, e.g. severe haemorrhage. These side effects correlate closely with the international normalized ratio (INR) level. Maintaining a balance between bleeding and clotting has always been a challenge in treating coagulation disorders. A perturbation in that balance can be associated with substantial morbidity and mortality. As a result, anticoagulant monitoring is extremely important, and inappropriate testing may lead to complications.Method: This review is extracted by studying several articles in the field of anticoagulation monitoring services (AMS).Result: An AMS provides a safe, efficient and unified approach to monitoring outpatient anticoagulant therapy. Studies have shown that patients enrolled in a centralized anticoagulation management service have better INR control, decreased adverse events and better clinical outcomes. Anticoagulation management using a centralized service really has become the standard of care in the field of anticoagulation by providing patients easy accessibility to a specialized clinician and individualized approach to anticoagulation management. Conclusion: Operating a centralized, telephonic, electronically systemized laboratory-managed AMS improved therapeutic INR control, reduced the risk of anticoagulation therapy-related complications and appears to cost less compared to the usual anticoagulation therapy management provided by the patient's physician.

Keywords: Anticoagulation Monitoring Services, Warfarin, Thromboembolism, INR, AMS

P62

Optimization of mesenchymal stem cell expansion by Platelet Rich Products

Mozhdeh Mohammadian 1 * , Ali akbar Movasssaghpour 1 , Karim Shams 2 , Mehdi Talebi 2 , Neda Minayi 2 , Parvaneh Abbasi 2 , Fatemeh Zare Shahneh 2 , Mehdi Jahedi 2

1- Tabriz, Iran, 2- Tehran, Iran,
mohammadian.hematology@gmail.com, Movassagpour@Gmail.com, k.sh.asenjan@gmail.com, mt09143163667@yahoo.com, neda.minayi@yahoo.com, tab_hem13@yahoo.com, shahnehimmunology@gmail.com, mehdy_zargar@hotmail.com

Introduction: MSCs are progenitors which reside in bone marrow and support hematopoietic stem cells homing and differentiation. In vitro, MSCs are able differentiate to a variety of cell lineages. This makes them a very hopeful tool for regenerative therapy and coculture with HSCs. They usually isolated from human bone marrow for therapeutic purposes and they should proliferate to reach an adequate number for implantation. Conventionally DMEM medium supplemented with 10% FBS is used for their expansion; FBS can increase the risk of contamination and allergic reactions. Platelet granules contain many growth factors that can support MSCs proliferation. In this study, we treated MSCs with platelet rich plasma (PRP) and platelet rich fibrin (PRF) to evaluate their proliferation. Material and methods: MSCs were isolated from human bone marrow and after confirm their mesenchymal identification by flowcytometery, were cultured in media supplemented with different concentration of PRP and PRF. After 2days we detached cells for doing MTT assay and counting doubling time. The treatment results were compared with conventional medium by excels software. Results: In vitro, PRP and PRF in their optimized concentration increased MSCs expansion respectively up to 2.36 and 2.30 fold and decreased their doubling time to about 16houers. Indeed, these products do not change cell's mesenchymal characteristics. Conclusion: PRP and PRF are able to increase MSCs expansion significantly, so they are appropriate substitute for FBS. Although both products have the same effects on MSCs proliferation, PRF is preferred due to its autologouse identification and natural preparation process.

Keywords: Mesenchymal Stem Cell, Platelet Rich Plasma, Platelet Rich Fibrin

P63

Effect of resveratrol on platelet aggregation in thrombophilic patients

Mozhdeh Mohammadian 1 * , Mehdi Talebi 1 , Neda Minayi 2 , Fatemeh Zare Shahneh 2 , Parvaneh Abbasi 2 , Mehdi Jahedi 2

1- Tabriz, Iran, 2- Tehran, Iran,
mohammadian.hematology@gmail.com, mt09143163667@yahoo.com, neda.minayi@yahoo.com, shahnehimmunology@gmail.com, tab_hem13@yahoo.com, mehdy_zargar@hotmail.com

Introduction: Resveratrol is a polyphenolic compound found in red grape and is believed to have a role in decreasing the incidence of coronary heart disease. In the present study, we investigated the effect of resveratrol on platelet aggregation in vitro. Material and Methods: 34 thrombophilic patients selected and washed platelets and platelet rich plasma (PRP) had prepared. PRP was prepared from 10 ml blood with anticogulant after 2step of centrifuging, one in 1400G for 15min and the other for 10min in 2500G. The PRP, after the addition of ADP and collagene (1 μM, final concentration), was incubated in a water bath at 37°C for 10 min and centrifuged at 1000G for 10 min. The platelet pellet was resuspended in Ca2+ free Tyrode's buffer. Platelet suspensions were incubated at 37°C with different concentrations of resveratrol for 30 min. Platelet aggregation was studied turbidimetrically using aggregometer. Results: Resveratrol at 10-1000 micromol/L completely inhibited aggregation of both PRP and washed platelets stimulated by either collagen (88±12% inhibition in PRP, 90±3% inhibition in washed platelets) or ADP (85±7% in PRP, 87±9% in washed platelets) in a concentration-dependent way. Hypercholesterolemia induced by high-cholesterol diet enhanced ADP-induced platelet aggregation. Resveratrol inhibited ADP-induced platelet aggregation. Conclusion This study demonstrates that resveratrol inhibits platelet aggregation which increased therapeutic potential for patients suffering from thrombotic conditions or thrombocytosis and prevent pathological clotting.This may be one of the mechanisms by which resveratrol prevents atherosclerosis.

Keywords: Thrombophilia, Platelet, Platelet Aggregation, Resveratrol

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P64

Studies of EDTA-dependent pseudothrombocytopenia and satellite phenomenon

Mohamahosein Derakhty Gonbad 1 *

1- Tabriz -ostad alinasab hospital,
mhderakhty@yahoo.com

Background and Aim EDTA-induced platelet aggregation and Platelet satellitism are an in vitro phenomenon of EDTA dependent pseudothrombocytopenia in automated platelet counters at room temperature. EDTA-induced platelet aggregation consists of platelet clumping due to anti-platelet antibodies in blood anti-coagulated with EDTA. Platelet satellitism is Antibody dependent platelets rosetting around polymorphonuclear neutrophils that cause by EDTA .this problem has been reported rarely in both normal individuals and in association with a variety of diseases. Method In this study 20000 CBC specimens that collected in EDTA anti-coagulant was analyzed by automated cell counter .then thrombocytopenic specimen evaluated by peripheral blood smear. The patient's blood samples was redrawn with sodium citrate, another sample without anticoagulant collected in plastic cups run immediately by automated cell counter therefore the platelet number correlated very well. Microscopic review of the sample was conducted Result We Found That 14 people(0.07%) (2men and 12women)have EDTA-induced platelet aggregation and 1 specimen with satellite phenomenon. Conclusions Medical Laboratory Scientists and technicians should be aware of EDTA-induced platelet aggregation and platelet satellitism. All EDTA blood samples with platelet counts below that expected; should be checked for clots, a film prepared. Should platelet satellitism or persistent platelet clumping be observed. a citrated blood and sample without anti-coagulant collected in plastic cups and immediately should be analyzed .

Keywords: Pseudothrombocytopenia, Satellite Phenomenon, EDTA, Peripheral Blood

P65

Thrombophilia

Zohre Pourmohammadi*

mdz.pourmohammadi@gmail.com

presence of a mutation in the chain of β thrombin (G1A455) the potential increased thrombosis occurs. strands of fibrin affected FXIII cross-linking between the polymer Mrhay their which causes them to be sustainable. Gene FXIII a polymorphism in replacing leucine instead of valine at nucleotide 34 is present. Those with substitution mutants to homozygous be done. Coefficient at high risk of miscarriage and habitual will enjoy. Principal cause of the defects in the system. Fibrinolytic Inhibitor Plosminogen Activator is increasing. These substances affect the induction of insulin levels in patients with polycystic ovaries and insulin resistance are related rises. coagulation problems resulting from increased PAI-I caused a disturbance in blood flow in of the uterus and cause miscarriage in patients with polycystic ovary is. This is a genetic disorder caused by a deletion or addition of guanine nucleotide polymorphic forms in which it has 4G/5G4.4G/5G.G/5G. 4G/5G4.G/4G form is associated with increased PAI-I levels. Other risk factors for thrombosis increased platelet aggregation and vascular endothelial damage is. Human platelet factor platelet HPA-I is part of the assembly. Gene β family of glycoprotein (GPIIIa) gis codin thatpart of the complex GPIIIa / GPIIb is the process that ultimately leads to platelet aggregation.Three different forms of the glycoprotein known. Glycoprotein on the A2 form of thrombosis is more important. Damage endothelial lead to thrombosis may be derived from antiphospholipid antibody H perhemosysteinemiayis the MTHFR reaction, methylation Homocysteine to methionine is responsible. Mutations in multiple gne enzyme MTHFR reduces the enzyme was the result of Hyperhemosystein and Hemosystein increase is the linear relationship for both types embolism, arteriovenous there. those genes MTHFR homozygous risk in thrombosis and related disorders of pregnancy they threaten. combination of these mutations together with the risk of abortion in different stages of pregnancy may increase shows.

Keywords: Thrombophilia

P66

Analysis of CML patients' response to treatment and number of referral to laboratory based on quantitation detection of bcr-abl fusion transcript

Shirin Bolouri , Tolou Golkar , Fatemeh Sheikh Sofla , Masoud Parsania , Behzad Poopak *

shirinbolouri@yahoo.com, golkar@yahoo.com, f.sheikhsofla@gmail.com, f.sheikhsofla@stu.umz.ac.ir, bpoopak@yahoo.com

Introduction: Chronic myelogenous leukemia (CML) is one of the malignant bone marrow stem cell disorders. It is classified as myeloproliferative neoplasms and has a characteristic chromosomal translocation , Philadelphia chromosome. Detection and quantitation of bcr-abl fusion transcript in patients will help physicians in diagnosis and MRD monitoring of them. Objectives: We aim to make a comparison between the MRD level and CML patients' treatment. At the same time compare the number of their referral to Lab during follow up for monitoring of disease in relation to standards. Materials and methods: In this study, 107 CML patients in Payvand Laboratory were analyzed. 57 of them were visited the Lab once and the remaining 50 came for more than once .MRD detection was done using Real-time PCR and specific bcr-abl Taqman probes. Based on standard curves, the bcr-abl expression level was determined and reported. Results: From total number of 107 CML patients, 56 were men and 51 were women. The mean age of the patients was 43 years and 7 months, (min. : 15 and max: 72). The average bcr-abl/abl ratio of patients at diagnosis including 10 patients, was 46% as minimum and >120% for maximum level. Patients visited the Lab for monitoring of their disease between once and eight times. But it should be considered that the interval timings between each visit was different and was not the same for all patients. The mean interval timing between each visit was 9.5 months. MRD detection results showed that 38.31% (38%) of the patients were non-detectable, 1.86 % (2%) was in major molecular response phase and 59.81% (60%) patients have more than 0.1% expression level. Among these 59.81% patients, 3.34% have major morphologic change in their peripheral blood smear (Including myeloid immature series and basophilia, > 5%). Discussion: According to this study, we can conclude that the patients do not follow the international standards in MRD monitoring that recommends 3 -6 month intervals between each test. We can name different reasons ranging from the high cost of the test and incomplete coverage of this test by public funds to the physicians' view on the results of this test. We could not make a reasonable comparison between the response of the patients to the treatment and their treatment's duration. It was because we didn't have a complete history of disease in these patients. We were not able to draw any reasonable conclusion between patients' duration of treatment, drug response and MRD detection level as they do not give enough information about their drugs and their dosage of usage.

Keywords: CML, MRD, Real-Time PCR, Bcr-Abl Fusion Transcript

Iranian Association of Clinical Laboratory Doctors

Laboratory and Clinic: Anti - Phospholipid Syndrome P67 - P73

P67

A Study of HLA Antigens in Behçet\'s Syndrome

Fatemeh Zare Shahneh * , Behzad Baradaran , Fatemeh Hamzavi , Babak Bayazi 1 , Mozhdeh Mohammadian 1, Fatemeh Zamani

1- Tabriz, Iran,
shahnehimmunology@gmail.com, behzad_im@yahoo.com, fhamzavis@yahoo.com, b.bayaz159@gmail.com, mozhde1363@gmail.com, Zamanifateme59@yahoo.com

Background: Behçet's syndrome (BS) is a chronic recurrent multisystemic inflammatory disorder characterized by oral and genital ulcers, ocular inflammation. Behçet's syndrome has a complex genetic etiology. However, epidemiological studies recommend that genetic factors have a significant influence to its pathogenesis, alike to other auto- inflammatory disorders. Objective: Epidemiological statistics, clinical records and Human Leukocyte Antigen (HLA) typing were studied in Iranian Azari patients with Behçet's syndrome. Methods: This investigation is considered HLA associations with BS, and HLA with certain clinical characteristics, age and sex in the (Tabriz) Iran, which has an ethnically homogeneous population. HLA-A and HLA-B typing was performed in 290 BS patients, conforming to International Study Group criteria and in 300 blood donors, as controls. Patient records were retrospectively reviewed and patients reassessed clinically. Results: HLA-B5, HLA-B35, HLA-51, HLA-B52, and HLA-CW4 presented significantly high frequencies in all patients. No other HLA type was associated. There was a significant HLA link with male sex in BS patients and Mean age (34 ± 1.1) was determined. We present the frequency and correlation between Iranian Azari patients with Behçet's syndrome and particular HLA antigens. Conclusion: All patients had mouth ulceration, 64% genital ulceration, 72% skin lesions, and 52% ocular involvement. This study supports HLA-B5, HLA-B35, HLA-51, HLA-B52, and HLA-CW4 immunogenetic predisposition in an ethnically homogeneous (Iranian Azari) population.

Keywords: HLA Antigens, Behçet's Syndrome, HLA Typing

P68

Evaluation of common diagnostic tests used in lupus erythematosis

Mahnaz Amadeh * , Samira Mozhgani , Sharmin Behjati , Aziziolah Behjati

mahnaz.amadeh115@gmail.com, samira.mozhgani@gmail.com, sharmin_beh@yahoo.com, behjatia1@mums.ac.ir

Introduction: Lupus is a multi systemic auto-immune disease. The symptoms of this disease include: Joint involvement, hair loss, skin erythma, kidney involvement, heart, lungs, brain, eye, blood involvement ,. Common diagnosis tests in SLE are: Cytopenia, Increased ESR, Positive CRP and Syphilis tests, Increased Gama globulin and decreased Albumin, Increased urea and Cr, Abnormal liver enzymes, Proteinuria, Hematuria, Positive ANA test, Positive Anti DNA test, Reduced level C3, C4, Biopsy and X-ray test and ECG that investigate lung and Cardiac damages due to lupus. Prevalence of anti ds DNA is between 9-20% depending on identification method and measurement of auto anti body and amount of patients activity. ANA and Anti DNA Ab usually tests by Elisa method. Two important indexes in lupus disease are SM, Anti ds DNA. Patients and method: This retrospective study was performed on 195 patients referred to Mashhad Ghaem hostital immunology laboratory in the second halt of 1390. Result: The results obtained are summarized in the table below.

	ANA	DNA	C3	C4
average	12.3	22.7	133.8	27.9
median	3	13	140	27
number	195	62	23	21
Reference area	<10	<50	89-187mg/dl	16.5-38mg/dl

	Normal ANA	Abnormal ANA	Normal DNA	Abnormal DNA
female	83%	17%	85%	15%
male	95%	5%	90%	10%
number	171	29	172	28

Conclusion: From these studies it is estimated that the prevalence of SLE is higher in female than males (about 14 times). ANA test for diagnosis and screening of lupus disease is the best and the most preferred.

Keywords: lupus, ANA test, Anti ds-DNA test

P69

CDR1 deficiency in Rheumatoid Arthritis

Mojgan Shaiegan 1 * , Shahnaz Rafiei- Tehrani 2

1- High Institute for Research & Education in Transfusion Medicine, 2- Tehran University of Medical Science- Medicine Faculty

mojganshaiegan@yahoo.com, mojgansh46@gmail.com

It is assumed that immune complex deposition has role in the pathogenesis of rheumatoid arthritis (RA). The complement receptor for C3b and C4b (CR1) is effective in the clearing of circulating complexes. Aim of this study is evaluation of CR1 on RBC of patients with R.A. Erythrocyte CR1 was evaluated in 30 apparently normal controls (25 females) and 26 Patients (23 females) with rheumatoid arthritis using Immune adherence haemagglutination (IAHA) test. Erythrocytes from 10 of 26 patients with R.A (38.4%) showed no agglutination meant CRD, whereas this was observed in only Four (13.3%) of the 30 controls (P=0.03). This data showed that erythrocyte CR1 deficiency occurs in immune-mediated rheumatic diseases.

Keywords: CR1D - RA - IAHA

P70

Laboratory diagnosis of rheumatic diseases

Fatemeh Samieerad 1 * , Abbas Danandepour 2 , Fatemeh Talebi 2

1- Medical University Of Qzavin , 2- Ministry of Health
fsamieerad@gmail.com, danandehpour@yahoo.com, f_t506@yahoo.com

Background: The diagnosis of rheumatologic diseases is based on clinical data, blood and imaging investigations, and in some cases even on histopathology. Blood tests are important in confirming clinically suspected diagnosis and monitoring the disease activity. The interpretation of laboratory tests should be done as adjuncts to a careful review of history and physical examination. The value and usefulness of a test in evaluation a certain condition depends on its pretest probability. A positive test result with high pretest probability helps to confirm a diagnosis, but a negative test result with low pretest probability helps to rule out the diagnosis. Our objective is to evaluate the laboratory diagnosis of rheumatic diseases. Methods:A literature search was conducted through MEDLINE and valid journals for articles published. Results: ESR and CRP are two important markers of inflammation. CRP is a more sensitive marker of inflammation and is independent of factors affecting ESR. ANA testing is very useful in establishing a diagnosis of SLE. ANA titer is not used for evaluating the disease activity of SLE. Anti-DNA antibody testing is very useful in the evaluating and monitoring of SLE. Anti-Scl 70 antibody is very useful in evaluating systemic sclerosis and anticentromere antibody in diagnosing limited scleroderma. The sensitivity of rheumatoid factor for rheumatoid arthritis is about 50% - 80% and specificity is from 85% to 90%. Between 70% and 90% of known case of Wegener's granulomatosis, have ANCAs positive test (c-ANCA pattern), including antibodies directed against PR3.Also about 40% - 80% of known case of microscopic polyangiitis are ANCA positive and usually have the p-ANCA pattern with MPO specificity. Conclusions: Clinicians cannot rely heavily on blood tests in making the diagnosis of rheumatologic diseases, except for certain tests that are highly specific for certain diseases. Improper application of these tests leads to misdiagnosis, inappropriate therapy, and unnecessary health care expenses. Also they interpreting lab findings should bear in mind that the results can vary from laboratory to laboratory (biases), and hence serial determinations should be done by the same laboratory.

Keywords: Rheumatologic diseases, Laboratory test

P71

Association of LGALS3 rs4652 Gene polymorphisms and rheumatoid arthritis in Zahedan, Southeast Iran

Mehdi Atabaki * , Hamid Daneshvar , Mohammad Hashemi , Zahra Zakeri

atabaki80@gmail.com, hamiddaneshvar@hotmail.com, mhd.hashemi@gmail.com, Zah_zakeri @ yahoo. Com

Introduction Rheumatoid arthritis (RA) is a systemic, multi-factorial autoimmune disease characterized by chronic inflammation and destruction of joints. Enhanced infiltration of lymphocytes and macrophages can be observed in inflamed synovium. Up-regulation of pro-inflammatory cytokines is evident in the synovial fluids. In this study we aimed to evaluate the possible association of LGALS3 rs4652 gene polymorphism and rheumatoid arthritis (RA) in a sample of Iranian population. Method This case-control study was performed on 120 patients (104 female, 16 male) with rheumatoid arthritis with an average age of 44.6 ± 12.9 years fulfilling the American College of Rheumatology (ACR) criteria for RA. The control group consisted of 120 healthy individual (76 female, 44 male) with a mean age of 43.2 ± 10.3 years and unrelated to RA patients. Genomic DNA was extracted from whole blood and LGALS3 polymorphism were determined using tetra amplification refractory mutation system–polymerase chain reaction (T-ARMS-PCR). Results The results showed that LGALS3 AC genotype was a risk factor for susceptibility to RA (OR=11.622 95%CI=4.47-28.65, p=0.001). Conclusion In conclusion, we found an association between LGALS3 rs4652 polymorphism and the risk of RA in a sample of Iranian population. our data showed that LGALS3 (+292 A>C) polymorphism is a genetic factor for susceptibility to RA. In agreement with our findings, one study found a positive association between LGALS3 rs4652 (+292 A>C) polymorphism and susceptibility to RA(Hu et al., 2011).

Keywords: LGALS3, Polymorphism, Rheumatoid Arthritis

P72

Survey of the serum level of IP-10 as CXC chemokine in multiple sclerosis patients

Mohsen Kolivand 1 *

1- parasitology dep,hamadan university of medical sciences,hamadan,iran
m_kolivand1369@yahoo.com

Introduction: Immune system-related factors are important in pathogenesis of multiple sclerosis. IP-10 as CXC chemokines are involved in the immune responses. Hence, this study was to investigate the association between multiple sclerosis and serum level of IP-10. Methods: In this experimental study, blood samples were collected from 100 multiple sclerosis patients and 100 healthy controls on EDTA pre-coated tubes for measuring IP-10. Demographic data were also collected by a questionnaire which was designed specifically for this study. IP-10 level in sera were measured by ELISA method. Results: Our results showed that serum level of IP-10 was significantly higher in the patients than healthy controls. We are also showed that multiple sclerosis patients with a good economical status had elevated IP-10(CXCL10) in compare to median group ($P<0.01$). The circulating level of IP-10 (CXCL10) was significantly increased in female in compare to male MS patients ($P<0.01$). Conclusion: Based on the results of this study, it can probably be concluded that serum level of IP-10 have an important role in pathogenesis of multiple sclerosis. It is also worth noting that these factors could probably use as pivotal biological markers in diagnosis and possible treatment factors.

Keywords: Multiple Sclerosis, IP-10(CXCL10), Polymorphism, Chemokine.

P73

The influence of combined genotypes of the HLADRB1*1501 and CD24 SNP on disease severity of Iranian Multiple sclerosis patients

Abolghasem Kollaee Darabi * , Mehdi Zamani , Majid Ghafar Pour , Hosseinali Ghelichnia

Kollaeelab@yahoo.com, Mzamani@sina.tums.ac.ir, ghafarpour@tums.ac.ir, Ghelichnia@tums.ac.ir

Introduction: Multiple (MS) is an inflammatory demyelinating disease of the central nervous system. It is a clinically heterogeneous disorder especially in terms of disease severity. In this study, we investigated the contribution of the HLADRB1*1501 allele and single nucleotide polymorphism (SNP) in CD24 gene and also combined genotypes of the HLADRB1*1501 and CD24 SNP to disease severity in Iranian MS patients Material & Methods: Total genomic DNA was extracted from peripheral blood cells according to the standard salting out method. The HLA-DRB1 genotyping was performed by Inno lipa DRB kit (Innogenetics NV). The polymerase chain reaction (PCR) with subsequent restriction fragment length polymorphism (RFLP) was used to genotype CD24 SNP. Result: The results showed that the HLA-DRB1*1501 allele (p-value=0.001) and the CD24v/v genotype (p-value =0.002) associated with disease susceptibility. No statistically significant difference in the Multiple Sclerosis Severity Score (MSSS) was found between the MS patients who were carriers of HLA-DRB1*1501 and those who were not carriers of HLA-DRB1*1501(*1501/x vs. xx/xx)(p-value=0.060). Moreover, the MS patients carrying combined genotypes of the HLA- DRB1*1501-CD24 v/v had statistically severe disease than the patients who were not carriers the HLA- DRB1*1501- CD24 v/v (p-value=0.047). Conclusion: our findings suggest that, combined genotypes of the HLA- DRB1*1501- CD24 v/v may influence on disease severity in Iranian MS patients.

Keywords: Multiple Sclerosis, HLADRB1*1501, CD24, MSSS

Iranian Association of Clinical Laboratory Doctors

Laboratory and Family Health (Importance of Screening) P74 - P94

P74

Study of serum prostate-specific antigen amount in patient referred to mehr and matin laboratory in Savojbolagh

Mostafa Atashbasteh 1 * , Neda Mahmoodi 1

1-Msc Of Clinical Biochemistry
atash.bio@gmail.com, neda.mahmoodi65@yahoo.com

Background: prostate-specific antigen (PSA) is a serine protease member of the human kallikrein family. It is produced in both normal and cancerous prostate tissue and secreted into seminal fluid. Its physiologic function is to liquefy semen from its gel form. Though a small portion is leaked into the circulation but PSA in the blood has no catalytic activity. Material and methods: This cross-sectional study was done in the first 6 months of 1391 among 300 persons that had suspicious symptoms to pathologic condition of the prostate and referred to laboratory. After the separation of serums PSA concentration was determined by use of electrochemiluminescence immunoassay method with Elecsys immunoassay analyzer. Statistical descriptive and paerson test was employed to analyze the data. Results: The test results of 29 persons (9.6%) of this group were higher than normal range (up to 4ng/ml). the average of PSA level in this people was (10±8 ng/ml) and the average age was 69±9years. Statistical information was indicative of a significant correlation between age and PSA level among the patients ($p<0.01$). Conclusion: This study indicates that the level of PSA and as a result pathologic condition of the prostate probably increases in men in old age. Thus regular measurement of PSA level especially in old age could be considered as an appropriate method to diagnosis of prostate disease and prevention of critical condition.

Keywords: PSA, Prostate, Immunoassay

P75

Association of ABO and Rh blood groups to blood-borne infections among blood donors in Tehran–Iran

Fatemeh Mohammadali 1 , Ali Akbar Pourfathollah 2 * , Siamak Aliheidari 3 , Ebadollah Salek Moghadam 4

1- Department of Hematology, Faculty of Medical Sciences, Tarbiat Modares University, Tehran, Iran and Iranian Blood Transfusion Research Center & Tehran Blood Transfusion Center, Tehran, Iran, 2- Department of Immunology, Faculty of Medical Sciences, Tarbiat Modares University, Tehran, Iran, 3- School of Public Health and Institute of Public Health Research, Tehran university of medical Science, Tehran ,Iran, 4- Iranian Blood Transfusion Research Center & Tehran Blood Transfusion Center, Tehran, Iran
f.mohammadali@modares.ac.ir, pourfa@modares.ac.ir, s.f.aliheidari@gmail.com, salek@gmail.com

Methods: A total of 2031451 donor serum samples were screened for HBV,HCV,HIV and syphilis. Hepatitis B surface Antigen (HBS Ag), HIV (Ag/Ab) and HCV Ab screened using third generation ELISA kits, and serum from all donors was tested for the presence of Treponemal antibodies using Rapid Plasma Reagin test (RPR). Confirmatory tests were performed on all repeatedly reactive donations . Blood group was determined by forward and reverse blood grouping. Final blood group is confirmed only if both cell type and back type are identical. The results were subjected to chi square analysis for determination of statistical difference between the values among different categories according to SPSS program. Results: Among 2031451 donors, 10451 donors were positive for HBV, HCV, HIV and syphilis. The overall prevalence of HBS Ag,anti-HCV,anti-HIV, and syphilis antibodies were 0.39%, 0.11%, 0.005%, and 0.010 ٪ respectively. HBV prevalence among blood donors shown a downward trend over the period of six years. The trend of HCV Prevalence rate was increasing in 2007 but again became decreasing after that. The trend of HIV infection frequency had increasing pattern in 2010. The trend of syphilis infection frequency was increasing in 2007 and 2008 and decreasing after that. Hepatitis B was significantly associated with ABO and Rh blood groups of the donors ($p<0.05$) and HIV infections were significantly associated with ABO blood group of the donors (P0.05) Summary / Conclusions: In the current study, Compared with neighboring countries and the international standards, prevalence of blood –borne infections is relatively low. Association of HBV and HIV infections with blood group types needs more studies to get more knowledge about this aspects.

Keywords: HBV, HCV, HIV, Syphilis, ABO Blood groups, Rhesus (Rh), Blood Donors

P76

The evaluation of gestational diabetes prevalence among pregnant women referred to Imam Sadegh Hospital in Savojbolagh

Mostafa Atashbasteh 1 * , Saeed Kalantari 1

1-Clinical laboratory of Imam Sadegh hospital
atash.bio@gmail.com, drmkalantari@gmail.com

Background: gestational diabetes mellitus (GDM) is generally understood to mean any impaired glucose tolerance first occurring or diagnosed during pregnancy. This glucose metabolic disorder can occur in varying degrees of severity, from mild impaired glucose tolerance to manifest diabetes mellitus. Thus this study was performed to assess the gestational diabetes prevalence among pregnant women. Material and methods: A cross-sectional study was done in the first 9 months of 1391 among 100 pregnant women referred to Imam Sadegh laboratory. Screening was done between 24 and 28 weeks gestation with a 50g, 1-h glucose challenge test (GCT). Those with plasma glucose concentration > 140 mg/dl were then given 100g oral glucose tolerance test (OGTT) to confirm the diagnosis of GDM. Plasma glucose measurements were performed with glucose oxidase method. Statistical descriptive and correlation test was employed to analyze the data. Results: The test results of 17 persons of pregnant women were higher than 140 mg/dl. These people referred to oral glucose tolerance test for diagnostic of pregnancy induced diabetes. 6 persons of this group afflicted with gestational diabetes. Statistical information wasn't indicative of a significant correlation between age and gestational diabetes among the patients ($p>0.05$). Conclusion: It is concluded that in spite of preventive actions gestational diabetes approximately have high outbreak especially at the age of 25-35 yr. Therefore monitoring and management of blood glucose is effective in reducing pregnancy induced diabetes.

Keywords: Pregnancy, Diabetes, GTT

P77

Comparison of molecular diagnosis and clinically outcomes for determination of microbial pathogens in women with vaginosis

Nader Shahrokhi, Ahmad Hasani * , Maysam Sarshar , Soghra Khezer Dost

nader.shahrokhi@gmail.com, ahmadhasani62@yahoo.com, meysam_sarshar@yahoo.com

Background and Objective: A sexually transmitted disease (STD) is a common infection caused by various pathogens. Infection of bacterial STD agents is sometimes not accompanied by symptoms. If an infected person who has no symptoms is not tested, infection control of an STD agent will fail and the infection may then be transmitted to a new person through sexual contact. The main objective of this study is comparison of molecular diagnosis and clinically outcomes for determination of microbial pathogens in women with vaginosis. Materials and Methods: In this descriptive study between April 2010 to December 2011, Endocervical swabs from 60 women with genital tract infections were collected from Imam Khomeini Hospital at Tehran. Obstetrician was completed the medical records in reception process. After DNA extraction from isolates, PCR amplification was used for the detection of STDs agents. Results: Out of 60 patients, 23 cases were positive for Gardnerella vaginalis by clinical symptoms detecting, nevertheless by PCR method only 8 cases of patient's had G. vaginalis. Other bacterial pathogens including Listeria monocytogenes, Ureaplasma urealyticum, Streptococcus agalactiae, Chlamydia trachomatis and Mycoplasma hominis were found in 23 patients (38.33%). Conclusion: The findings in this study showed that molecular diagnosis of microbial pathogens had different results with clinical outcomes. Unfortunately, applying drugs only with clinical symptoms identification could be cause of antibiotic resistance in mixed bacterial infections. Therefore, development of proper detection methods is important in control of STDs infections.

Keywords: Sexually Transmitted Disease, PCR, Genital Tract

P78

Evaluation Epidemiology Malaria disease in 1386-1390 in Qazvin

Zahra Eskandari 1 * , Hassan Khoban 1 , Ahmad Rezaei 1 , Parivash Khonsarian 1 , Fateme Kiany 1 , Ashraf Eskandari 2 , Mina Elham Kia 2 , Maryam Moradi 2

1- Qazvin, Shahid bolandian center, disease unit, 2- qazvin, zibashahr, tamin ejtemaei,
behsha20@yahoo.com, h.khaoob55@yahoo.com, bahman3890@yahoo.com, P.Khonsarian@yahoo.com, kianyfateme@yahoo.com, behsha20@yahoo.com, behsha20@yahoo.com, maryam_5849@yahoo.com

Determinate rate pf outbreak ill in population under cover native and nonnative based on place of resident in rural and urban area - age - sex group- pas travel in pollute area. Findings: Of total 38151 sented sample in years 1386 -1390 number pf sample become recognize as certain sample that rate of outbreak in popoulation under cover until years: 86=3.33, 87=1.99, 88=1.99, 89=1.02, 90=0.34 was in 100000 population. Rate of outbreak in urban areas was %44.44, in rural area %55.55 and age group up to 15 year was %96.38, age group 5-14 years was %5.62 and age group 0-4 year was 0. In sex group in women was %11.11 and in men was %88.88. %91.66 sample relate to Afghanestan poeple that consis of travel past 1-2 month before of beggining ill sign to polluate area Afghanestan and time of enter to iran douit care. Result: With attention to finding %95.5 sample , enter of Afghanestan country that enter to country by of illegal and resident in country already with attention to Epidemic coundition and Ecoligy Afghanestan contry must especial rule represent for Afghan imigrators in inter border vountry with cooperative ministy interior. Until care groups in forme of active under control polluate sample to parasit and treat with mallaria drags. Also necessary to attentin and represent thinking direct of prevent of enter Afghan people to country by planning attendantd is importatnt.

Keywords: Plasmodium, Epidemiology, Ecology, Mallaria, Qazvin

P79

Study and Need for specific laboratory tests in the diagnosis of late complications in veterans

Alireza Timcheh Hariri *

Haririta@mums.ac.ir

With clement over twenty-five years of war, several papers on the effects of injuries caused by war veterans are given , check these articles and also reviewed the causes of death in people exposed to chemical weapons that have as a veteran, or are injured and somewhat different chemical . Chemical weapons often cause Late effects of that ultimately lead to physical and chemical injuries are lifelong injuries . Unfortunately many of ones had died due to the effects of the injury or how long it had clear clinical signs and symptoms are noticed . while at the same time, the results of clinical and laboratory findings were particularly large changes shows . The purpose of this study is to evaluate clinical trials and review other articles published in the official file test pattern in order prognosis of late complications in patient's forecasts to assess chemical weapons . In order to record more than 2000 files of archives office from 1992 to 2012 veterans affairs departments Khorasan Razavi and research papers in the case were the victims of chemical weapons . Results showed late complications can occur during the life of the victims with different intensities, And develops over time, but the comment about the delayed effects need to complete clinical trials and doing complete and new physical examination. so only by The routine tests cannot be compared to Late effects of Comment. Therefore should depending on the type and severity of lesion or tissue be targeted clinical trials and research that highlights and conclusions from research articles, help, and interpreted them to be careful enough.

Keywords: Veterans, Laboratory Tests

P80

Prevalent Cancer Epidemiology sex in the Kermanshah Province - Years 1386-1389

Kaivan Khassi 1 * , Nahid Khademi 1 , Shirin Fakhri Moradi Azami 1

1- Kermanshah University of Medical Sciences and Health Services Health Department,
khassikaivan@yahoo.com, n_khademi2009@yahoo.com, shirinfakhr@yahoo.com

Introduction: The most Prevalent form of cancer in the early diagnosis increases the chance of treatment. Currently 12% of all causes of cancer deaths worldwide, and Iran is the third largest cause of death.- years 1386-1389 have been analyzed. Materials and Methods: This descriptive study based on data from the cancer registry has been in the years 1386-1389. Specialized statistical software for data collection and the use of cancer registry data were analyzed using SPSS software. Results: The total number of cases of cancer of the Year (1386 - 1389) in 8054 and 3619 in the case of women (% 44.9) were male and 4,435 (55.1%), respectively.- The most Prevalent cancer in women in Kermanshah (Breast - Skin - colon, rectum - esophagus - uterus, cervix, ovary, stomach - Liver and bile duct - lung, bronchus, larynx - the brain- Kidney - The most common cancer in men in Kermanshah (skin - stomach - colon, rectum - prostate - esophagus - lungs, bronchi and larynx - Liver and bile duct - Kidney - brains - testes)Conclusion: the design and implementation of programs for intervention and identification of risk factors in cancer can reduce the instances be effective mainly in third world and developing, including countries in the Eastern Mediterranean Our country 60 percent of cancers in three factors: 1 - Smoking - 2 for infection 3 - The people's lifestyle, including physical activity, diet, living environment is contaminated with chemicals. To change the pattern of life in communities and increase the risk of late diagnosis of cancers preventable noncommunicable diseases. It is essential to facilitate early detection of common cancers, particularly in the province of screening is more effective than ever.

Keywords: Kermanshah, Cancer

P81

The role of glutathione S- transferase (GSTM1, GSTT1) in susceptibility to acute myeloid leukemia (AML)

Yousef Mortazavi , Robab Rahimi , Minoosh Moghimi , Saeideh Mazloomzadeh , Elaheh Mortazavi * , Elham Mortazavi

youmort@yahoo.com, rahini_rm@yahoo.com, moghimi2000@yahoo.com, smazloomzadeh@zums.ac.ir, etwins_l@yahoo.co.uk, e_twins_m@yahoo.co.uk

Background and Objective: DNA damage in the hematopoietic precursor cells is an essential prerequisite for the development of acute myeloid leukemia (AML). The body has several mechanisms to prevent and repair the DNA damage. Glutathione S-transferase enzymes detoxify activated chemicals, drugs and xenobiotics into non-reactive and water-soluble products. Deletion of GSTM1and GSTT1 leads to the absence of enzyme activity and increased risk of AML. The aim of this study was to investigate the association of GSTM1and GSTT1 null genotypes with the susceptibility to AML in an Iranian population. Materials and Methods: This case- control study was carried out on 200 patients with AML and 200 normal individuals as controls. GSTM1 and GSTT1 gene polymorphisms were amplified by multiplex PCR. The products electrophoresed on Agarose gel and the data were analyzed using independent T-Test, Chi- Square and Logistic Regression model. Results: Our results showed that the frequency of GSTM1 null genotype was significantly higher in the control group as compared to the case group. In our study, the GSTM1 null genotype was associated with decreased risk of AML (OR=1/506, 95%CI: 1/011-2/243, P=0/044). The frequency of GSTT1 null genotype was significantly lower in the control compared to the case group. Therefore, the results of this study showed the association of GSTT1 null genotype with an increased risk of AML (OR=0/239, 95%CI: 0/147- 0/388, P=0/0001) in this population. Conclusion: Our findings showed that the GSTT1 null genotype can increase the risk of AML. However, GSTM1 null genotype plays a protective role and decreases the risk of AML in Iranian population. Further studies with broader range of detoxification enzymes in different ethnic groups are recommended.

Keywords: GSTM1, GSTT1, Xenobiotics, AML, PCR

P82

Molecular genetics study of mitochondrial mt-RNR1 and mt-TS1 genes in nonsyndromic sensoryneural hearing loss-Induced by Aminoglycosides

Mohammad Ali Dowlati 1 *

1- Kashan city kashani cross vali e Asr lab,
dr_dovlati@yahoo.com

Hearing loss is the most common sensory deficit in humans. Defects in the mitochondrial genome, which is small compared with the nuclear one, are also associated with hearing impairment. The clinical phenotype of maternal deafness associated with the mitochondrial mutation in the mitochondrial 12S rRNA gene is impacted by compensation mechanisms involving over-expression of cytoplasmic ribosomal proteins, as well as by qualitative and quantitative changes in RNA binding proteins, mitochondrial haplotype, and environmental factors. We studied mt-RNR1 and mt-TS1 genes mutations in nonsyndromic hearing loss patients with history of aminoglycoside administration. Moreover, coding rejoins of GJB2 and GJB6 genes were amplified by PCR method. Results: Comparison between patients and control group, three pathogenic nucleotide changes at positions m.921T> C and m.1005T> C and m739C> T of MT-RNR1gene in nine patients showed. Two other nucleotide changes, including m.1245T> C and m.1545T> C in MT-RNR1 gene in three patients were first report. Results show that the mitochondrial mutations in our population compared to other populations in which the study took place, is different. This study showed racial and ethnic differences in the prevalence and type of mutations displays. The prevalence of mitochondrial mutations in our population, without new mutations is 4.8% and 10.2% with new mutations.

Keywords: Nonsyndromic Sensoryneural Hearing Loss, Mutation, Aminoglycoside Drugs

P83

To screen upper 15 people of Mohammadie regarding to seven common non-contagious disease

Saeed Jafari 1 * , Siavash Abdi 1 , Mohammad Reza Lameaie 1 , Fatemeh Hajiabadi 1

1- qazvin-alvand city-side of Municipality alborz health gowernment,
s_jafari1348@yahoo.com, siavash60@gmail.com, mr_lamei1350@yahoo.com, fhajiabadi20@yahoo.com

Introduction:Population screening is considered as a great intervention in health organization which its scientific studies and conducting guarantees should be provided before administration. Until recently, number of disease has not been riddled. Therefore current screening was administered with the aim of evaluating symptoms to reduce disease. Aims of study: To screen upper 15 people of Mohammadie regarding to seven common non-contagious disease including diabetes, blood fat, high blood pressure, obesity, Colon Cancer, Breast Cancer, and tobacco products. Methodology: holding coordination meetings, setting up activities, evaluating facilities of private doctor offices, holding explanatory workshops, informing people, necessary coordination's with provinces managers, distributing questioner, calling up families by doctors, examining and recording results in software. Results: 6037 people were called up which for 2383 person triglyceride test was executed, results of 434 was upper than 200. Cholesterol test was executed on 2263 person which results of 712 person was upper than 200.Fasting blood sugar test was executed on 2379 person, results of 435 was upper than100and 164 person upper than 125.Blood pressure of 5257person was tested, systolic blood pressure of 706 person was upper than 140mmhg and diastolic blood pressure of 35 person upper than 90mmhg.Among this group 18 person had both high diastolic and systolic blood pressure. Occult blood of 11 person who were upper age of 65 was positive.

Keywords: Screening, Fasting Blood Sugar, Triglyceride, Cholesterol, Occult Blood, Blood Pressure.

P84

The study of congenital hypothyroidism prevalence in newborn infants in Urmia city during 6 years (1385-1391)

Jafar Gholiozadeh Salmasi 1 * , Azita Eshratkhah 1 , Khorshid Sheykhan 1 , Rezd Ghodrat Gharebagh 1

1- Urmiamedical univercity,
kamyab_j2005@yahoo.com, az_esh53@yahoo.com, fervent_51x@yahoo.com, paradise_53@yahoo.com

Introduction: Congenital Hypothyroidism is one of the most important and preventable causes on mental retardation in newborn infants that late diagnosis of it can lead to miss IQ with different levels in patients. In this study probable relevance of the factors such as infants' weight, pregnant mothers' age, infants' age, infants' gender, family relationship and parent's habitat with outbreak of this disease has been surveyed. Materials and method: newborn infants' TSH screening tests are carried out by ELISA method and on heel-prick blood that spotted on special filter paper cards named GUTHRIE. The Infants with higher than normal TSH were recalled for confirmatory serum T4-TSH and T3UP testing. Results: from total 118672 screened TSH in Urmia City during 6 years (1385-1391), 5267 suspected congenital hypothyroidism cases were diagnosed. After confirmatory serum tests 508 cases (about 0.4%) had TSH>10, that needed treatment in accordance with country's protocols. According to achieved results it seems that the factors such as nutrition, genetic, geographical location, mothers' age and etc. have significant importance in relevance with outbreak of congenital hypothyroidism in infants.

Keywords: Screening, TSH, Congenital Hypothyroidism, ELISA, Urmia

P85

Study the necessity of G6PD test in infants 5 – 3 days

Masoud Monem 1 , Alamtaj Salehiyan 1 , Hedieh Hatamipour 1 , Razeieh Babazadeh 1 , Fatemeh Ghods 1 , Yaghobali Abassi 1 , Hossein Nazari 1 *

1- Semnan University of Medical Science,
masoodmonem@yshoo.com, alamtajsalehian@yahoo.com, Hedi.hatami@gmail.com, babazadeh@yahoo.com, fathemehghods@yahoo.com, abbassyaghob@yahoo.com, hossen253@yahoo.co.uk

A simple blood test can be done to check infant level of the G6PD enzyme. The goal of G6PD activity testing is to detect a G6PD deficiency and to determine its potential severity. It is especially important to screen newborns who are likely to have G6PD deficiency to ensure that G6PD - deficient babies won't be subjected to any of the triggers of hemolytic anemia. Beutler fluorescent spot test is a direct test for G6PD which has largely replaced an older test (the Motulsky dye-decolouration test). Other tests that may be done include a complete blood count, hemoglobin, checking billirubin level, and a reticulocyte count, which measures immature red blood cells. This study was conducted on 17592 newborns. There were 50.52% (8888 sample) male and 49.48% (8704 sample) female. At six year study, it was 554 positive samples, 483 male and 71 female. Kids with G6PD deficiency typically do not show any symptoms of the disorder until their red blood cells are exposed to certain triggers, which can be: illness, such as bacterial and viral infections, certain painkillers and fever-reducing drugs, certain antibiotics and certain antimalarial drugs. Other substances can be harmful to kids with this condition when consumed or even touched such as fava beans and naphthalene. With suitable treatment and good dietary control, the potential effects of G6PD deficiency on development are minimized in newborn. The result of this data should be shared with the parent and related organization for removing and controlling of problem. Occasionally, cases of positive G6PD are missed by optional newborn screening. The panel acknowledges that many areas of G6PD research are still inadequately explored even more than few years after newborn screening began. Thus, a compulsory G6PD test should be necessary performed in newborn screening. Also, a multidisciplinary approach to lifelong care of G6PD is required.

Keywords: G6PD Deficiency, Favism, Hemolytic Anemia, Neonatal Screening

P86

Evaluation of three years Glucose-6-phosphate dehydrogenase in the setting of neonatal screening in semnan city (1389 – 1391)

Alamtaj Salehiyan 1 , Fatemeh Ghods 1 , Hedieh Hatamipour 1 , Masoud Monem 1 , Yaghobali Abassi 1 , Razeieh Babazadeh 1 , Hossein Nazari 1 *

1- Semnan University of Medical Science,
alamtajsalehian@yahoo.com, fathemehghods@yahoo.com, Hedi.hatami@gmail.com, masoodmonem@yshoo.com, abbassyaghob@yahoo.com, babazadeh@yahoo.com, hossen253@yahoo.co.uk

Mutations in the G6PD gene cause glucose-6-phosphate dehydrogenase deficiency. The G6PD gene provides instructions for making an enzyme called glucose-6-phosphate dehydrogenase. This enzyme is involved in the normal processing of carbohydrates. It also protects red blood cells from the effects of potentially harmful molecules called reactive oxygen species. Reactive oxygen species are byproducts of normal cellular functions. Chemical reactions involving glucose-6-phosphate dehydrogenase produce compounds that prevent reactive oxygen species from building up to toxic levels within red blood cells. This deficiency can cause hemolytic anemia, usually after exposure to certain medications, foods, or even infections. The classic reaction to consumption of broad beans has led to the commonly used term favism. The goal of G6PD activity testing is to determined prevalence of G6PD deficiency. A simple blood test can be done to check infant level of the G6PD enzyme. Beutler fluorescent spot test is a rapid and inexpensive test that visually identifies NADPH produced by G6PD under ultraviolet light. This study was conducted on 8842 newborns. There were 49.34% (4363 sample) male and 50.65% (4479 samples) female. At three years study, it was 96.88% negative and 276 (3.12%) positive sample, 236 male and 40 female samples. G6PD deficiency are caused some problems such as: Shortness of breath, Rapid heart rate, Yellow skin color (jaundice), dark urine, and enlarged spleen. In most cases, people with G6PD deficiency can minimize their risk for hemolytic anemia by avoiding oxidant drugs and chemicals, and foods containing fava beans. With suitable treatment, good dietary control, the potential effects of G6PD deficiency on development are minimized in newborn. The result of this data should be shared with the parent and related organization for removing and controlling of problem.

Keywords: G6PD, Glutathione System, Favism, Hemolysis, Hemolytic Anemia

P87

Prevalence of congenital hypothyroidism in Gerash City, a southern city in Fars province

Mohammad Jafari 1 , Mohammadreza Fathi 1 , Aliyar Pirouzi 1 * , Mohsen Izadi 2 , Mehran Radmard 3

1- Paramedical Science College, Daneshjoo ave., Gerash city, Fars province, 2- Gerash Health Network,Sahadat ave., Gerash city, Fars province, 3- Gerash Amiralmomenin Hospital,Vahdat ave., Gerash city, Fars province, Bs_jafari@yahoo.com, fathi4504@gmail.com, ali61_pu@yahoo.com, Moh.Izadi62@yahoo.com, Radmard.radmard@gmail.com

Introduction: Thyroid hormone is important for human development, especially the central nervous system, and deficiency of this hormone during the first years after birth results in a spectrum of neuropsychological disorders. The program of screening for congenital hypothyroidism (CH) was established in recently years. The aim of this study was to determinate the prevalence of CH in Gerash city, a southern city in Fars province. Method: From Mars of 2011 to December 2012, blood samples of 1431 newborns that referred to Mohammad Rasololla infirmary were taken from heel prick and then thyroid stimulating hormone (TSH) level of all sample were evaluated by using ELISA method. Result: Among 1431 of neonates screened for CH, 53 (3.7%) had TSH ≥ 5 IU / ml and recalled. All recalled newborns have normal TSH (TSH<5) after rechecked. We cannot detected any CH or subclinical hypothyroidism in recalled neonates. Conclusion: The rate of CH in our region is very low so more and larger studies are needed to find clear information about the incidence, prevalence and etiologic factors of this matter.

Keywords: Congenital Hypothyroidism, Neonate, Gerash City

P88

Prevalence of anemias among Para-medical students, Babol University of Medical Sciences, Babol, Iran (2011-12)

Haydeh Alaoddolehei 1 , Farahnaz Sadighian 1 * , Khadijeh Beigom Rekabpour 1 , Parvin Sajjadi 2

1- Lab group- Paramedical faculty - Babol university of medical sciences - Ganj-afroz st. - Babol-Iran, 2- Socoal medicine group- medical faculty - Babol university of medical sciences - Ganj-afroz st. - Babol-Iran, alaee_ha@yahoo.com, f.sadigh@gmail.com, fr_rekabpour@yahoo.com, psajadi@yahoo.com

Objective: Anemia is one of the major problems of public health that can have bad effect on mental and body development. By considering the important role of adolescents, this study aimed to evaluate the prevalence of anemias among paramedical students in Babol University of Medical Sciences. Methods and Materials: This cross-sectional study performed on 216 females (F) and 100 males (M) was randomly selected from Para-medical students, Babol University of Medical Sciences that selected randomly. Complete blood count was carried out by Sysmex 800i. Data was evaluated for detecting of different type of anemia. Results: The prevalence of anemia was 18.7 and 14 percent among female and male respectively. Microcytic anemia was the most frequent in both groups (F=16.5%, M=15.2%). The prevalence of minor beta thalassemia was 12.9% in female and 13% in male students. The frequency of iron deficiency anemia (IDA) and this anemia with megaloblastic anemia among female students were 2.4 and 1 percent, respectively. These anemias were not seen in males. Conclusion: The most Prevalence of anemia was beta thalassemia minor and increased with compared a study which performed ten years ago. Therefore, it is suggested to perform new strategies (like to encourage to get married of two individuals with beta thalassemia minor by providing essential facilities) to reduce the risk of thalassemia. Also, by considering of iron deficiency anemia prevalence in female students, iron supplementation was recommended.

Keywords: Thalassemia Minor, Anemia, Iron Deficiency, Student, Microcytic Anemia

P89

Prevalence of glucose-6-phosphate dehydrogenase deficiency in newborns of Gerash city, a southern city of Fars province

Mohamadreza Fathi 1 * , Mohammad Jafari 1 , Ali yar Piroozi 1 , Mehran Rdmard 2 , Mohsen Izadi 3

1- Paramedical school, Daneshjoo ave., Gerash city, Fars Province, 2- Gerash Amiralmomenin Hospital,Vahdat ave., Gerash city, Fars province, 3- Gerash Health Network,Sahadat ave., Gerash city, Fars province,
fathi4504@gmail.com, Bs_jafari@yahoo.com, ali61_pu@yahoo.com, Radmard.radmard@gmail.com, Moh.Izadi62@yahoo.com

Introduction: Glucose-6-Phosphate Dehydrogenase (G6PD) enzyme deficiency is the inherited enzyme deficiency. This enzyme deficiency is the most common disease of the hexose monophosphate pathway existing in more than 400 million people worldwide. The aim of this study was to determinate the prevalence of G6PD deficiency in neonates, following national program for screening in Gerash, one of southern city in Fars province. Method: a cross sectional study carried out on 825 referred newborns to Mohammad Rasololla infirmary. Blood samples were taken from heel prick. The blood level of G6PD was evaluated using the fluorescent spot test. Data were analyzed using SPSS software version 16 and descriptive methods. Result: In this study that performed during 12 months, of 825 newborns (429 males, 396 females) screened, G6PD enzyme deficiency was found in15.15%(N=125) of the newborns (67males, 58 females). Frequency in male population was 15.6 % (67 out of 429 male neonates) and in female population was 14.6% (58 out of 396 female neonates). Conclusion: This study shows that the incidence of G6PD deficiency in newborns of Gerash is 15.15%, which is relatively high, and also the ratio of male/female in this study was very difference when compared with other reports (1.037:1). These differences may be due to different genetic types of G6PD in different ethnic groups in Iran.We suggested that more studies are needed to find clear information about the prevalence and male /female ratio in our region.

Keywords: G6PD enzyme deficiency, Neonatal screening, Gerash city

P90

Frequency of HBsAg positivity in pregnant women referred to Laboratory of Dezful polyclinic of Social Security Organization (S.S.O) 2011-2012

Ali Shahrouzian *

shali540@yahoo.com

Background and Objective: Vertical transmission from mother to child (MTCT) during childbirth is one of the ways to transmit HBV. 20% of women seropositive for HBsAg transmit the virus to their neonates in the absence of immunoprophylaxis. Vertical transmission in women who are seropositive for both HBsAg and HBeAg is approximately 90% .In patients with acute hepatitis B vertical transmission occurs in up to 10% of neonates when infection occurs in the first trimester and in 80 -90% of neonates when acute infection occurs in the third trimester. 80–95% of infants and young children infected with HBV become chronic carriers .This study was carried –out to determine the frequency of HBsAg positivity in pregnant women who referred to Dezful Polyclinic of S.S.O for screening from 2011 to 2012. Methods and Materials: HBsAg test ELIZA method with an ACON kit was done on serum samples of 704 pregnant women .Then data analyzed by SPSS19 and frequency was calculated. Average of pregnant women was 33(18-48) years. Results: HBsAg was found positive in 3 of 704 pregnant women (0.4%).Positive specimens were retested in duplicate. Then they were referred for follow up and confirmatory tests. Conclusion: The frequency of HBsAg seropositivity was low amongst pregnant woman referring to Dezful Polyclinic of S.S.O comparing other studies .This may be due to a successful screening program for pregnant women, early vaccination program for infants, vaccination of younger adults in the last years and better hygienic levels.

Keywords: Hbsag, Pregnant Women,Vertical Transmission,Vaccination, Dezful

P91

Evaluation of hypothyroidism in infants at 9 months of the year 1391 in the southern city of Jiroft University of Medical Sciences

Maryam Barkhorimahni * , Asiye Mirzaei

maryambarkhori@yahoo.com, mirzaeidalfardasiye@yahoo.com

Introduction: Congenital hypothyroidism the most common causes of mental retardation is diagnosed early can be prevented. Median disease in one in 1000, it is estimated, however, that the incidence of the disease in the world, one in 3000 births to one in 4000 births it is estimated Objectives: The aim of this study was to determine the incidence of congenital hypothyroidism in the southern province of Kerman, Jiroft is covered Chzshky Sciences Results: 10,352 infants were screened in this project. Given the population born live coverage of screening 100% was calculated. Than the number of newborn 10,127 (97.8%), Persian, and 226 (18.2%) cases were from Afghanistan, and 4,994 (48.24%), baby girl, and 5,359 (51.76%) were male. Entire 10,200 infants (98.53%) infants with normal TSH test Dashtndv 139 (1.34%) neonatal TSH test range (5 to 9.9), respectively, 14 cases (0.13%) on the TSH test miu / l 10 patients of which 13 patients (0.12%) infants were identified patient was under treatment Methods: This descriptive - analytical to the Persian date Farvardin 1391 during the 9 months ended December 1391 was conducted on 10,352 newborns. 3-5 days of birth of the infant's heel with a lancet, blood samples were collected on filter paper samples TSH testing and screening unit was sent to the central laboratory of the ELISA was performed, if the answer is greater than or equal Zmays miu / l 5 venous blood sample was taken from newborn and 4 T and TSH tests are performed on them. If the TSH and T4 in the country according miu/l10 above 6.5 micrograms per deciliter were confirmed and the infant was treated for the disease. According to the results, the incidence of hypothyroidism in these areas is 25.1 per 1,000 births. Conclusion: The results indicate that the incidence of hypothyroidism in the study area is higher than the national average in the range of approx. Quality Control Tests in reducing the incidence of regulatory measures is inevitable.

Keywords: Hypothyroidism, Screening, University Of Jiroft, Kerman Southern Counties

P92

Comparison of two methods of screening for fetal health: Triple test and Quad Marker

Sanaz Royani , Afsaneh Tabandeh , Nader Mansour Samaei , Farnoosh Shateri , Hamid Reza Joshaghani *

sa_roani@yahoo.com, tabande_a@yahoo.com, n_saaei@yahoo.com, f_shateri@yahoo.com, hr_joshaghani@yahoo.com

Methods: In this cross-sectional study with a descriptive approach - triple screening test analysis of 254 women who had Quad marker screening was performed. PTN software for Quad marker and Prisca software for triple test was used. The risk is less than 1/250 was considered as high risk. Software for both the lowest risk denominator was 10,000. All cases divided into three groups based on maternal age, less than 25 years, 25-35 years and over than 35 years. For all statistical tests were set at 95% confidence level. Results: Mean age were 30.5 ± 5.6 years (less than 25 years 51 people, 144 mothers 25-35 years, and more than 35 years 59 mothers). The number of cases with a high risk for individuals grouped according to age is shown in Table. Test Mother age (year) Number T21 N (%) T18 N (%) NTD N (%) Triple test Less than 25 51 5 (9.8 %) - - 25 – 35 144 12 (8.3 %) - 2 (1.4 %) More than 35 59 23 (39 %) 1 (1.7 %) 1 (1.7 %) Quad marker Less than 25 51 2 (3.9 %) - 2 (3.9 %) 25 – 35 144 2 (1.4 %) - 4 (2.8 %) More than 35 59 8 (13.6 %) - 2 (3.4 %) In T21 detect significant differences between the two methods was found ($p < 0.001$). T21 also diagnosed in women less than 25 years ($p = 0.008$) and women older than 35 years, the difference was statistically significant ($p < 0.001$). The NTD diagnosed in women older than 35 years was a significant difference ($p = 0.034$). Conclusion: The results of this study appear to be the lack of financial ability to mothers less than 35 years of testing pregnant women enough to help triple test. But it is recommended for women older than 35 years Quad marker test is a priority.

Keywords: Fetal Health Screening Tests, Triple Test, Quad Marker, Down Syndrome, Edwards Syndrome, Neural Tube Defects

P93

Studying the GCT disorder in pregnant women in Dezful

Reza Karami *

reza_karami_lab@yahoo.com

Introduction and Purposes: Pregnancy diabetes can be named as one of the threats to the mother and fetus's health because it causes metabolic disorder. Blood sugar and the katuns with high density found in mother's blood are passed through placenta and enter fetus's body and this will increase the birth of overweight and congenital deficient babies. The ministry of health and treatment has made GCT test as a necessary base test to trace diabetes in weeks 24-28 in pregnant mothers. Method: Among 2633 pregnant mothers with proved pregnancy, 334 ones were selected and their GCT sample was taken with GOLOBAL device in a standard way conformably to ministry's procedures. Qualification control principles and the operation of the devices were under control in all the levels of testing process. Results : The results of the test were studied and analyzed by SPSS 16 software and the followings were obtained: 1- Prevalence incidence of pregnancy is the highest in the group age of 19- 23 by 35.6 %. 2- Prevalence incidence of normal GCT is 75.1 % and the rate of abnormal GCT is 24.9 %. 3- The rate of abnormal GCT in group age 24-33 is the highest with 15.6 %. 4- There is a positive and sensible relation between age and the results of GCT test. (R = 0.322) Conclusion: The results of this study show that there was a direct relation between age and the result if abnormal GCT test. But because of the importance of blood sugar in pregnancy period and its influence on the mother and fetus's health and observing abnormal cases in all age ranges, this test should be necessary for all pregnant mothers.

Keywords: GC, Diabetes, Pregnancy

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A Study of Congenital Hypothyroidism Screening Project in Kermanshah – 1390

Kaivan Khassi 1 * , Nahid Khademi 1 , Shirin Fakhri Moradi Azami 1

1- Kermanshah University of Medical Sciences and Health Services Health Department,
khassikaivan@yahoo.com, nahidkhademi2003@yahoo.com, shirinfakhr@yahoo.com

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<6.8 in second test they were considered Congenitally Hypothyroidic and underwent treatment. Results: 32284 newborns consist of 15618(%48.4) girls and 16666(%51.6) boys were in the study with the following results: 32243(%99.8) newborns → normal TSH level 41(%0.2) newborns → ab normal TSH level According to the above figures the incidence rate of Congenital Hypothyroidism is 1.3 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: Congenital Hypothyroidism, Kermanshah

Iranian Association of Clinical Laboratory Doctors

Laboratory and Resource Management P95 - P97

P95

Resource management in medical diagnosis laboratories

Mohammad Sadeq Khosravy 1 * , Seyyed Mihammad Atyabi 1 , Mohammad Reza Aghasadeghi 1 , Seyyed Mehdi Sadat 1 , Mehdi Shafie Ardestani 1 , Mohammad Mehri Lighvan 2 , Reza Ahangari Kohan 2

1- Institute Pasteur Of Iran ,Pasteur Ave. Tehran , Iran, 2- Qom Medical University, Saheli Ave , Qom Iran,mskhosravy@yahoo.com

The most important resources in any medical laboratory diagnosis include: human resources, financial resources, hardware resources (materials and equipment) and legal resources (scientific guidelines and laws and regulations). These quad resources strongly affect on each other and they are closely with each other. To create and establishment of a stable profitable and valid quality system in any laboratory, it is necessary to have all the components of this Quad equally and balanced supply and up to date In a laboratory. The experiences of the successful and booming laboratories, indicate that Run a successful laboratory could not be achieved, unless in compliance with a balancing of the these quad resources. Skilled And conscientious Staff With high efficiency and good conduct, Which are continually under the training and supervision, with having adequate salary In the most efficient use of high-quality instruments, materials and facilities, That will be prepared through the appropriate, transparent and reliable facilities and financial resources, They use their talents and capabilities to offer the best services to their employers and clients. At the same time the existence of a valid methods and techniques That have approved and documented relying on the newest valid manuals and directories of scientific centers and legal references, Along with the administrative and financial rules and regulations that are based on facts and in accordance with their academic standing and service laboratories; not only return the investment and profits in medical laboratories, but also are helpful to advance aims of the national health system. Neglect to each of these components or the preferred one of them to another certainly cause to disintegrate this sensitive organ. This event, In addition to the disastrous financial stakes for the owners of the laboratories and the imposition of heavy financial costs to the people, it will be Negative consequences for the prestige and reputation of the Ministry of health and the credibility of the health system.

Keywords: Resources, Medical Laboratory Diagnosis, Management, Human Resources, Financial Resources, Materials And Equipment, Scientific Guidelines, Laws, Regulations, Efficiency, Monitoring

P96

Study the prevalence of Weak D among donors of Tehran Blood Transfusion Center

Roghiyeh Sharifi Olyaie 1* , Magid Zeidi 1 , Azadeh Omidkhoda 1 , Marjan Dadresan 1 , Hossein Alimohammadi 1 , Massomeh Ramezani 1 , Hoda Sheibani 1 , Nahid Rostami 1 , Somaieh Houshmand 1 , Fateme Faridi 1 , Shirin Habibi 1 , Mina Jalalvand 1 , Azim Cheshmehnoor 1 , Marjan Kazemi 1 , Behnaz Hekmatnia 1 , Sanam Afsharmoghaddam 1 , Moosa Ariasharif 1 , Behnam Ghaemmaghami 1 , Fereshteh Poorfaraj 1

1- Blood Transfusion Organizations
r.sharifi@gmail.com, majid_zeidi@yahoo.com, azadeh_omidkhoda@yahoo.com

Background: Although DAT is negative in Weak D samples but IAT is positive in theses samples. Since weak D blood transfusion to Rh negative patients can cause Anti-D production in recipients, IAT is mandatory. In this study we tried to estimate the prevalence of weak D among donors of Tehran Blood Transfusion center. Material and method This study has been done in samples of Tehran Blood Transfusion Center during 180 days. All samples which were negative for Rh D antigen were further tested for weak D. Results From 170882 samples, 19049 samples were Rh negative. Of the 19049 samples that tested to be Rh negative, 47 donors (0.027% of total donors and 0.25% of Rh negative donors) were found to be weak D positive. Discussion As «D» antigen is highly immunogenic, individuals with the weak D phenotype are designated as D positive. Most of the hospital>s blood banks don't perform IAT on Rh negative samples, so they return weak D phenotype as a D negative blood bag to Tehran Blood Transfusion Center. However, if hospital>s blood banks do IAT on all negative blood groups, the rate of discrepancy between hospitals and Tehran Blood Transfusion Center and also returning of blood bags will be decreased.

Keywords: Weak D, IAT, TRANSFUSION

P97

The effect important personal labratory in succes and costomers satisfaction

Arezoo Azizi * , Hosein Mojabi

azizi.arezoo@gmail.com, hosein.mojabi@gmail.com

A company institutes offering usually takes place within a range of tangible goods and services. There are many different factors in this range which affect customer satisfaction. Medical laboratories tend to be a form of service organization. While generally there are four known Ps in marketing as Product, Price, Place and promotion, it seems another P as Personnel plays great role in the success of service organization. The aim of this paper is to evaluate the role of employees in customer satisfaction in a medical laboratory. To that end, the characterictics of service organization specifically the role of employees will be reviewed. Then in the given laboratory as the real case, Human Resource Management will be examined. Finally the results of field study will be persented. One of the findings shows that due to proper management of the employees, the number of customers has increased over 15% in less than a year.

Keywords: Personal, Management Of Medical Laboratory, Success, Customer Satisfaction

Iranian Association of Clinical Laboratory Doctors

Nursing, Clinic and Laboratory P98 - P109

P98

Differential diagnosis of gastrointestinal tract masses

Hasan Jahani Hashemi , Zahra Ghasemi , Abbas Danandehpour , Fatemeh Samieerad *

jahanihashemi@yahoo.com, z_ghasemy@yahoo.com, danandehpour@yahoo.com, fsamieerad@gmail.com

Background:In the worldwide ,gastrointestinal tract malignancy introduce a important medical and public health challenge. Gastrointestinal tract cancer refers to malignant diseases of any part of the gastrointestinal tract, including the esophagus, stomach, biliary system, pancreas, bowels, and anus. The present symptoms relate to the affected part, and the common form included obstruction and abnormal GIT bleeding .The diagnosis often requires endoscopy, followed by histopathological study of suspicious lesions biopsy. Our objective is to evaluate the differential diagnosis of gastrointestinal tract masses in the Rajaee and Velayat Hospitals. Patients and Methods: For this cross-sectional study data were evaluated from 97 patients who underwent endoscopic and colonoscopic biopsy for gastrointestinal tract masses at Velayat Hospitals between February 2011 and December 2012. The data from these participants were obtained by a check list and review of biopsy speciemens.The results were expressed by histopathologic diagnosis.Both descriptive and statistical analysis methods were applied. Results: Age range of subjects in this study was 45-73 years and more common in male patients (%62).The most common chief complains were melena and weight loss. The history of cigarette smoking documented in (37%) of patients . Laboratory results including:positive occult blood,OB,raising of ESR and leukocytosis. Histopathology findings in 14 (14.2%) of the patients shown esophageal squamous cell carcinoma,32 (33%) gastric adenocarcinoma,intestinal type ,5(5.2%) gastric adenocarcinoma,diffuse type, 36(37%) colonic adenocarcinoma, 6 (6.2%) colonic signet ring carcinoma, 3(3%) carcinoid tumor of appendix and 4 (4%) GI tract lymphoma. Conclusions: Many new researches are necessary to promote more effective screening instruments and methods for prediction and early discovery of gastrointestinal tract malignancies and pre-malignant lesions that some of them progress into overt malignancy. These efforts would be accompanied by introducing of health disparities that affect an individual's susceptibility to gastrointestinal tract cancers or their response to therapy. Discovery of main and common mechanisms of gastrointestinal tract malignancies and detection of diagnostic biomarkers or foretell response to therapy are vital.

Keywords: Gastrointestinal tract, Mass

P99

Evaluation of red cell membrane cytoskeletal disorders using a flow cytometric method in south of Iran

Sedigheh Sharifzadeh * , Habib Alah Golafshan , Reza Ranjbaran , Tahereh Kalantari , Leili Moezzi , Mehran Karimi , Abbas Behzad- Behbahani , Farzaneh Aboualizadeh

sharifsd@sums.ac.ir, golafshanh@yahoo.com, reza_ranjbaran2009@yahoo.com, taherehk@yahoo.com, moaezzi@yahoo.com, karimim@sums.ac.ir, behzadba@gmail.com, faboualizadeh@gmail.com

Introduction.The diagnosis of hereditary red blood cell (RBC) membrane disorders, in particular hereditary spherocytosis (HS), and South East Asian ovalocytosis (SAO) is based on clinical history and RBC morphology and other conventional tests such as osmotic fragility. However, there are some milder cases of these disorders which are difficult to be diagnosed. Material and Methods.We used eosin-5'-maleimide (EMA), a dye which binds specifically to lysine-430 on the first extracellular loop of band 3 protein, for screening of patients HS, HS with pincered RBCs (HSPR), and SAO. Fresh RBCs from hematologically normal controls, HS, SAO, hereditary elliptocytosis, HSPR , iron deficiency, thalassemia minor, and autoimmune hemolytic anemia were stained with EMA dye, and analyzed for mean fluorescent intensity(MFI) using a flow cytometer. RBCs from patients with HS and iron deficiency showed a significant reduction in MFI compared to those from normal controls ($\rho<0.0001$ and $\rho<0.001$ respectively), while macrocytic RBCs showed a significant increase in MFI ($\rho<0.01$) .A significant correlation was shown between MCV and MFI , which the only exceptions were HS and thalassemia minor. Discussion.Our results showed that the flow cytometric method could be a sensitive and reliable screening and confirming diagnostic method before further specific membrane protein molecular tests.

Keywords: RBC, Membrane Disorders, Band 3, Flowcytometry

P100

The best method to reduce the contamination of blood samples for blood culture

Samaneh Parchebafieh * , Golnoosh Mirsaidi , Shadi Abdollah Zargar

parchebafieh_s@yahoo.com, g,mirsaidi@gmail.com, shadi_zargar2005@yahoo.com

Introduction As a clinical laboratory test, blood culture has played a major diagnostic role in medicine for decades. Compared to truly negative cultures, false-positive blood cultures not only increase laboratory work but also prolong lengths of patient stay and use of broad-spectrum antibiotics, both of which are likely to increase antibiotic resistance and patient morbidity. Hence, it is of interest to assess the influence of factors on the rates of blood culture contamination. Methods The systematic literature review was conducted in Pub Med, and SID databases from 2009 onward and finally 10 articles were reviewed. Results Studies show that simple informational intervention can have significant effects on the level of contaminated blood cultures, even in a setting with low rates of contamination where nurses and auxiliary nurses conduct phlebotomies. Other studies have shown that at the time of sampling, the rate of contamination was higher with lower blood volumes (P value of <0.001),and there was no significant difference in the rates of contamination among the different sites of blood draw on the body with a P value of 0.155. Another effective way to reduce the contamination rate is diversion of the first milliliter of venipuncture blood—the initial specimen diversion technique (ISDT). the results show that ISDT significantly reduces blood culture contamination, has a high benefit/cost ratio, is practical and safe for laboratory personnel and patients, and does not compromise blood culture sensitivity. Discussion Using simple informational intervention, Volume of blood required for an adequate blood culture based on patient>s weight, and the initial specimen diversion technique can reduce the contamination of blood samples. So using this method is recommended.

Keywords: contamination, blood samples, blood culture

P101

An Approach for Awareness Rate in Interpretation of Heart Enzymes by Nurses of Special and Emergency Units of Tabriz Hospitals in 1391

Touraj Ebrahimain * , Gahreman Shirzad , Babolah Ghasemi , Abdolah Safari , Leila Nazari , Fereshteh Soltani , Leili Zialameh , Sara Ziaie , Nasrin Helali

toorajebrahimian@yahoo.com, g2_shirzade@yahoo.com, babollahgm@yahoo.com, safaria2010@yahoo.com, leilanazari2004@yahoo.com, fsoltani66@yahoo.com, leiliz1356@yahoo.com

Introduction: This paper deal with considelation of awareness rate from interpretation of heart enzymes by nurses of special and emergency units in Tabriz hospitals in 1391. Order to obtaining problem volume and involved factores. This survey is in Methods: The current study is temporal consideration in kind of descriptive - applied. statistical group included all of the employed nurses in the specific and emergency units of Tabriz city in 1391 that the number of sample volume is determined 250 person based on kukran formule. Data gatherd is done by preparing questionare based on standards of kites of Pars Azmoon Company and data analysis is done by SPSS -16. Resultes: The awareness amount of nurses in interpretation of heart enzymes evaluated 43% in high level , 48/1 % in good level ,8/9% in low level and also it was related to nurses with experience (9-17 years) and age of (31-37 years old). Conclusion: The key to results , it seems that the rang of age and experience of nurses was the important factors in interpertation of heart enzymes.

Keywords: Awareness rate, Interpertation of heart enzymes, Nurses

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P102

Surveying the Awareness Rate of Observance of Standards in Sampling of Artery Blood Gasses by Nurses of Special and Emergency Units of Tabriz Hospitals in 1391

Touraj Ebrahimain * , Gahreman Shirzad , Babolah Ghasemi , Abdolah Safari , Leila Nazari , Fereshteh Soltani , Leili Zialameh , Sara Ziaie , Nasrin Helali

g_shirzad@yahoo.com, toorajebrahiman@yahoo.com, babollahgm@yahoo.com, safaria2010@yahoo.com, leilanazari2004@yahoo.com, fsoltani66@yahoo.com, leiliz1356@yahoo.com

Introduction: Nowadays, standard observances is the most important principal in performing all of the procedures of laboratory sampling for patieants that consequently influence diagnosis and treatment decisions. The purpose of current stady is consideration of awareness of observance of sampling standards in artery blood gasses by nurses of special and emergency units in Tabriz hospitals in 1391. Methods: The current study is a temporal consideration in kind of descriptive - applied. Statistical group included all of the employed nurses in the specific and emergency units of Tabriz in 1391. The sampling volume is determined 250 person based on kukran formule. Datas is gathered by the text book of nursing care standards and check list of Procedural Skills Instruction of U.S.A (March 2011) and data analysis is done by SPSS -16. Resultes: The results illusterated that the observance of sampling standards evaluated 41/6% in high level - 59/7% in good level - 0/5% in low level . It was related to nurses with experience (1-8 years) and age of (24-30 years old). Conclusion: The key to results , it seems that the rang of age and experience of nurses was the important factors in awareness of observance of sampling standards in artery blood gasses.

Keywords: Awareness rate, Interpertation of heart enzymes, Nurses

P103

The role of the laboratory in patient satisfaction and its effect on patient recovery and treatment

Ali Ashtiani 1 *

1- Tehran , Fayaz bakhsh hospital,
Ashtianimt@yahoo.com

1) Do you satisfy the lab staff / nurses guidance and advice before sampling ,why? 2) Do you satisfy from lab staff personnel treatment and their respect, why ? 3) How long did it take from coming to lab until sampling , what is your recommend? 4)Did you satisfy fro facilities (W.C , cooling and heating , ventilation , waiting room chairs, sound equipments , etc.) what are your suggestion to improve this situation ? 5)Did you have full guidance about proper sampling that they gather outside of laboratory , if you had specific problem, pleas express it ? 6) Are you satisfy with the time assigned to receive the test results? 7) In your opinion what legal and reasonable lab services will increase your satisfaction? Results The study and the statistical analysis of the results from the questionnaire showed that: 1) satisfaction with the guidance and counseling personnel of laboratory / nursing staff was 72% , and 28% dissatisfied , the greatest dissatisfaction with the lack of clear guidance , especially in the early morning hours of admission , 2)Rate of satisfaction from good treatment of lab staffs were 70 percent which it had the highest rate of satisfaction , 30 percent were dissatisfaction but in some cases the patients did not have enough information about the test process , for example results for calculus analyzing in one hour as a emergency test . 3) The maximum amount of patient dissatisfaction was related to the lack of facilities (56 percent dissatisfied) , W.C was in the case of most dissatisfaction and then the lack of heating and cooling systems of waiting room in the winter and summer . 4) Approximately 35% of patients who were had to sample outside the lab , they were dissatisfied improper full guidance about the correct manner of sample gathering and they were very dissatisfy the repeating of defective samples especially 24-hour urine collection and urine samples collected for newborn of boys and girls in urine bag . 5)The patient had some benefit suggestion such as: reducing the time of Waite for lab sampling specially chemotherapy patients, pregnant women, diabetes and dialysis patients ,and the elderly .

Keywords: Laboratory, Patient Satisfaction

P104

Surveying the Awareness Rate of Interpretation of Arterial Blood Gasses by Nurses of Special and Emergency Units of Tabriz Hospitals in 1391

Abdollah Safari*

safaria@yahoo.com

Introduction: There is no doubt that nurses are treating the chain ring awareness of timely and fairly accurate interpretation of test results will influence treatment decisions. Thepurpose of current stady is consideration of awareness Rate of interpretation of arterialblood gasses by nurses of special and emergency units of tabrizhospitals in 1391. Methods: The current study is a temporal consideration in kind of descriptive - applied. Statistical group included all of the employed nurses in the specific and emergency units of Tabriz in 1391. The samplingvolume is determined 250 person based on kukranformule. Datas is gathered by the text book of critical care (Fink) and data analysis is done by SPSS -16. Results: The results showed that the interpretation of arterial blood gasses by nurses evaluated 25/7% in high level & 59/3% in good level &15% in low level. It was related to nurses with experience (9-15 years) and age of (25-30 years old). Conclusion: Results showed that the nurses' working experience and age respectively are the most important variables affecting the interpretation of arterial blood gases.

Keywords: Awareness rate, Interpertation of arterial blood gasses, Nurses

P105

The effect of communication skills between nurses and patients in intensive unit and ease of testing

Sona Pashaee 1 * , Reza Atharrifar 1 , Parisa Pashaee 1

1- faculty of nursing Tabriz,
pashaee.sona@yahoo.com, rezaxp322@yahoo.com, venus_pxx@yahoo.com

Abstract Background & Aims: Communication is an essential part of medical practice and it is essential for patient safety, because the relationship is an important factor in the prevention of risks to patient safety. Since communicating with these patients is more important than others and is often associated with anxiety, the present study was designed to determine the effect of communication skill between nurses and the intensive unit patients. Material & Methods: It was a quasi- experimental study with before-after design. The participants consisted about 83 of nurses and patients who were recruited by purposive sampling and then were randomly assigned into either experimental or control groups to communication skills and interact between nurses and patients were determined. The experimental group communication skills with patients received training by Wilkinson method and the control group received training by traditional method. Data was collected by the demographic questionnaire and questionnaire Nurse - patients. Data analyzed by SPSS using mean and standard deviation of the groups and paired t-test. Results: The mean score of communication skill significantly decreased in experimental group ($p < 0/05$). In control group, the mean score of communication skill significantly increased ($p=0/004$). Before and after difference of mean scores of communication skill after training with two methods was significant ($P=0/005$). Conclusion: The findings revealed that using Wilkinson method for communication skill between nurses and the intensive unit patients facilitate effective testing. Therefore, it is recommended that managers of nursing schools pay more attention to teaching these communication skills and clinical practice about communication with the intensive unit patients in nursing curriculum.

Keywords: Communication skills, Nursing student

P106

Surveying importance of convene a point-of-care testing committee in the therapeutic service management

Marzieh Gholampour 1 * , Shams-O-Reza Tabriznia Tabrizi 2

1- Haematology and blood banking Department, Ghaem Hospital, Mashhad University of Medical Sciences, Mashhad, Iran, 2- Mashhad, ghasem Abad, Fllahi84, plaque 68, devision4,
m67_m89@yahoo.com, rezatabriznia@yahoo.com

Introduction: In terms of testing, modern laboratory medicine can be divided into centralized testing in central laboratories and point-of-care testing (POCT) .POCT is an increasingly popular means of providing laboratory testing at or near to the site of patient care. Many medical laboratory tests can now be done near the patient, ranging from basic blood glucose measurement to complex coagulation testing. POCT has become established worldwide and finds vital roles in public health. Method: The review is based on a selective literature search on POCT. Results: In outpatients suspected of venous thromboembolism, POC D-dimer tests can contribute important information and guide patient management, notably in low risk patients. Measuring international normalized ratio (INR) by POC in an emergency setting is sufficiently precise in oral anticoagulants acute stroke patients. POCT results in the same or better medication adherence compared with traditional pathology laboratory testing. Conclusion: Hospital management should convene a POCT committee include of representatives of the hospital departments involved, the nursing service, the central laboratory, as well as administration, the pharmacy and medical engineering department to accelerate diagnostic and therapeutic processes and thus to reduce the period spent by the patient in the hospital, intensive care ward or operating theater, as well as reducing treatment costs by adequate structure of the therapy, optimal patient monitoring and avoiding complications. This testing can be used to diagnose acquired or inherited coagulopathy, guide anticoagulant therapeutic effect or reversal, and dictate transfusion protocols to decrease wasted blood and blood products in haemorrhagic surgery.

Keywords: Point-of-care testing, POCT, Committee, INR, Management

P107

CCR5-59353 Promoter Polymorphism Frequency in Iranian Hepatitis C Virus (HCV) Infected Patients

Asieh Hosseini 1 * , Zohreh Sharifi 2 , Fahimeh Baghbani_Arani 3

1- Department of Genetics, Ahar branch, Islamic Azad university, Ahar, Iran, 2- Blood Transfusion Research Center, High Institute for Research and Education in Transfusion Medicine, Tehran, Iran, 3- Department of Genetics & biotechnology, Varamin-Pishva branch, Islamic Azad University, Varamin, Iran,
hosseini2013@yahoo.com, z.sharifi@ibto.ir, baghbani.f@gmail.com

Introduction and Aims: Chemokines and their receptors control immune cells migration during infections and with chemotactic and immunoregulatory actions play an important role in the pathogenesis of chronic hepatitis C. CC-chemokine receptor 5 (CCR5) may be critical in regulating T cell functions by mediating recruitment, activation and differentiation of antiviral type 1 cytokine secreting T helper and cytotoxic T cells. The objective of this study was to assess CCR5-59353 promoter polymorphism frequency in Iranian HCV infected patients. Methods: In this study, 50 healthy controls (mean age 36.66 ± 16.64 years) and 50 HCV infected patients (mean age 43.18 ± 14.39 years) were randomly selected. Genomic DNA was extracted from blood buffy coat using the salting out method and CCR5-59353 genotypes were determined using sequence specific primers and polymerase chain reaction allele- specific amplification (PCR-ASA) method. The final products were separated by electrophoresis in 1.5% agarose gel and visualized by ethidium bromide. Chi-square test was used for statistical analysis. Results and Discussion: Frequency of the CCR5 genotypes (59353 CT, 59353 CC, 59353 TT) were 92, 4 and 4% in healthy controls but 98, 2 and 0% among the patients respectively. However, no there was significant difference between two groups ($p>0.05$). Therefore further studies is necessary on Iranian ethnic groups of various regions or more number of samples are needed to confirm these findings.

Keywords: HCV, Chemokines, Chemokine receptors, CCR5-59353, Polymorphisms

P108

Study performance and knowledge of nurses regarding blood transfusions in hospitals affiliated to the Medical Science University of Tabriz

Sona Pashaee 1 * , Hossein Vafaii rad 1 , Reza Atharrifar 1 , Parisa Pashaee 1

1- faculty of nursing Tabriz
pashaee.sona@yahoo.com, rezaxp322@yahoo.com, venus_pxx@yahoo.com

Background & Aims: Because blood transfusion may be associated with serious and life-threatening cases, nurses play an important role in the safe use of blood and its products are. Blood transfusion is considered an important clinical procedure. This study aimed to determine how and knowledge of nurses regarding blood transfusion is performed. Material & Methods: This research is a descriptive study that the participants consisted of 130 nurses working in emergency, medical and surgical wards in hospitals affiliated to the Medical Science University of Tabriz. Data was collected by the questionnaire. Performance scores and knowledge scores in terms of low, moderate and good were ranked. Data analyzed by calculating the Chi-square, Wilcoxon Signed Rank was done by SPSS software. Results: Performance scores were 18.73±61.15, which was 52.3% in this low rating and 7.8% were rated good and mean knowledge score was 4.46±13.82 which was in this case, 18.3% were rated poor and 21.6% were rated good. The performance characteristics of individual nurses, but there was significant relationship between performance and service. P=(0.01) $\chi 2=22.4$ Conclusion: The results show that the performance and knowledge of nurses regarding blood transfusion is not enough and retraining programs in this regard, the Blood Transfusion Committee activation and monitoring are required.

Keywords: Blood Transfusion, Performance and Knowledge of Nurses

P109

The frequency of blood transfusion in hospitals affiliated to the Medical Science University of Tabriz

Sona Pashaee 1 * , Reza Atharrifar 1 , Parisa Pashaee 1

1-Faculty of nursing Tabriz
pashaee.sona@yahoo.com, rezaxp322@yahoo.com, venus_pxx@yahoo.com

Abstract Background & Aims: Blood transfusion is an essential part of medical care. If properly used can be life-saving. Blood transfusion process, such as high storage and maintenance time constraints it faces. So it is necessary that find for the correct application and proper use of these products must be considered. This study was performed to investigate the frequency of blood transfusion in hospitals affiliated to the Medical Science University of Tabriz. Material & Methods: This research is a descriptive study of 700 participants was included. Variables are listed in the check list and data analysis using SPSS software, and the ratio of cross matched blood transfusion compared to less than 1.5 was a standard unit. Results: The results showed that of 700 patients entered the study, only 92 cases (18%) receives blood and the average amount of hemoglobin with blood-transfusion received 14.66 and the amount of product consumed 436 units that 17 units of platelets, and the remaining whole blood and packed cells, respectively. The average amount of bleeding in patients receiving 932 ml of blood, and the other was 623. Conclusion: The ratio of cross matched blood transfusion and its products were 6 times more. Due to the cost of production, storing, and transport to hospital it also includes cross matched laboratory and manpower costs, the actual application and cross matched based on scientific assessment is recommended.

Keywords: Blood transfusion, Cross match

Iranian Association of Clinical Laboratory Doctors

Non Tuberculosis Mycobacteria & Extra Pulmonary TB P110- P114

P110

Identification of Clinical Isolates of Mycobacteria Recovered from Iranian Patients by Phenotypic and Molecular Methods

Saeed Zaker Bostanabad 1 * , Abdolrazagh Hashemi-Shahraki 2

1- Biology Faculty, 2- Infectious and Tropical Disease Research Center, Ahvaz Jundishapur University of Medical Science, Ahvaz,saeedzaker20@yahoo.com, saeid1976@mail.ru

Aim and Background: As mycobacterial species have different drug susceptibilities, precise identification is crucial for adoption of correct drug therapy and can ultimately influence patient outcome. Among various molecular methods, PCR-restriction fragment length polymorphism (PRA) based on hsp65 gene is preferred since it offers an easy, rapid, and inexpensive means of identifying pathogenic mycobacterial isolates to species level. A combination of phenotypic tests and PCR-restriction fragment length polymorphism (PRA) method targeting 441 bp hsp65 DNA used to find species diversity of Iranian clinical strains of mycobacteria. Materials and Methods. The test strains consisted of 270 clinical isolates of mycobacteria recovered from 2358 patients in two reference laboratories. A total of 207 isolates belong to M. tuberculosis were initially identified using conventional phenotypic techniques and specific PCR, based on detection of IS 6110. The isolates belonging to non tuberculosis mycobacteria (NTM) were subjected to further definitive identification using batteries of phenotypic tests and hsp65-PRA. Results. Out of 270 clinical strains, 207 isolates were found to be M. tuberculosis by phenotypic techniques and specific PCR based on detection of IS 6110. NTM strains (63 isolates) represented a variety of the species comprised of 12 M. simiae, 9 M. fortuitum, 5 M. gordonae , 5 M. abscessus, 5 M. kansasii and some rare species including 3 M. massilainase, 3 M. thermoresitbile, 2 M. senegalense type 2, 1 M. conceptionense type 1 or M. senegalense type 1, 1 M. phlei, 1 M. chelonae, 1 M. nonchromogenicum, 1 M. genavense, 1 M. montefiorense or M. triplex, 1 M. branderi, 1 M. novocastrense, 1 M. nebraskense, 1 M. lentiflavum and 1 M. avium. Conclusion. This study showed that hsp65-PRA technique offers a simple, rapid, and accurate method for the identification of NTM clinical isolates.

Keywords: Non-Tuberculous Mycobacteria, Identification, Hsp65, PRA

P111

Evaluation of gyrB- PCR technique for detection of Mycobacterium tuberculosis in stool specimens

Maryam Pourhajibagher *

mphb65@yahoo.com

Introduction: Tuberculosis kills approximately 2 million people per year. Pulmonary tuberculosis diagnosis is difficult when patients cannot produce sputum. Most sputum is swallowed, and tuberculosis DNA can survive intestinal transit. We therefore evaluated molecular testing of stool specimens for detecting tuberculosis originating from the lungs. Materials and Methods: Paired stool and sputum samples (n= 130) were collected from 65 patients with pulmonary tuberculosis. Control stool samples (n = 31) were collected from patients without tuberculosis symptoms. The diagnostic accuracy of the PCR in stool was compared with the accuracy of sputum testing by gyrB- PCR, microscopy, and culture. Results: For newly diagnosed pulmonary tuberculosis patients, stool gyrB -PCR had 86% sensitivity and 100% specificity compared with results obtained by sputum culture. Discussion: Tuberculosis detection by stool PCR took 1 to 2 days compared with an average of 9 weeks to obtain those results by traditional culture-based testing. Stool PCR was more sensitive than sputum microscopy and remained positive for most patients for more than 1 week of treatment. In conclusion, stool PCR is a sensitive, specific, and rapid technique for the diagnosis of pulmonary tuberculosis and should be considered when sputum samples are unavailable.

Keywords: Pulmonary Tuberculosis, Gyrb- PCR, Stool

P112

Epidemiological survey of extra- pulmonary tuberculosis in Baghmalek

Amin Delavari 1 *

1- Parsa lab baghmalek
delavari.amin@yahoo.com

Introduction: The White Plague or , tuberculosis, is an infectious bacteria disease and generlly causes infection in lungs but in1/3 of the cases, this infection may involve other organs.Aim of this study is report of extra-pulmanary TB in Baghmalek on 1386 -1390 among patients that referred to TB center of Baghmalek. . Methods: Among 60 patients ,25(41.7) individulals had extra-pulmonary TB. Most age of the patients was 15-24 and 45-54(28%).13 patients were woman and 12 patients were men.Lymph nodes were the most infectious part of the body (24%). Patients were all Iranians. Discussion: Correct and on time diagnosis of extra -pulmanary TB is one of challenges of medicine.since the symptoms of this diseases is very similar to some other clinical diseases proper and on time diagnosis is very essential.

Keywords: Extra-Pulmonary, TB, Baghmalek

P113

Creativity Roche New der Evaluation of Maikobaktriom Tobrklozis and NonTobrklozis

Robab Saydi 1 * , Ehsan A Rabi 1

1- Zanjan. Blvargavazng. Department of Science and Technology Science Park 210,
behpoo@yahoo.com, onk.arabi@yahoo.com

Even non-fast bacilli broken and the weak are carefully examined and identified. Several hundredths of seconds each image taken with the TB bacillus, and in comparison to the main memory storage system is identified.

Keywords: Maikobaktriom Tobrklozis, Image Processing, Smart Sensors

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P114

Study status out the of pulmonary tuberculosis in Kermanshah Province

Kaivan Khassi 1 * , Nahid Khademi 1 , Tahereh Darabi 1 , Shirin Fakhri Moradi Azami 1

1- Kermanshah University of Medical Sciences and Health Services - Health Department,
khassikaivan@yahoo.com, nahidkhademi2003@yahoo.com, darabitahreh@yahoo.com, shirinfakhr@yahoo.com

Introduction: According to World Health Organization about 15% of TB cases involving organs outside the lungs are. TB outside the lung in comparison with smear positive pulmonary tuberculosis due to the risk of transmission to others is of less importance, but knowledge of the types of TB outside the lung; Distribution sex; success rate of treatment and the deaths could total in epidemiologic study of tuberculosis and treatment needs to be an important role. Methods: This study is a cross-sectional data from the offices of TB patients; forms of tuberculosis and the software has been extracted. Results: 87 and 88 in number and identified 591 TB patients have been treated. Number of 186 pulmonary tuberculosis cases outside male patients 0.92 (5 / 49%) 94 female patients (5 / 50%). TB incidence in 87 years: 4 / 15 in the hundred thousand total incidence of TB; 5 / 5 incidence of smear positive tuberculosis; 7 / 4 TB smear negative; 9 / 4 hundred thousand in the incidence of TB outside the lung. TB incidence in 88 years: 8 / 15 in the hundred thousand total incidence of TB; 5 smear positive TB 4 / 5 TB smear negative; 9 / 4 hundred thousand in the incidence of TB outside the lung. Total 186 patients out of 11 people died and 139 lung patients have completed treatment. treatment and four people died.) 13) n = 20: TB & HIV 32.5% of total pulmonary tuberculosis cases outside the cell is formed. Cell types outside the lung: 3 / 31% lymph; 11.75% pleural; 17.05% bone; 2.65% of Gastroenterology; 7 / 3% eye; 65 / 2% meningeal; 1 / 2% peritoneal; 7% in urine; 25 / 4% genital ; 55 / 0% skin; 2 / 11% billion; CNS zero%; pericardium 05 / 1%, zero% listen: larynx 55 / 0%: other 75 / 4% Results of treatment: 87 years: complete treatment of smear positive patients: 85.7%; death 81 / 3% . Conclusion: High proportion of TB outside the lungs (5 / 32%) compared with the Kermanshah province of the World Health Organization can be expected due to low detection rates of smear positive pulmonary TB in the is province.

Keywords: Tuberculosis, Kermanshah, Smear Positive

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P115

The study of the effect of the IgD expression on the liver B cells and its realation with serum APRIL and liver clinical and patological findings in chronic hepatitis B

Faegh Bastani 1 * , Jina Vazirzadeh 1 , Ashraf Mohamadghani 2 , Masod Darabi 3 , Mohamad Rahbani 3

1- Tohid St Esfahan, 2- Shariati Hospital, 3- Tabriz Medical University

faeghbastani@yahoo.com, ashraf mohamadghani@yahoo.com, mdarabi@yahoo.com, rahbani@yahoo.com

Methods Fifty-seven subjects defined as HBsAg positive and HBeAg negative chronic hepatitis B (CHB) attending the Hepatitis Clinic of Shariati Hospital, Tehran University of Medical Sciences, enrolled for analysis in this study. The human APRIL ELISA kit from Abnova (Cat # KA0177 V.01) was used for serum APRIL concentration according to the manufacturers' instructions. HBV DNA was extracted from 200 ml of serum using QIAamp DNA Blood Mini Kit (QIAGEN USA) and quantified by RealArtTM HBV LC PCR (QIAGEN, Hilden, Germany) according to the manufacturer's instructions. The linear range of this assay was 102–109 copies/ml. Paraffin-embedded liver biopsy sections after deparaffinization, were stained for IgD protein (clone IgD26, Dako, Hamburg, Germany) with standard avidin-biotin peroxidase method. Results The mean total score for liver fibrosis and inflammation according to the modified histologic activity index (HAI) system was 4.0±1.69. The mean score for patients with liver IgD positive B-cells was 1.9±0.8. Expressions of IgD marker has occurred in four groups: 20 cases with scored 1, 24 cases with scored 2, 10 cases with scored 3 and four patients scored 4. Linear regression analysis showed that increasing the score of intrahepatic IgD positive B cells raised the log of HBV DNA copies/ml (β=0.44, Confidence Interval 95% (CI): 0.08, 0.8) whilst decreased serum APRIL concentration (β=-0.81, Confidence Interval 95% (CI): -1.59, -0.025). Conclusion IgD positive B-cells, implying the presence of naïve B cells, more populated in patients who had higher level of HBV DNA. The results support that the population rate of naïve B cells recruited to the liver during chronic disease may play a role in development and maintenance of disease. Also higher score of IgD positive B cells population negatively related with serum value of APRIL. These data suggests that the inverse relations demonstrated between intrahepatic IgD positive B cells and serum APRIL concentration can significantly influence on chronic hepatitis B outcome via replication of HBV.

Keywords: APRIL,Igd Positive B Cells ,Chronic Hepatitis B

P116

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

Maryam Salehcheh 3 * , Jalal Emam 3 , Mohammad Hossein Haghighizadeh 3 , Mohammad Hossein Mousavi Jazayeri 3

maryamsalehcheh@gmail.com, emam.jalal@yahoo.com, mhhaghighy@yahoo.com, jazayeri.science@gmail.com

Introduction: Pesticides produce adverse biological effects through the active ingredients and associated impurities. agricultural workers are at greater risk of pesticide exposure more than non-agricultural workers. Few studies has been performed among Iranian workers. Objective: This study was designed to study the biochemical effects of the pesticide pollution among agricultural workers. Methodology: 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. Conclusion: These results suggest that the long term exposure of various pesticides affect at least two organs such as liver.

Keywords: Pesticides, liver tests, Agricultural workers.

P117

Serum levels variations of Estrogen in premenopausal patients suffering Breast cancer and steroid receptors

Ali Rahimipour 1 * , Behnoosh Tahbazlahafi 1

1- Faculty of Paramedical Sciences, Shahid Beheshti University of Medical,
Rahimipour.ali@gmail.com, behnoosh_ta@yahoo.com

Background: Breast cancer(BC) is the most common type of non-skin cancer and one of the most common cause of cancer death for women in Western countries. There is close relation between the risk of breast cancer and exposure to estrogen. Estrogens diffuse passively through cell and nuclear membranes. In specific cells and tissues containing estrogen receptors, estrogen then binds to the receptor,and this ligand–receptor complex binds to and activates specific sequences in the regulatory region of genes responsive to estrogen, known as estrogenresponse elements .High levels of hormone receptors have been directly correlated with an increased risk of breast cancer.The Esterogen Receptor (ER) has a central role in the development of breast cancer.ER and Progestron receptor (PR) are transcriptional factors which mediate the actions of estrogens and progesterone,respectively. Methods: This study was performed on 30 patients with BC and 30 healty woman. Estrogen levels and ER,PR were measured in cancer and healty women subsequently using Radioimmunoassay, Immunohistochemy methods. Results: mean Estrogen level was higher in BC patients in comparison to healty women ($p<0.003$). spearman correlation analysis between Estrogen ,ER, PR indicates a weak positive non significant correlation in patient group.($r=0.10$,$r=0.04$). Conclusion: Our finding indicates Estrogen level can not affect on hormone receptors presentation.

Keywords: Breast Cancer, Estrogen, Esterogen Receptor, Progestron Receptor

P118

Mitotic Disruption by a Novel Quinazoline-Derivative Kinase Inhibitor (QMKI) Leads to Bax-Dependent Suppress of Growth Potential in Acute Promyelocytic Leukemia-Derived Cell Line

Samad Ghanizadeh-vesali , Farhad Zaker , Ali Zekri , Ardeshir Ghavamzadeh , Kamran Alimoghaddam , Seyed Hamidollah Ghaffari 1 *

1- Hematology, Oncology and Stem Cell Transplantation Research Center, Shariati Hospital, Tehran University of Medical Sciences, Tehran, Iran,
sd_ghanizadeh@yahoo.com, farhadz20@yahoo.co.uk, azekri87@gmail.com, ghavamza@sina.tums.ac.ir, alimgh@ams.ac.ir, shghaffari200@yahoo.com

Methods: Transcriptional alteration of Bax, viability, metabolic activity, and proliferation capacity of quinazoline-based mitotic kinase inhibitor (QMKI)-treated NB4 cells were assessed using real-time PCR, trypan blue dye exclusion, MTT and BrdU cell proliferation assays, respectively.Results: In our current study we showed that QMKI considerably hindered metabolic activity, viability, and proliferation potential of NB4 cells in a concentration-dependent manner. In addition, inhibitor treatment exerted an indicative dose-dependent augmentation in transcriptional levels of Bax.Discussion: Disruption of mitotic machinery is a proven anti-cancer strategy employed by multiple chemotherapeutic agents. On the other hand, it has been demonstrated that overexpression of Bax, a proapoptotic member of Bcl-2 protein family, is lethal for tumor cells. This study found that QMKI treatment could trammel cell growth and proliferation as well as induces cell death in NB4 cells through induction of transcriptional levels of Bax.

Keywords: Mitotic Kinases, Chemotherapy, Bax

P119

ABO Blood Groups as Gestational Diabetes Mellitus Risk Factors Among Different Ethnic Groups in Ahvaz, Iran

Dian Dayer 1 * , Sahar Sadegh Nejadi 1 , Marzieh Sheibani 1

1- Ahvaz Jundishapoor University Of Medical Sciences- Para Medical Faculty- Ahvaz- Iran,
d_dayer@yahoo.com, Sahar_s@yahoo.com, m_sheibani@yahoo.com

Purpose: It has been proposed that incidence to Gestational Diabetes Mellitus(GDM), depends on some parameters. So the objective of this study is to determine the risk factors of GDM. Meterials and Methods: The study conducted on 630 women who were admitted to the department of Obstetrics and Gynecoloy of Razi hospital in Ahvaz after delivery. Blood group determined by use of kit with catalog number: IMI-KIT-1014. The anthropometric data were collected based on standard methods. Independent sample t-test and Pearsons correlation were used to analyze data. Results: The mean age of Patients suffered from GDM is significantly higher than normal subjects(30.8±6.88 vs 26.7±6.04years)($p<0.001$). Subjects with GDM had significantly higher Body Mass Index (BMI) than normal subjects($p<0.01$). 31.3% of patients suffered from GDM, had family history of Diabetes Mellitus. 82.1% of patients suffered from GDM, had more than one pregnancy in their life. Subjects with blood groups A and B showed more incidence to GDM. Except of blood group O, the prevalence of GDM in Arab race was higher than Fars race. Conclusion: We conclude that age, BMI over than 25 kg/m2, family history, multiple pregnancy, type of blood group and ethnicity together with other early symptoms of Diabetes Mellitus, could provide a reasonable diagnostic sensitivity in the screening of GDM.

Keywords: Gestational Diabetes Mellitus, ABO blood groups, Ethnicity, Age, Body Mass Index

P120

The comparison of Serum vitamin D levels in patients with iron deficiency anemia and minor thalassemia with control group

Sanaz Royani , Sahar Alijanpour , Zeinab Shirghaee , Rose Khorasanined , Gholamreza Roshandel , Hamid Reza Joshaghani *

sa_royani@yahoo.com, s_alijanpo@yahoo.com, z_baghaee@yahoo.com, rose_22.khorasan@yahoo.com, roshandel_md@yahoo.com, hr_joshaghani@yahoo.com

Background and Objective: The most common hypochromic microcytic anemia, iron deficiency anemia and minor thalassemia are both common and differential diagnosis of these two is very important. 25-hydroxyvitamin D levels indicative of vitamin D blood status. The aim of this study was to compare serum levels of vitamin D in people with minor thalassemia and iron deficiency anemia with healthy subjects in order to investigate communication between vitamin D deficiency and iron absorption. Materials and Methods: In this case-control study, 24 patients were diagnosed with minor thalassemia, 20 patients with iron deficiency anemia and 24 healthy individuals participated. Groups were matched for age and sex. Testing Vitamin D level by ELISA, testing ferritin by quantitative luminescence method and testing HbA2 by column chromatography was done. Results: In review of serum levels of vitamin D in iron deficiency group, 75% (15 patients) with low serum levels of vitamin D, in minor beta-thalassemia group, 8 (33/3%) were vitamin D deficient and 45.8% in the control group (11 cases) were low in serum vitamin D levels. Conclusion: In this study, the highest percentage of vitamin D deficiency was observed in patients with iron deficiency anemia. Thus, an association and communication between vitamin D and anemia is seen that depending on the type of coverage and poor nutritional vitamins in our country and oblique angle of sunlight in northern areas vitamin D deficiency is more common in these areas. Therefore, it should enrich the diet and supplementation of vitamin D and it is also suggested that vitamin D and iron supplements to be given together to individuals.

Keywords: Anemia, Minor Thalassemia, Iron Deficiency Anemia, Vitamin D

P121

Simvastatin Synergistically Potentiates the Anti-Tumor Effects of Arsenic Trioxide in Human Acute Promyelocytic Leukemia NB-4 Cells

Samad Ghanizadeh-Vesali 1 * , Farhad Zaker 1 , Sarah Mohammadi 2 , Jenny Aryanpour 2

1- Department of Hematology, Faculty of Allied Medicine, Tehran University of Medical Sciences, Tehran, Iran, 2- Islamic Azad University, Tehran Medical Branch, Tehran, Iran,
sd_ghanizadeh@yahoo.com, farhadz20@yahoo.co.uk, mohammadi.sarah@rocketmail.com, j-aryanpour@tums.ac.ir

Background: Arsenic trioxide (ATO), as a poison, is presently the most FDA-approved single agent in the treatment of acute promyelocytic leukemia (APL). Myelosuppression and other possible adverse effects associated with high-dose ATO resulted in announced dosage-limitation for this drug administration. One therapeutic strategy to overcome such toxicity is combination of ATO with other agents to enhance the effectiveness of ATO at lower doses. On the other hand, a growing body of evidence indicates that Statins inhibit the cell growth in the several cancer models. In this regard, we used Simvastatin (SV), a lipid-lowering agent, and hypothesized that SV plus ATO would potentiate the efficacy of ATO in APL treatment. SV is an inhibitor of 3-hydroxy-3-methylglutaryl-coenzyme A (HMG-CoA) reductase, an enzyme of the mevalonate pathway. Methods: To evaluate the effects of SV and ATO treatment (alone or in combination) on transcriptional levels of Bax and Bcl-2, apoptosis, and growth kinetic of NB-4 Cells, we employed RQ-PCR, flowcytometry, and trypan blue dye exclusion assay, respectively. Results: In this research we showed that growth inhibition, apoptosis, and levels of Bax/Bcl-2 ratio increased upon 48 h exposure to ATO (1.5 μ mol/L) combined with SV (15 μ mol/L). Discussion: Indeed, our results have demonstrated that ATO and SV cooperate synergistically to induce cell death and to inhibit proliferation rate of NB-4 cells. Additionally, our results suggest that the combination treatment increased programmed cell death rate probably through enhancing the intrinsic mitochondrial apoptotic pathway. On aggregate and in view of these data, SV showed the potency for attenuating the effective dose of ATO.

Keywords: Apl, Arsenic Trioxide, Simvastatin, Synergism

P122

Relationship of serum cholesterol and glucose with body mass index (BMI) and high density lipoprotein (HDL) in students aged 20 years

Arash Poorsheykhani 1 * , Abdolkarim Mahrooz 2 , Fateme-Zahra Mohammadnejad 3

1- Student Research Committee Of Mazandaran Medical Science University, 2- , Mazandaran University Of Medical Sciences, 3- Mazandaran University Of Medical Sciences,
arash7p@yahoo.com, kmahrooz2@gmail.com, arash70p@yahoo.com

Introduction and objective Today, low physical activity and improper diet are the because of the spread of diseases such as cardiovascular and hypertension. Lowering the age to develop the disease, indicating the importance of analyzing the involved risk factors in the diseases even at the age less than 30 years. The purpose of this study was to evaluate the relationship of some of the risk factors at students aged 19.8 ± 1.2 years. **Methods** One hundred and eleven subjects were enrolled in the study. Body mass index (BMI) was measured according to standard guidelines. HDL-C, LDL-C, FBS and cholesterol levels were determined using commercially available kits. Data were analyzed with ANOVA test, Kruskal-Wallis test and Spearman Correlation. **Results and discussion** Cholesterol levels were significantly higher in people with BMI>30 compared to those with 20≤BMI≤25 and BMI<20 (p=0.011). FBS levels positively correlated with BMI (r= 0.017, p= 0.225). There was a significant negative relationship between HDL-C and LDL-C (r= −0.55, p= 0.000) as well as between cholesterol and HDL-C, there was a negative correlation (r= −0.046, p= 0.63). People, who had more than 3 hours per week of physical activity than those who had less than 3 hours, had higher HDL-C levels. In obese young, serum cholesterol increases as a risk factor for heart disease. Physical activity play a role in increasing HDL levels as a protective factor against heart disease. In general, due to unfavorable lifestyle in the today>s society, evaluating the risk factors such as cholesterol from a young age seems to be necessary.

Keywords: BMI, FBS, Lipid Profile, Age, Cardiovascular Disease

P123

Toward microRNA-based therapeutics for CML; a promising novel therapeutic approach for eradicating drug resistant leukemic stem cells

Sadegh Babashah 1 * , Majid Sadeghizadeh , Masoud Soleimani , Sahar Babashah , Abbas Hajifathali , Mostafa Rezaei Tavirani

1- Department of Genetics, Faculty of Biological Sciences, Tarbiat Modares University, Tehran, Iran
sadegh.babashah@gmail.com

Materials and Methods: CD34+ CML cells were isolated by using MACS immunomagnetic separation system from bone marrow of CML patients in blast crisis phase and subsequently transduced with recombinant lentiviruses expressing microRNA-326 at a MOI of approximately 10. Expression levels of target genes such as Hh signaling components and Bcl-2 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-326 was down-regulated. Interestingly, lentiviral-mediated overexpression of miR-326 led to down-regulation of Hh signaling, resulted in decreased cell proliferation and elevated rate of apoptosis in CML CD34+ cells. Since anti-apoptotic Bcl-2 is a direct downstream target of Hh signaling pathway, western blot analysis showed that induction of apoptosis in CML CD34+ cells following overexpression of microRNA-326 could be attributed to inhibition of Hh signaling. Discussion and Conclusion: Our results support a model in which microRNA-326 acts as a tumor-suppressor in CML. Since the aberrant acquisition of self-renewal property due to aberrant activation of Hh signaling contributes to the CML progression and is responsible for drug resistance, it seems that inhibition of Hh signaling could be of benefit for eradicating CD34+ CML stem cells that represent a potential source of relapse in patients suffering CML. Thus, the approach presented here may be a potential diagnostic and therapeutic strategy for curing CML.

Keywords: chronic myeloid leukemia, leukemic stem cells, apoptosis, diagnosis, therapy

P124

The effect of whole blood storage time prior processing on quality of Red Cell Concentrate

Azadeh Omidkhoda * , Sedigheh Amini Kafi Abad

azadeh_omidkhoda@yahoo.com, s. amini@ ibto.ir

Material and methods In order to evaluate the effect of whole blood storing time (8 and 24 hours) before RCC production on one unit, pediatric transfer bags which have four accessory bags were used. Thus twelve whole blood units were placed in cooling plate box immediately after collection. After 8 hours, these units were weighed and divided to two equal parts. For the 8-hour hold period, RCC was produced from 12 units. For the 24-hour hold period, WB units were held in an incubator at2±22 °C and after 24 hours, RCC was prepared. Then hemolysis, 2, 3-diphosphoglycerate, lactate dehydrogenase, Glucose and Sodium on Days 14, 21 and 28 after RCC production were measured. Result Although higher percent of hemolysis and lactate dehydrogenase levels and lower 2,3-DPG, sodium and glucose levels were determined in RCC prepared after the 24-hour WB hold period but except 2,3 DPG, no significant differences were observed between 8- and 24-hour WB hold period. In addition, there were significant differences in hemolysis , lactate concentrations, 2,3-DPG, sodium and glucose levels in RBC units on day 14 after RCC production compared to day 21 and day 21 compared to day 28. After 28 days of storage, hemolysis remained below 0.8 percent. Conclusion Although storing whole blood at 22 ± 2 ◦C for 24 hours prior to RCC production had significant impact on its quality after 28 days of storage, the property of component are defined in an acceptable range of quality control of products.

Keywords: Red Cell Concentrate, Quality, Storage Time

P125

Effect of the liver x receptor alpha gene polymorphism on the lipid profile in an Iranian population

Hassan Rooki * , Majid Ghayour-Mobarhan , Mohammad Reza Zali

rookihassan@gmail.com, ghayourm@mus.ac.ir, nzali@hotmail.com

Background and aims: Low HDL-C concentration, high cholesterol level and high blood pressure are risk factors for metabolic disorder related disease. The aim of this study was to determine the effect of polymorphism of the LXRα gene on lipid profile, blood pressure and BMI in Iranian population to investigate the interaction between these polymorphisms and environmental factors in determining susceptibility to metabolic disorder related disease.Methods: A cross-sectional study was conducted on 488 subjects (169 men and 315 women) of Mashhad. Biochemical parameters including Triglyceride, cholesterol, FBS, HDL-C levels and its subtractions were determined and body mass index and blood pressure were measured. The rs11039155 variant of LXRα gene was genotyped by TaqMan real time PCR, using DNA extracted from collected blood samples by standard methods.Results: Frequencies obtained for the G and A alleles were 81.0 % and 19.0% respectively. The GG, GA and AA genotype frequencies were 65.70%, 30.17% and 4.13% respectively, and genotype distribution were in conformity with Hardy-Weinberg equilibrium. The carriers of the A alleles especially those with AA genotype had higher BMI and total Cholesterol levels than other, in women. Conclusion: The observed genotype and allele frequencies showed to be associated with BMI and total cholesterol levels in women. This study suggested that the variant genotype of LXRα could increase the risk of metabolic disorder related disease and could be a potential marker for identifying the susceptible individuals to disease. Further association studies with larger population are needed to arrive at any definite conclusions.

Keywords: Liver X Receptor Alpha, Polymorphism, Metabolic Disorders, Genotype

P126

Studying importance and level of liver enzymes in children under 4years old

Bahareh Ghasemi 1 * , Ghadir Tavakoli 1

1- Azad University Science And Research Of Shahre Kord,
ghasemy_g@yahoo.com, tavakoli2002@yahoo.com

Introduction Most sensitive enzymes in liver are aminotransferases which include aspartate aminotransferase and alanine aminotransferase Aminotransferases are transferor of Amin group and create a new combination High level of this two enzymes exists in liver although in other tissues like kidney, muscles, heart and brain are exists, Main action of Aspartate aminotransferases or GOT or AST is transferring aspartate to oxaloacetate and glutamate and usage of GOT or ALT is transferring alanine to pyruvate Purpose In this research attempt to checking level and role of this two enzymes in children Method In this study 60 children under 4 years old were sampled and level of OT and PT enzymes in their blood serum were determined by using Pars Azmoon diagnosing kit Results In this research normal range of this two enzymes base on kit instruction, less than 40 IULIT is normal. The results shown that the level of GOT in 78.03% children is higher than GPT. And in some occasion the results are double .With using this finding, we can conclude that oxaloacetate is more important in children than pyruvate because oxaloacetate is intercessor between citric acid cycle and gluconeogenesis which have more important structural role and producing energy for children rather than pyruvate.

Keywords: Liver Enzymes, Pyruvate, Oxaloacetate

P127

Evaluation of serum iron, ferritin and TIBC levels in hypothyroid patients

Mohammad Alimohammadi 1 , Morad Rostami 2 * , Masoomeh Jorfi 2 , Parvaneh Bayat 3

1- Islamic Azad University of Arak, 2- Ahvaz Jundishapur University of Medical Sciences, 3- Arak University of Medical Sciences,

malimohamadi83@yahoo.com, morad_r56@yahoo.com, m_j99@yahoo.com, bayat_researcher@yahoo.com

Introduction and aim: The results of some studies, know changes of iron metabolism of thyroid hormones in peripheral tissues. This study was performed to investigate the profile of serum iron tests in patients with hypothyroidism. Materials and Methods: This study was a cross - sectional study in two groups of 38 patients and 38 healthy subjects were hypothyroid and serum levels of thyroid hormones (T3, T4 and TSH) and profile of serum iron tests (Fe, Ferritin and TIBC) that measured and were compared with each other Results: Mean levels of Iron and ferritin in hypothyroid patients than in healthy subjects, 54 ± 26 vs. 83 ± 31 mg/dl ($p<0.0001$) and 31 ± 14 vs. 43 ± 21 µg/L ($p=0.5$), respectively. In hypothyroid patients, Serum iron level was significant and ferritin level was non-significant, higher than healthy subjects. Also TIBC level in hypothyroid patients compared to healthy controls was 358±56 vs. 291±43 µg/dl ($p<0.0001$), which was significantly higher in hypothyroid patients. Conclusion: Hypothyroidism is associated with lower body iron content in hypothyroid patients, that this problem should be considered in treating these patients through periodic evaluation of serum iron profile tests and describing iron supplements in these patients.

Keywords: Hypothyroidism, Iron, Ferritin, TIBC

P128

THE EFFECT OF STRESS ON LIPID PROFIL

Navideh Daneshjoo 1 * , Fariba Mirzaee Bavil 1

1- Golgasht St. Faculty Of Medicin, Physiology Department,
navidehdaneshjoo@yahoo.com, bavil2000@yahoo.com

Introduction: Today, the greatest percentage of deaths in most countries is cardiovascular diseases, but mechanism of action is not completely understood yet. In relation to effect of stress on heart diseases have been described Several factors brokerage such as dyslipidemia. Therefore, in this study, we examined the effect of stress on lipid profiles. Methods: This study was conducted on 60 student volunteers (male and female) who were healthy. Blood samples was obtained after 12 hours of fasting to determine lipid profile during 2 stages, first sample at the beginning of semester and the second sample at the beginning of semester final exams as a stressful period . Results: The results showed that the stress increases the total cholesterol level and LDL-c in both group of students (men and women). and ratios also showed a significant decrease. Conclusions: Considering the effect of lipid disorders in the development of cardiovascular diseases, especially through the process of atherosclerosis, It is suggested that one reason could be the effect of stress on heart diseases is a disorder of blood lipid levels.

Keywords: STRESS, Cholesterol, LDL, HDL

P129

Opium addiction reduces the amount of T3 uptake

Farhad Shahsavar 1 * , Koroush Ghanadi 2 , Mehrzad Jafarzadeh 3 , Behnam Asadifar 3 , Toomaj Sabooteh 3

1- Iran, Khorramabad, Lurestan University of Medical Sciences, Faculty of Medicine, Department of Immunology, 2- Iran, Khorramabad, Lurestan University of Medical Sciences, Faculty of Medicine, Department of Internal Medicine, 3- Iran, Tehran, Tehran University of Medical Sciences, Faculty of Medicine, Department of Biochemistry,
shahsavarfarhad@yahoo.com, koroush.ghanadi@gmail.com, mehrzadjafarzadeh@yahoo.com, behnam.asadifar@yahoo.com, tsabooteh@gmail.com

Introduction: Although it is thought that opium abuse causes changes to thyroid function, the exact mechanism is still not well defined. Therefore, the aim of this study was to investigate the effect of opium addiction on thyroid function by measuring T3, T4, TSH and T3 uptake. Methods: This research was conducted as a case - control study on 106 opium addicts and 106 healthy controls in Tehran. 50 cc urine sample for drug testing and 10 cc blood sample for measurement of T3, T4, TSH, T3 uptake were obtained from these individuals. Results: The T3 amount in case group was significantly increased compared with the control group ($p<0.005$). In contrast, the T3 uptake amount in case group was significantly decreased compared with the control group ($p<0.001$). Discussion: The results of this study show that the opium addiction can affect the thyroid function by increasing T3 and decreasing T3 uptake.

Keywords: Addiction, Thyroid, T3, T4, TSH, T3 Uptake.

P130

The effects of vitamin D supplementation on hs-CRP, metabolic profile and oxidative stress in pregnant women: a double blind randomized controlled clinical trial

Zatollah Asemi * , Zahra Heidarzadeh , Fatemeh Motaharian , Fatemeh Abedi , Zahra Jafari , Tayebbeh Bagherian , Mona Naghibi-Rad

asemi_r@yahoo.com, Heidarzadeh@gmail.com, Motaharian@gmail.com, Abedi@gmail.com, Jafari@gmail.com, Bagherian@gmail.com, Mona @gmail.com

Background: Increased pro-inflammatory factors, metabolic profiles and biomarkers of oxidative stress during pregnancy have been associated with development of several complications. Objective: This study was done to determine the effects of vitamin D supplementation on serum hs-CRP, metabolic profiles and biomarkers of oxidative stress among pregnant women. Methods: This randomized double-blind controlled clinical trial was conducted among 48 pregnant women, primigravida, aged 18-40 year old who were carrying singleton pregnancy at 25 weeks' gestation. Participants were randomly assigned to receive either 400 IU/d vitamin D supplements (n=24) or placebo (n=24) for 9 weeks. Fasting blood samples were taken at baseline and after 9 weeks' intervention to measure hs-CRP, metabolic profiles and biomarkers of oxidative stress including plasma total antioxidant capacity (TAC) and total glutathione (GSH). Results: Vitamin D supplementation resulted in increased levels of serum vitamin D (+3.62 vs. -1.2 ng/mL, Pgroup=0.003) and calcium (+0.2 vs. -0.12 mg/dL, Pgroup=0.01). Individuals who took vitamin D supplements had a significant decrease in their serum hs-CRP levels (-1411.7 vs. 1503 ng/mL, Pgroup=0.01) and a significant rise in their plasma TAC concentrations (151.94 vs. -19.69 mmol/l, Pgroup=0.002) compared with those who took placebo. We failed to find a significant effect of vitamin D supplementation on FPG, serum insulin levels, systolic blood pressure, other lipid profiles and plasma GSH. Conclusion: In conclusion, vitamin D supplementation for 9 weeks among pregnant women resulted in reduced serum hs-CRP levels and increased plasma TAC, serum vitamin D and calcium concentrations.

Keywords: Vitamin D, hs-CRP, supplementation, metabolic profiles, oxidative stress , pregnancy

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Effect of multivitamin versus multivitamin-mineral supplementation on metabolic profiles and biomarkers of oxidative stress in pregnant women: a double-blind randomized clinical trial

Zatollah Asemi * , Mohsen Taghizadeh , Zahra Heidarzadeh , Yaser Ghandi , Mona Naghibi-Rad ,Fatemeh Abedi

asemi_r@yahoo.com, mohsenta44@yahoo.com, heidarzadeh@gmail.com, ghandi@gmail.com, mona @gmail.com, abedi@gmail.com

Background: Increased metabolic profiles and biomarkers of oxidative stress during pregnancy are associated with an increased risk of maternal and fetal morbidity. Objective: This study was designed to determine the favorable effects of received multivitamin vs. multivitamin-mineral supplements on metabolic profiles and biomarkers of oxidative stress among Iranian pregnant women. Methods: This double-blind randomized-controlled clinical trial was conducted among 70 pregnant women, primigravida, aged 18-35 year old who were carrying singleton pregnancy at their second and third trimester. Subjects were randomly assigned to receive either the multivitamin (n=35) or multivitamin-mineral supplements (n=35) for 20 weeks. Fasting blood samples were taken at baseline and after a 20-week intervention to measure serum metabolic profiles and biomarkers of oxidative stress parameters including plasma total glutathione (GSH) and total antioxidant capacity (TAC). Results: Compared to effects of multivitamin consumption, multivitamin-mineral supplements resulted in a significant difference on serum triglycerides levels (6.1 vs. 45.9 mg/dL, P=0.04). Increased concentrations of serum HDL-cholesterol (0.1 vs. -7.4 mg/dL, P=0.02) and plasma total GSH levels (151.09 vs. -116.21 µmol/l, P= 0.003) were also seen in the multivitamin-mineral group compared with the multivitamin group. No significant differences were found comparing multivitamin-mineral and multivitamin in terms of their effects on FPG, serum total-, LDL- cholesterol and plasma TAC levels. Conclusion: In conclusion, supplementation of multivitamin-mineral compared to multivitamin supplementation for 20 weeks during pregnancy had beneficial effects on serum triglycerides, HDL-cholesterol and plasma total GSH levels, but had no affect FPG, serum total-, LDL- cholesterol and plasma TAC levels.

Keywords: Micronutrient, Supplementation, Metabolic Profiles, Oxidative Stress, Pregnancy

P132

Effect Of Urotensin II On Apolipoprotein B100 Expression in HepG2 Cell Line

Abbas Mohammadi , Ahmad Gholamhoseinian Najar , Amirhosein Khoshi *

moghabbas@yahoo.com, agnajar@yahoo.com, ahkh83@yahoo.com

Background and Aims: High production of apoB100 in hepatocytes can increase the levels of ApoB100-containing lipoproteins and risk of atherosclerosis and eventually coronary artery disease. Urotensin II, as the most potent vasoconstrictor, contributes in hypertension and also is related to atherosclerosis. Since hypertension and increased apoB levels are important pathogenic factors in atherosclerosis, the aim of this study was to investigate the effect of urotensin II on apoB expression at the mRNA and protein levels in HepG2 cell line. Methods: HepG2 cells were treated with 10, 50, 100, and 200 nmol/L of urotensin II. Relative apoB100 mRNA levels were measured with quantitative real-time polymerase chain reaction method. In addition, apoB100 levels were also estimated and compared with the controls using western blotting method. Results: The apoB100 mRNA levels were not significantly changed following treatment with different concentrations of urotensin II (P=0.6). However, apoB100 protein levels were increased significantly after treatment with urotensin II (P=0.004). Conclusion: These data may show the positive effect of urotensin II on apoB100, probably through participating factors in synthesis and stability/degradation of apoB100.

Keywords: Apolipoprotein B100, Urotensin II, Gene Expression, Hepg2 Cells

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P133

Macroprolactin and its Role in Misinterpretation of Hyperprolactinemia

Fatemeh Shokouhi 1 * , Mostafa Bigdeli 1

1- Massoud Lab,
f.shokouhi46@gmail.com, MGBigdeli@yahoo.com

Introduction: Macroprolactin is a significant cause of misdiagnosis, unnecessary investigation, and inappropriate treatment in patients with hyperprolactinemia Its frequency has not been clearly established due to technical difficulties in identifying it. Most laboratories and clinicians are unaware of macroprolactin interferences in prolactin assays. Materials and Methods: A comprehensive literature search was conducted on the websites of the National Library of Medicine (1) and pubMed Central, digital archive of life sciences literature (2) The case were also consulted with major kit manufacturer companies and their kit inserts. Results: Macroprolactin is a non-bioactive isoform, usually composed of prolactin monomer and IgG molecule, having a prolonged clearance rate similar to that of immunoglobulins. This isoform is clinically non-reactive but it interferes with immunological assay used for the detection of prolactin. Conclusion: In order to bypass the problem prolactin, tests shoud be repeated by precipitating macroprolactin ,using polyethylen Gloycal and recalculating results. There is a need to understand and explore the recent progress in the diagnosis and pathophysiology of macroprolactinemia for improving patient care.

Keywords: Macroprolactin, Peg

P134

Distribution of KIR genes in the Lur population

Farhad Shahsavar 1 * , Mehrzad Jafarzadeh 2 , Shahab Forutani 3

1- Iran, Khorramabad, Lorestan University of Medical Sciences, Department of Immunology, 2- Iran, Tehran, Tehran University of Medical Sciences, Department of Biochemistry, 3- Iran, Khorramabad, Lorestan University of Medical Sciences, Faculty of Medicine,
shahsavarfarhad@yahoo.com, mehrzadjafarzadeh@yahoo.com, Meteor.9195@yahoo.com

Background and aim: Killer-cell Immunoglobulin-like Receptors (KIR) are a family of inhibitory and activating receptors that are expressed mainly by natural killer (NK) cells. KIR genes family is polymorphic strongly and its genomic diversity results in gene content and allelic polymorphism. A number of KIR loci are reported in different people, leading to different KIR haplotypes. The aim of this study was to report the distribution of the KIR genes in the Lur population for the first time. Methods: In this study, 100 unrelated health Lur KIR genes were typed by the polymerase chain reaction method using sequenced-specific primers. Finally, Lur KIR genes distribution was compared with other Iranian populations. Results: 22 KIR genotypes were considered .The most common non-framework genes were KIR2DP1 and KIR2DL1 with the frequency of 98% and KIR3DL1 and KIR2DS4 with the frequency of 96% in the Lur population. The most common considered KIR genotype (AA genotype) included 6 inhibitory genes, 1 activating gene and 2 pseudo genes, with a frequency of 29% in the Lur population. Discussion: The results show that KIR genes distribution in the Lur population has similar features with other former studied Iranian populations, but it is still unique because of decrease or increase in some loci frequency.

Keywords: NK Cells, KIR Genes, Lur Population, Polymerase Chain Reaction

P135

Evaluation of effect of Storage conditions on Quality of performance in Urinstrips

Yalda Gholamian 1 *

1- No.48,Keykhosro Shahrokh Ave.,Hafez Street,Tehran,Iran,
ygholamian@yahoo.com

Background: Urine-analysis is a very important Screening test for diagnosis of a potential disease, Such as Renal disease (Urinary tract infection, Glomerulonephritis,…),diabetes or some liver disease. This means that initial assessment performs on patient samples with Dipsticks, then follows by Confirmatory tests for definite diagnosis. Because, the dipsticks are easy to use and rapidly responsive, maybe these urine strips are used by patients out of Clinical systems. So the maintenance of desirable is very important. For this purpose, effect of storage conditions such as high temperature, Direct sunlight, Leaving open the vial for a long time and high humidity on dipsticks was examined. Method: For initial, from three different types of reliable urine analysis vials, two vials dipstick selected and checked for its quality with prepared multiple standard concentrations of parameters such as hemoglobin, keton, Nitrite ,glucose ,protein and RBC. Each accepted dipstick was divided into 4 parts and then, each part was stored in one of the bad storage condition that mentioned above for 21 days. at the end of every week dipsticks were reevaluated. (Experiments repeated 3 times for each parameters in each group.) Results: The results indicated that: at the end of third week, high temperature had no effect on hemoglobin, Keton & Nitrit levels but direct Sunlight and Leaving open the vial for a long time could affect on Hemoglobin and showed below levels and also there was false negative results in various concentration of Keton & Nitrit in second weeks. On the other hand, after third week, high temperature, Direct sunlight, Leaving open the vial for a long time had no effect on glucose, protein & RBC parameters. But all parameters in the dipsticks were Stored in high humidity (forth group) were affected after first week since unacceptable results were obtained. Conclusion: our results showed the different effects of various environmental factors on each parameters in urine analysis dipsticks and some of these factors were affected sooner and more. Also each of these factors affect on specific parameters. So the quality of storage of dipsticks until their stability date are very important to give acceptable results.

Keywords: Urine-Analysis, Dipstick, Storage Conditions

P136

The relation between Serum Cholesterol , HDL and LDL levels with Alzheimers Disease

Mahmood Yegani 1 *

1- Guilan University of Medical sciences,
m_yegani2005@yahoo.com

Background: Alzheimer's Disease (AD) is a terrible illness and a major public health problem. most patients with AD are over 65 years of age. AD is not considered as a part of the adulthood process . But it is a malignant disease that severely affects the sick person and his family. So diagnosing the correctable risk factors of this disease can increases The probability of prevention. In several studies Hypercholesterolemia has been introduced as a risk factor for AD but some studies reject this hypothesis. Material and Methods: Based on a case-control study , sixty patiants registered in Iran's Alzheimer Community and sixty healthy old people as the control group were studied to measure the serum Cholesterol , HDL and LDL concentration with Colorimetric Methods.SPSS and Excel soft ware were used to analyze the obtained data. COCLUSION: The result of this research show that Cholesterol level decreased in sick people meaningfully (P=0.019) and findings reflect that the average concentration of LDL differs meaningfully between two groups (P=0.01), while the mean difference of HDL was not significant between two groups (P=0.062). This finding supports the idea that decrease in Cholesterol level causes perceptual disorders in the period of adulthood.

Keywords: Alzheime, s(AD) Disease, Serum, Cholesterol, HDL, LDL

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Effect of hypothyroidism on red blood cell indices

Fatemeh Kianinode 1 * , Shaban Alizadeh 1 , Akbar Dorgalaleh 1 , Bijan Varmaghani 1 , Taregh Bamedi 2 , Zahra Kashani Khatib 2

1- Allied Medical School, Tehran University of Medical Sciences, 2- Allied Medical School, Zahedan University of Medical Sciences,
haematology83@gmail.com, alizadeh1982@gmail.com, dorgalaleh90@gmail.com

Background and Aim: Thyroid hormones motivate directly and indirectly growth of erythroid colonies through augmented secretion of erythropoietin. Hypothyroidism can cause various forms of anemic disorders that can be microcytic, macrocytic and normocytic andalso alter erythrocyte indices such as MCV, MCH, MCHC and RDW. This study designed to investigate the effect of hypothyroidism on blood cell count and RBC indices. Methods: This case-control study performed on 250 patients with hypothyroidismand 180 healthy individuals as control. Initially patients TSH ,T3 and T4 levels were determined by ELISA method and then according to TSH ranges(0.3-5.5) patients with TSH< 0.3 µIu/ml recognized as hypothyroidism. Then complete blood count was done by cell counter. Finally obtained results were analyzed by SPSS software. Results: Analyzes of obtained data revealed statistically significant different between two groups of patients and controlabout RBC count, MCH, MCHC, RDW, HB and HCT (P0.05). Conclusions: Our observation highlighted reverse effect of hypothyroidism on red blood cell indices.

Keywords: Hypothyroidism, RBC Indices, Thyroid Hormones

P138

White blood cell and platelet count changes in thyroid disorders

Zahra Kashani Khatib 1 * , Akbar Dorgalaleh 1 , Fatemeh kianinode 1 , Bijan Varmaghani 1 , Taregh Bamedi 2 , Shaban Alizadeh 2

1- Allied Medical School, Tehran University of Medical Sciences, 2- Allied Medical School, Zahedan University of Medical Sciences
haematology83@gmail.com, dorgalaleh90@gmail.com, alizadeh1982@gmail.com

Background and Aim: Thyroid dysfunctions are associated with several abnormalities in hematological parameters including leukocytes and platelets. The aim of this practice was to survey WBC and PLT count changes in patients with hypo- and hyperthyroidism. Methods: Blood sample were collected from 250 patients with hypothyroidism and 180 hyperthyroidism patients. Thyroid function was assessed by measurement of T3, T4 and TSH levels and then according to TSH ranges (0.3-5.5µIu/ml) patients were divided in two groups of hypo-(TSH5.5µIu/ml) thyroidisms .Then complete blood count (CBC), total and differential counts of white blood cells and platelet count were done by cell counter. Finally obtained results were analyzed by SPSS software. Results: Analyzes of obtained data showed statistically that there is not significant different between two groups of patients about WBC and Plt counts($P>0.05$). Conclusions: The results refute any effect of thyroid disorders on leukocyte and thrombocyte counts.

Keywords: Hypothyroidism, Hyperthyroidism, WBC Count, Platelet Count

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Blood cell parameters in individuals with hyperglycemia and hyperlipemia

Shadi Tabibian 1 * , Shaban Alizadeh 1 , Akbar Dorgalaleh 1 , Taregh Bamedi 2 , Kashani Khatib 2

1- Allied Medical School, Tehran University of Medical Sciences, 2- Allied Medical School, Zahedan University of Medical Sciences
haematology83@gmail.com, alizadeh1982@gmail.com, dorgalaleh90@gmail.com, zkashanikhatib@gmail.com

Background and Aim: A complete blood count in clinical laboratories is done by 3 types of automated machines such as electrical impedance counter, optical method counters and flowcytometry. Differentfactorsin analytical and pre analytical stages canaffecttheresults of these cell counters. The present study is investigated the effect of some biochemical interfering factors include hyperglycemia and hyperlipemia on the results of the impedance based cell counters. Methods: This case control study was performed on 243 individuals with hyperglycemia or hyperlipemia and 100 random healthy persons as control group. Initially glucose, triglyceride and cholesterol level were measured by biochemical auto analyzer and then complete blood cell count was done for each person. Finally laboratory results were analyzed by SPSS software. Results: The results of tests revealed a statistically significant differencebetweencaseand controlgroups. Both hyperglycemia and hyperlipemia lead to falsely increase of MCV level ($p<0.05$). Hyperlipemia is also result in spuriously increased Hb, Hct and MCH levels ($p<0.05$). Conclusions: According to results of this study, the effect of biochemical interfering factors such as hyperglycemia and hyperlipemia on test results of impedance cell counter must be considered in clinical laboratories.

Keywords: Hyperglycemia, Hyperlipemia, Impedance Cell Counter

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Comparison of two methods for measuring bilirubin

Mahtab Tapak 1 * , Leily Tapak 2 , Zahra Bakhshiani 3 , Rezvan Karshenas 3

1- tamin ejtemaei bimarestan aalinasab tabriz, 2- mesicine university of hamedan, 3- tamin ejtemaei,
mahtabtapak@yahoo.com, lylytapak81@yahoo.com, zahrabakhshiani@yahoo.com, daryaaram11@yahoo.com

Bilirubin is the end product of hemoglobin. Bilirubin level is sometimes the only variable that causes the change in physician decision. Measurement of bilirubin is one of the most sensitive laboratory tests and several factors are involved in it. In this study, we decided that compared the difference between the values of total bilirubin with chemical method and direct photometric measurement and study influence of TG on Bilirubin levels. Methods: This study is a case-control study that was done in 1390 on 200 samples. Bilirubin levels were measured by two methods: direct photometric and Diazo methods and TG levels were measured as well. Bilirubin Mean (mg/dl) in two BILITEST and Diazo in case group, respectively, 1.64 and 1.229 and in control group are 1.4986 and 1.1086. In this study we compared Bilirubin correlation with triglycerides. Correlation between bilirubin and triglyceride levels in both photometric and chemical methods in case group 0.467 and -0.015 and in control group-0.123 and -0.119, which suggests a direct relationship between triglycerides and bilirubin in direct photometric method. Due to the significant difference between the bilirubin direct photometric and chemical methods for better decision by physicians during the follow-up, the test method should be indicated in the report results. Patients should be fasting if the photometry method is used and recommended to follow up patient's bilirubin tests should be performed in one special laboratory.

Keywords: Bilirubin, Photometeric

P141

Evaluation and comparison of serum biochemical parameters in the Qom clinical laboratories in 1391

Ali Khoshnejad 1 * , Hossein Ebadifard 1 , Mojtaba Khoshooiparizi 1

1- Qom- 19 dey ST. bitarafan St. 3 alley - No 15,
khoshnejadali@gmail.com, aradveisoor@yahoo.com, m.khparizi@yahoo.com

Introduction and Aim: When the test results can help physicians that error effects of test were small on final results and test results just show the biological status of the patient. As were as in different lab used different materials and methods for testing. As a result of potential differences in test results caused confusion for physicians and patients. This study aimed to determine the accuracy of the results of biochemical tests and its variation between Qom laboratories . Prudure and Method: In this study , 33 laboratories of Qom that have biochemical autoanalyzer was chosen. Randox serum control as a sample was sent to laboratories. biochemical parameters including: BS,Urea , Uric Acid, Cr , TG , Chol , SGOT, SGPT ,Alp ,LDH , CPK , Ca , PHOS , Fe were evaluated. Mean and coefficient of variation (%CV) were determined. Base on chosen coefficient of variation (%ccv) set by the WHO , the resulte were considered as a percentage of four concentration : mean±sd (appropriate) , mean±1-1.5sd(acceptable) , mean±1.5-2sd (warning) , mean±2sd (unacceptable). Results and discution :This research , percentage of unacceptable results are : BS(%3.1) , Urea (%18.2) , Uric Acid (%3.1) , Cr (%12.1) , Chol(%0) , TG(%6.3) , Alp (%3) , SGOT(%6.1) ,SGPT(%18.2) . LDH(%13.6) , CPK(%4.5) , Ca (%54.8) , Phos (%6.1) , Fe (%0) . In the labs , the results were outside the acceptable range , Accurately identify the type and source of error and to eliminate or prevent it appears to be necessary. Also according to variance of each group in the evaluation report, and comparison with %ccv , can help lab in choosing the most appropriate measurement method for quantifying. Key word: biochemical parameter, %CV , %CCV ,medical laboratory.

Keywords: Biochemical Parameter, %CV, %CCV, Medical Laboratory

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Sensitive detection of prostate specific antigen (PSA) with lable-free electrochemical nanoimmunosensor

Moein Adel 1 , Masoumeh Zahmatkeshan 1 , Malihe Paknejad 1 , Saeed Sarkar 1 , Reza Saber 1 *

1- Tehran University of Medical Sciences,
iraniannano@yahoo.com, zahmatkeshan@razi.tums.ac.ir, paknejadma@tums.ac.ir, Sarkar@Sina.tums.ac.ir, rsaber@sina.tums.ac.ir

Determination of tumor markers plays an important role in the early diagnosis of cancer, differentiating benign from malignant conditions, monitoring the response of tumors to therapy, and predicting recurrence. Among the molecular recognition biomolecules, antibodies (Abs) have been the main focus of intensive research due to their high affinity and specificity to bind antigens. Electrochemical detection for biomolecules is of great interest owing to its high sensitivity and compatibility for miniaturization and mass-fabrication. Especially, label-free electrochemistry can be performed using miniaturized biosensors, because of their simple handling and procedure that does not require a complicated labeling process. One promising approach to the label-free electrical detection of biomolecules uses carbon nanotubes (CNTs) caused by their unique properties. Label-free amperometric immunosensors based on the CNT electrodes were fabricated to selectivity detect a cancer marker, prostate-specific antigen (PSA). PSA level in serum are dramatically increased in prostate cancer. Monoclonal antibodies against prostate-specific antigen (PSA-mAb) were covalently anchored onto the CNTs using [1-3-(dimethlamino) propyl)-3-ethylcarbodiimide hydrochloride,EDC] , N-hydroxysulfonsuccimide(NHSS)ester (Linker). To determine the concentration of antigen by nanoimmunosensor, different concentrations of antigen were used encompassing 4-10 ng mL-1 prostate cancer and hyperplasia prediction range for human serum. PSA in 2 ng/mL can be effectively detected using the CNT electrodes. Since the cut off limit of PSA between prostate hyperplasia and cancer is 4 ng/mL, the performance of the label-free electrochemical nanoimmunosensor seems promising for further clinical applications. All of the processes characterized by FTIR,AFM, RAMAN spectroscopy and electrochemical analysis.

Keywords: Detection, PSA, Carbon Nanotubes, Immunosensor, Lable Free

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Evaluation of thyroid dysfunction and its relation to serum prolactin levels in patients referred to medical diagnostic laboratory of zanjan

Abdolreza Osali 1 * , Behzad Mansoori 1 , Neda Ketabchi 1 , David Jafari 1

1- boali pathobiology lab,
hesam_osali_lab@yahoo.com, b.mansoori_lab@yahoo.com, neda.ketabchi@yahoo.com, davoodjafari1@yahoo.com

Background and Aim: Prolactin is a hormone that is released from the anterior pituitary gland to release hormones from the hypothalamus and prolactin secretion is regulated. TSH, or thyroid stimulating hormone, which controls the release of thyroid hormone and Thyrotropin-releasing hormone (TRH) is secreted from the hypothalamus, the pituitary gland to release TSH is somewhat offset. The purpose of this study is to investigate the relationship between thyroid disorders and serum prolactin. Methods: In this study, 2,564 patients were admitted to the Clinical Laboratory. TSH measurements were carried out by using Radio Immuno assay(RIA) and prolactin were measured by a chemiluminescence method . The result were analyzed with the software SPSS 19. Results: The evaluation was performed, 320 patients (12.8%) TSH above the normal range in 189 cases (59.05%), high levels of prolactin were and In 48 cases (1.87%) TSH was below normal in 5 cases (10.41%) serum prolactin levels were higher than normal. Conclusions : The results showed that serum prolactin levels in patients with hypothyroidism, Has increased more than hyperthyroidism patients .So people with hyperthyroidism are more at risk of hyperprolactinemia.

Keywords: Radio Immuno Assay (RIA), Chemiluminescence, TSH, Prolactin

P144

Relationship between AHSP Gene Expression, β/α Globin mRNA Ratio and Clinical Severity of the β-thalassemia Patients

Mohammad Ali Okhovat 1 , Reza Ranjbaran 1 , Arash Mobarhanfard 1 , Farzaneh Aboualizadeh 1 , Mozhdeh Abbasi 1 , Leili Moezzi 1 , Habib Allah Golafshan 1 , Abbas Behzad-Behbahani 1 , Mandana Bagheri 1 , Sedigheh Sharifzadeh 1 *

1- Shiraz University of medical sciences, Shiraz, Iran,
okhovat.clinicallab@gmail.com, reza_ranjbaran2009@yahoo.com, Mobarhanfard@sums.ac.ir, Aboualizadeh@sums.ac.ir, Abbasi@sums.ac.ir, Moezzi@sums.ac.ir, Golafshan@sums.ac.ir, Behzad-Behbahani@sums.ac.ir, Bagheri@sums.ac.ir, Sharifzadeh@sums.ac.ir

Introduction and Objectives: Alpha hemoglobin stabilizing protein (AHSP) is a chaperone-like molecule specialized for erythroid series which bound to free α-globin chain. In agreement with the biological and biochemical characteristics, AHSP can be considered as relatively significant factor contributing to β-thalassemia phenotype. Methods: Reticulocytes RNA extraction and subsequent cDNA synthesis were performed, followed by Relative qRT-PCR for AHSP, alpha and beta globin chain genes and beta actin gene as an endogenous reference. AHSP gene expression in relation to disease severity and β/α globin mRNA ratio in different homozygote β-thalassemia patients (mild, moderate and severe) was analysed and compared with minor thalassemia and normal population. Results: Analysis of β-globin/α-globin mRNA ratio has shown that disease severity enhanced with decrease in this parameter. Evaluating correlation between AHSP expression and the average β-globin/α-globin expression ratio indicated the significant but indirect relationship in considered groups. Our results demonstrate that the AHSP gene expression increase in accordance with augmentation of clinical symptoms. Conclusions: In spite of this opinion that one of the main reasons of reduced clinical severity in homozygote β-thalassemia is the high level of AHSP gene expression as a chaperon molecule, our findings indicate that AHSP gene expression has been decreasing in mild category comparing with severe and moderate groups. Consistent with obtained outcomes regarding AHSP gene expression, it can reduce the phenotype symptoms of β-thalassemia, but its increscent expression has some limitations.

Keywords: AHSP, B-Thalassemia, B/A Globin Mrna Ratio, Disease Severity

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Analysis of β/α Globin Ratio by Using Relative qRT-PCR forDiagnosis of Beta-Thalassemia Carriers

Reza Ranjbaran 1 , Mohammad Ali Okhovat 1 , Arash Mobarhanfard 1 , Farzaneh Aboualizadeh 1 , Mozhdeh Abbasi 1 , Leili Moezzi 1 , Habib Allah Golafshan 1 , Abbas Behzad-Behbahani 1 , Mandana Bagheri 1 , Sedigheh Sharifzadeh 1 *

1- Shiraz University of medical sciences, Shiraz, Iran,
reza_ranjbaran2009@yahoo.com, Okhovat.clinicallab@gmail.com, Mobarhanfard@sums.ac.ir, Aboualizadeh@sums.ac.ir, Abbasi@sums.ac.ir, Moezzi@sums.ac.ir, Golafshan@sums.ac.ir, Sharifzadeh@sums.ac.ir, Bagheri@sums.ac.ir, Sharifzadeh@sums.ac.ir

Introduction and Objectives: Current routine tests for premarital screening of β-thalassemia carriers are not applicable for diagnosis of rare atypical minor β-thalassemia cases. A more specialized laboratory evaluation for them is the measurement of β/α chain synthesis ratio with the assistance of radioactive amino acids. This method is also no longer routinely accessible. Consequently it is required to establish a rapid, trouble-free, and reliable method that encompasses all the cases of β-thalassemia carriers. Therefore we have determined β/α-globin mRNA ratio by applying relative qRT-PCR in various β-thalassemia patients. Methods: Reticulocytes RNA extraction and subsequent cDNA synthesis were performed, followed by relative qRT-PCR for α- and β-globin chain genes and β-actin gene as an endogenous reference. β/α-Globin gene ratio was then evaluated with the Pfaffl method. Results:The mean of β/α ratio was 0.99, 0.81, 0.69, and 0.69 for normal population, minor, intermediate, and major β-thalassemia, respectively. Approximately 6% of cases with minor thalassemia RBC index and normal HbA2 and having a decreased β/α ratio were located in the minor β-thalassemia group. The mean of β/α mRNA ratio in normal individuals and minor β-thalassemia was significantly different with all other groups (P-value <0.05). Nevertheless, there was no such association between β/α mRNA ratio in major and intermediate β-thalassemia.Conclusion: According to the significant differences achieved, no overlapping between minor β-thalassemia and normal group, capability of diagnosing atypical minor β- thalassemia, and accessibility of this technique, we can declare that this method could be suggested as a routine premarital screening test for β-thalassemia carriers.

Keywords: Thalassemia, Premarital Screening, Relative Qrt-PCR

P146

Effect of uremia on white blood cell count

Shadi Tabibian 1 * , Rima Manafi Shabestatri 1

1- Hematology Department, Allied Medical School, Tehran University of Medical Sciences, Tehran, Iran, sh.tabibian@gmail.com, ri_manafi@yahoo.com

Background: Uremia is the accumulation of urea and other waste products in blood due to kidney disorders. On performing complete blood count, it is said that uremia may lead to spurious decrease of the leukocytes in vitro .The purpose of present study is to investigate the effect of uremia on leukocyte count Material and methods: This case control study were investigated the effect of uremia on leukocyte count in 120 patients with uremia and was compared with 100 individuals as control healthy group. Initially individuals were examined for determination of the level of the blood urea and creatinin by biochemistry analyzers, after determination of these analytes, complete blood count were performed for each individual and finally the obtained results were analyzed by SPSS software. Result: Statistical analysis of obtained data revealed no significant different between two groups of case and control (P>0.05) Conclusion: Our findings demonstrated that uremia has no effect on white blood cell count

Keywords: Uremia, White Blood Cell, Kidney Disorders

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Evaluation of serum lipid and iron profiles in patients with chronic renal failure

Morad Rostami 1 , Masoomeh Jorfi 1 , Mohammad Alimohammadi 1 *

1- Iran, Ahwaz Jondishapur University of Medical Sciences, Faculty of Medicine, morad_r56@yahoo.com, jorfi76@yahoo.com, malimohamadi83@yahoo.com

Introduction and aim: Patients with chronic renal failure have a higher risk for cardiovascular disease. In this study, iron and lipid profile of this patients were assessed. Materials and Methods: In this cross - sectional study, from patients with chronic renal failure that referred for dialysis on dialysis section of Imam Ali hospital in Andimeshk city in 1389, 7 ml of venous blood was drown in fasting state and then serum cholesterol (Chol), Triglyceride (TG), High density lipoprotein (HDL), Low density lipoprotein (LDL), Iron (Fe), Ferritin and Total iron binding capacity (TIBC) was measured. For comparison of this parameters with control group, the t-student statistical methods and SPSS software were used. Results: In this study, the levels of Chol, TG, LDL, Fe and Ferritin in patients with chronic renal failure, was higher than the control group. Also, HDL and TIBC levels in patients with chronic renal failure, was less than the control group. Conclusion: Given the high levels of lipids and iron in patients with chronic renal failure, is recommended to replacing saturated fatty acid to unsaturated fatty acids, consumption of fresh blood units, consistent and washed blood cells and use of excretion of iron drugs in these patients.

Keywords: Chronic renal failure, Cholesterol, Triglycerides, High-density lipoprotein, Low-density lipoprotein, Iron, Ferritin, Total iron binding capacity

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Academic and practical skills self-assessment of medical laboratory science student interns

Mohammad Alimohammadi 1 * , Morad Rostami 2 , Masoomeh Jorfi 3 , Parvaneh Bayat 4 , Alireza Tabibzadeh 5

1- Faculty of Paramedical, Islamic Azad University of Arak, Arak, Iran, 2- Faculty of Medicine, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran., 3- MSc of Microbiology, Faculty of medicine, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran, 4- Arak University of Medical Sciences, Arak, Iran, 5- Islamic Azad University of Arak, Arak, Iran.

Malimohamadi83@yahoo.com, morad_r56@yahoo.com, jorfi67@yahoo.com, bayat_researcher@yahoo.com, alireza_tabibzadeh@yahoo.com

Introduction and aim: Education of laboratory science student interns in hospital laboratories is the last loop empowers these students, especially in the field of practical work that has a significant impact on their skills when hired and start to work. Materials and Methods: In this study, 158 laboratory science student interns participated. Of these, 96 (60.8%) students were pre-interns and 62 (39.2%) students were interns. After completing the questionnaires, the results obtained from these questionnaires were reviewed and analyzed. Results: In this study, microbiology and blood bank studies, the most benefit studies during the course of studies that have been suitability to practical laboratory work. Most practical work of these students had been in microbiology and blood bank and least practical work in biochemistry, hematology, serology and sampling section, also. Most students believe that the content of lessons is not relevant to practical work and want to provide more practical lessons in the areas of sampling, quality control, microscopic urine analysis, morphology of peripheral blood smear, respectively. 86 (54%) students have sense of satisfaction and72 (46%) students were dissatisfied about their theoretical and practical situation. Conclusion: Review and provided the practice the lessons, Increased during clerkship and, more attention to education in the laboratories and … can help students to be more proficient.

Keywords: Self-assessment, Pre-intern, Intern, Laboratory science student

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Determination of reference ranges of HDL in different ethnics in Andimeshk city

Morad Rostami 1 , Masoomeh Jorfi 2 , Mohammad Alimohammadi 2 *

1- Faculty of Medicine, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran
morad_r56@yahoo.com, Jorfi67@yahoo.com, Malimohamadi83@yahoo.com

Introduction and aim: HDL reference range can be affected by various parameters such as ethnicities. In this study, the HDL reference range was evaluated in Lor, Kord, and Arab and Persian ethnics in city of Andimeshk. Materials and Methods: In this cross - sectional study, from of healthy patients that referred in a laboratory of Imam Ali hospital in Andimeshk city in 1389, 5 ml of venous blood was drown in fasting state and then serum high density lipoprotein (HDL) was measured with kits of Pars azmun company and Mindary BS-300 autoanalyser. For comparison of HDL levels in different ethnic groups with each other, was used of the t-student statistical methods and SPSS software. Results: In this study, mean HDL levels in women and men of ethnics of Kords, Lors, Persians, and Arabs were 48.9 vs. 45.2, 47.7 vs. 42, 44.5 vs. 40.3 and 43.1 vs. 39 mg/dl, respectively. Average maximum and minimum, respectively, were related to Kords women and Arab men. Also. The lowest and the highest average HDL level were observed in women between the ages of 1-20 and above 40 years, and in men in above 40 years and 1-20 years, respectively. Conclusion: Due to influence of ethnicity and age on HDL reference ranges, it is recommended that the reference range of this test among ethnicities and different ages in different city, were performed by each laboratory, separately.

Keywords: Reference Range, HDL, Ethnicity, Andimeshk

P150

Proposing a novel molecular-based treatment strategy for resolving hypocalcaemia in multiple myeloma

Marzieh Gholampour 1 * , Shams-O-Reza Tabriznia Tabrizi 2

1- Haematology and blood banking Department, Ghaem Hospital, Mashhad University of Medical Sciences, Mashhad, Iran, 2- Mashhad, ghasem Abad, Fllahi84, plaque 68, devision4,
m67_m89@yahoo.com, rezatabriznia@yahoo.com

Introduction: Multiple myeloma, a clonal neoplasm of plasma cells, is the second most common adult hematologic malignancy and is associated with excessive tumor-induced osteoclast-mediated bone destruction. The routine treatment method of hypercalcaemia is the simultaneous administration of saline, calcitonin, and a bisphosphonate that may have side effects such as risk of systemic hypersensitivity and renal failure.Surving molecular signaling pathway of hypercalcaemia can result in novel therapies to manage this distressing and often life-threatening complication of myeloma bone disease. Method: This review is extracted by studying several articles in the field of multiple myeloma, hypercalcemia and its molecular regulating pathway. Results: Parathyroid hormone-related protein (PTHrP) plays a primary role in the development of humoral hypercalcaemiais due to marked bone resorption by accumulation of osteoclasts (OCLs).PTHrP in myeloma cells can be controlled by NF-κB (nuclear factor kappa-light-chain-enhancer of activated B cells) activation. Myeloma cells which highly expressed the transcripts of the RANKL (receptor activator of nuclear factor NF-κB legend) gene induced the differentiation of human hematopoietic precursor cells (HPCs) into OCLs in vitro. Intereferon-gamma (IFN-γ) and osteoprotegerin (OPG) strongly suppresse osteoclastogenesis by interfering with the RANKL–RANK signaling pathway. Macrophage inflammatory protein-1 α (MIP-1α) that produced by myeloma cells stimulates osteoclast formation and differentiation. Conclusion: Prevention of osteoclastogenesis by repressing NF-κB activity by its inhibitors such as Bay 11-7082,stimulating secretion of IFN-γ and releasing OPG from stromal cells or systemic administration of neutralizing antibodies to MIP-1α might be a potent new therapeutic molecular method for inhibiting tumor induced osteolysis and limiting disease progression.

Keywords: Multiple Myeloma, Hypercalcaemia, NF-Kb , RANKL, Pthrp

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Relation between activity and phenotype of butyrylcholinesterase enzyme and Rheumatoid arthritis

Shiva Shahmohammadnejad 1 * , Asad Veisi Raygani 1 , Ahmad Rashidi 2 , Serveh Shahmohammadnejad 3 , Khadijeh Barzaman 4

1- Department of Clinical Biochemistry,Kermanshah University of Medical Sciences, 2- Department of Clinical Imuonohematology,Kurdestan University of Medical Sciences, Kurdestan- Iran, Iran, 3- Department of Biochemistry,Islamic Azad University of sanandaj, Kurdestan- Iran, Iran, 4- Department of Imunology,Kermanshah
University of Medical Sciences, Kermanshah- Iran, Iran,
shivashahmohamadnejad@yahoo.com, asadvaisiraygani@kums.ac.ir, ahmadrashidi@yahoo.com, serveshahmohamadee@yahoo.com, barzamanlab@yahoo.com

Introduction: Rheumatoid arthritis is a multifactorial and multisystemic disorder that a variety environment and genetic factors have been known that contributes in pathogenesis and severity of this disease. The aim of this study was to assess the association between activity and phenotype of butyrylecholineesterase (BuChE) with rheumatoid arthritis. Study design: This study was performed on 419 Rheumatoid arthritis patients and 398 healthy controls. Serum collected from peripheral blood. The activity of the butyrylcholinesterase was assessed by Double beam spectrophotometery , and the phenotype of the BuChE enzyme was determined by asses of dibucaein (DIB) and Sodium fluoride (NF) number . Results and Conclusions: The activity of the BuChE enzyme was differed significantly between the two groups (P=0/02).mean of BuChE activity rheumatoid patients 990IU (std=253.496) less than mean of group control 1036IU (309.531) . The phenotype of the BuChE enzyme was not differed significantly between the two groups. We conclude that the low activity of BuChE is a marker for the increased risk of Rheumatoid arthritis, but there was no association between frequency of phenotypes of BuChE with rheumatoid arthritis.

Keywords: Rheumatoid Arthritis, Butyrylcholinesterase, Dibocaein, Sodium Fluoride

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Effect Of Camel Milk Biopepyides On Breast Cancer Cell Line Mcf-7

Hanieh Mohebbi 1 , Hosein Attar 1 , Masuod Parsania 2 , Ali Akbar Moosavi Movahedi 3 * , Maryam Salami 3

1- Islamic Azad University of Pharmaceutical Science, Tehran, Iran , 2-Islamic Azad University of Tehran Medical Branch, Tehran, Iran , 3 - Institute of Biochemistry and Biophysics (IBB), University of Tehran
haniehmohebby@yahoo.com, attar.h@gmail.com, masoud_parsania@yahoo.com, moosavi@au.ac.ir, msalami@ut.ac.ir

Objective: The breast cancer is the common invasive cancer in women. Biologically nutraceuticals are main factors for diminishing chronic diseases in the society. Camel milk is an important nutritional source that historically been used in the treatment of diseases such as cancer and for the maintenance of good health.Material & Methods: The MCF-7 cell which is origin of human cells was cultured and biologically active peptides are produced from precursor camel milk proteins by enzymatic hydrolysis. Toxicity of biologically active peptides on MCF-7 cells was evaluated by Trypan blue method and MTT assay at different concentrations and different times. Results: The obtained results show the most effective concentration of toxicity of biologically active peptides on MCF-7 cell line is 500µg/ml that indicates up to 83% toxicity after 72 hours treatment. Conclusion: the results gathered in this work suggest camel milk biopeptides possibly being one of the components in milk reducing the risk of cancer on breast cell line MCF-7.

Keywords: Biologically Active Peptides, Camel Milk. , MCF-7cell Line

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Elevated Chemotactive Factors CXCL1, CXCL9 and CXCL10, but Unchanged CXCL12 Circulatory Levels in Food Allergic Patients: Evidences for Involvement of Chemokines in Pediatrics Food Allerg

Mozhgan Moogooei , Maryam Mogooie , Shirin Fattahpour , Hossien Khoram Deh Azad , Zahra Ahmadi , Gholam Hassan Hassanshahi *

mozhganmoogooei@yahoo.com, maryam.moogooei@yahoo.co, shirin_fattahpour@yahoo.com, khorramdelazad@gmail.com, leila5823@yahoo.com, ghassanshahi@gmail.com

Background Food allergies (FA) are frequent, in 0.5-3.8% of children under 3 years old and around 0.1-1% of adults experiencing allergic reactions to food. The critical role played by chemokine in various allergies including food allergies is well evident. In the present study, we asked whether if the levels of, CXCL9, CXCL10, CXCL11 and CXCL12, were significantly elevated in FA, and to discuss the role played by these chemokines in food allergies. We also sought to examine the differential pattern of expression of these chemokines in relation to the type of allergen (type of food) consumed by FA patients. Material and Methods The study population of this cross-sectional study contained of 83 FA patients along with 100 healthy controls. Concentrations of CXCL12, CXCL10, CXCL9 and CXCL1 measured by enzyme-linked immunosorbent assay (ELISA). The results were analyzed using SPSS software package version 18. Differences were considered significant at P□0.05. Results Result of the present study demonstrates that CXCL1, CXCL9, CXCL10 and CXCL12 concentrations were elevated in patients suffer from FA in compare to control. We also showed that both type and source of allergen are important in chemokine expression. Our finding show that food elimination lead to decreased levels of CXCL9,and CXCL10 while CXCL1 and CXCL12 concentrations were not altered following food elimination. Conclusion According to the result of the current investigation, these chemokines could probably be used as useful biological markers in pathogenesis of FA. It is also possible that speculate the severity of disease on the evaluation of CXC chemokine concentration.

Keywords: Food allergy, CXC chemokine, CXCL1, CXCL9, CXCL10 and CXCL12

P154

Diagnostic value of adenosine deaminase (ADA): a diagnostic marker for differentiate HIV positive patients from healthy subjects

Mohammad Abdi * , Saman Javid , Abbas Ahmadi , Iraj Khodadadi

abdi355@gmail.com

Background: Adenosine Deaminase (ADA) is a hydrolytic enzyme that involves in the deamination of adenosine to inosine. ADA is involved in T lymphocyte differentiation and development. This study was aimed to determine Diagnostic value of adenosine deaminase (ADA) activity test for diagnosis of HIV positive patients in kurdish population. Methods: This descriptive analytical case-control study was performed on 30 healthy and 60 HIV positive subjects. Blood CD4+ cell count was recorded and serum total ADA, and ADA1 and ADA2 isoenzyme activities were determined. Results: Serum total ADA and ADA2 isoenzyme activity was significantly higher in HIV positive patients than in healthy subjects. CD4+ cell counts markedly decreased in all patients and showed a significant inverse correlation with ADA activities. Using a cut-off level of respectively 36.52 U/L and 30.98 U/L for serum total ADA and ADA2, sensitivity and specificity were 90.9% and 90.27% for total ADA and 93% and 90% for ADA2. Conclusions: Serum ADA was significantly increased in HIV infected patients. Therefore, because of its low cost and simplicity to perform, ADA activity might be considered as a useful diagnostic tool among the other markers in these diseases.

Keywords: Adenosine Deaminase, Isoenzymes, Human immunodeficiency virus, Diagnostic value

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Correlation between interleukin-6 and high-sensitive C-Reactive protein in pathogenesis of Diabetic Nephropathy

Seyed Manuchehr Nourazarian*, Rasoul Estakhri , Majid Tozihi , Alireza Nourazarian , Fatemeh Soghra Hamzavi

s.mannourazarian@gmail.com, estakhri@tbzmed.ac.ir , tozihi@gmail.com, alinour65@gmail.com, fhamzavis@yahoo.com

Introduction: Diabetic nephropathy is the leading cause of chronic kidney failure worldwide. The pathogenesis and initial molecular events leaded to diabetic nephropathy are still elusive. Our study was designed to explore the correlation between inflammation and renal microangiopathy in Tabriz Imam Reza general hospital patients with type 2 diabetes mellitus. Material and Methods: Ninety patients with type 2 diabetes were included in the study. The serum concentrations of high-sensitivity C-reactive protein(Hs-CRP) and Interleukin-6(IL-6) were analyzed and studied their correlation with proteinuria.Acontrol group of 30 healthy individuals and the patients were followed-up for six months and the markers measured again. Results: We found a positive correlation between levels of Hs-CRP and IL-6 with urinary albumin excretion($r=0.93$, $p<0.05$). After 6 months of treatment, the percentage of HbA1c decrement correlated well with the decrease percentage in Hs-CRP($r=0.563$, $p<0.01$). Conclusions: It seems that inflammatory factors in type 2 diabetic nephropathy are elevated and associated with urinary albumin excretion. It is possible the locally release cytokines cause the development of kidney damage.

Keywords: Diabetic Nephropathy, Interleukin-6, High-Sensitive C – Reactive Protein, Type 2 Diabetes Mellitus

P156

SUMOylation of Pancreatic Glucokinase Regulates Insulin secretion

Maria Negahdar

avin.bergen@gmail.com

Glucokinase is the predominant hexokinase expressed in hepatocytes and pancreatic β-cells, with a pivotal role in regulating glucose-stimulated insulin secretion, illustrated by glucokinase mutations causing monogenic diabetes and congenital hyperinsulinemic hypoglycemia. A complex tissue-specific network of mechanisms regulates this enzyme and an unanswered question in glucokinase biology is how posttranslational modifications control the enzyme's function. Here, we show that the pancreatic human glucokinase isoform is SUMOylated in vitro, using recombinant enzymes, and in insulin-secreting model cells. N-terminal lysines unique for the pancreatic isoform (K12/K13 and/or K15) represent one SUMOylation site, with an additional site (K346) common for both the pancreatic and the liver isoform. SUMO-1 and E2 overexpression stabilized human pancreatic enzyme in MIN6 β-cells, and SUMOylation increased the catalytic activity of recombinant human glucokinase in vitro and also of transfected glucokinase in target cells. Currently, we have investigated whether SUMOylation affects the subcellular distribution of GK and/or insulin secretion from MIN6 cells. In conclusion, SUMOylation may represent a physiological mechanism for controlling the steady-state level and activity of glucokinase in pancreatic β-cells leading to control of insulin secretion.

Keywords: Glucokinase, Sumoylation, Enzyme Activity

P157

Evaluation of relationship between HBA1C and FBS in patients with type 2 diabetes

Hassan Parsa 1 , Saeid Abediankenari 2 *

1- Clinical Biochemistry Department, Faculty of medicine, Mazandaran University of Medical sciences Sari, Iran, 2- Immunology Department, Faculty of medicine, Mazandaran University of Medical sciences Sari, Iran,
hassan.parsa110@gmail.com, abedianks@razi.tums.ac.ir

Background and Aim: Percentage of glycosylated hemoglobin (HbA1C) indicates patient's condition of glycemic control in during the last 2-3 months. HbA1C and fasting blood sugar (FBS) tests are two important tests to track, control and treatment of diabetes. The purpose of this study was evaluation of relationship between FBS and HbA1C tests in type 2 diabetic patients. Methods: This is a cross-sectional study on the data of HBA1C and FBS tests of 171 patients with type 2 diabetes (female: 130 male: 41) that obtained from the clinical laboratory, which were chosen based on non-probability sampling and based on the target that mean age of them were 52 ± 11.5 years. In the laboratory, levels of HbA1C and FBS were determined with column chromatography and enzymatic methods respectively. Correlation test and statistical software spssver 16 was used for data analysis. Results: Based on our results, HbA1C showed significant correlation with FBS levels above 140 mg / dl ($P < 0.001$ and $r = 0.737$) but did not find meaningful correlation between FBS 120-140 mg / dl and FBS less than 120 mg / dl with HbA1C levels. Conclusions: our findings indicated that FBS levels above 140 mg / dl have a significant correlation with HbA1C and largely can reflects the patient's condition of glycemic control in during the last 2-3 months but FBS less than 140 mg / dl does not have a significant correlation with HbA1C and could not inform the physician from the patient's condition of glycemic control in during the last 2-3 months.

Keywords: Type 2 Diabetes, Percentage Of Glycosylated Hemoglobin (Hba1c),Fasting Blood Sugar (FBS)

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SUMO4 M55V Polymorphism and diabetic nephropathy

Behnam Asadi Far 1 , Farhad Shahsavar 2 , Mehrzad Jafarzadeh 2 * , Mehdi Hedayati 3 , Abdolreza Kheirollahi 4

1- Department of Biochemistry, Faculty of Medicine, Tehran University of Medical Sciences, Tehran, Iran, 2- Department of Immunology, Lorestan University of Medical Sciences, Khorramabad, Iran, 3- Obesity Research Center, Research Institute for Endocrine Sciences, Shahid Beheshti University of Medical Sciences, Tehran, Iran, 4- Department of Urology, Lorestan University of Medical Sciences, Khorramabad, Iran,
Behnam.asadifar@yahoo.com, shahsavarfarhad@yahoo.com, Mehrzadjafarzadeh@yahoo.com, hedayati47@yahoo.com, Abdolreza Kheirollahi@yahoo.com

Abstracts Introduction and Objectives: We studied the impact of SUMO4 M55V polymorphism on susceptibility to diabetic nephropathy in Iranian type 2 diabetes patients. Materials and methods: The patient group consisted of 50 Iranian type 2 diabetes patients with nephropathy, and the control group consisted of 50 Iranian type 2 diabetes patients without nephropathy. Genotyping was performed using polymerase chain reaction-restriction fragment length polymorphism (PCR-RFLP) method for the M55V. Results and Discussion: The frequency of SUMO4 AA, AG, and GG genotypes were 48%, 36%, and 16% in the patient group and 20%, 52%, and 28% in the control group. There was a significant increase in frequency of SUMO4 AA genotype in type 2 diabetes patients with nephropathy compared to type 2 diabetes patients without nephropathy (48% vs 20%, P=0.003). These findings indicate that SUMO4 M55V Polymorphism is associated with diabetic nephropathy in Iranian type 2 diabetes patients.

Keywords: SUMO4, Polymorphism, Type 2 Diabetes, Nephropathy, Iranian

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Comparison of C3 and C4 with CH50 in North west of Iran

Behzad Mansoori 1 * , Abdol Reza Osali 2

1- 4th Qaem St,Qaem Ave,Zanjan,Iran,No 2994, 2- Zanjan Azad University,
b.mansoori_lab@yahoo.com, hesamosali_id@yahoo.com, b.mansoori_lab@yahoo.com

Background and Aim: The complement system comprises a group of serum proteins and cell membrane receptors that function primarily to fight infection. These components interact in three activation pathways. The central results of activation of these pathways are to deposit the opsonic C3b on bacteria to promote phagocytosis, to lyse bacteria by the assembly of the terminal membrane attack complex and to promote inflammation. The aim of this study was to compare the rate of increase or decrease in C3 and C4 in patients is CH50. Methods: This Cross - sectional study on 281 patients referred to the Zanjan's Clinical Laboratory, C3 and C4 were measured by nephelometry method, CH50 levels were measured using SRID. Then the data were analyzed by the SPSS13 Software. Results: The results of tests on patients revealed that, the female: male ratio was 1/16. The mean age of the Patients was 35.31±16.21. (5.5 percent) 15 cases with high C3, (8.7 percent) 24 cases with high C4, (3.4 percent) 9 cases with high CH50. The CH50 data not showed a significant increase in Patients. Conclusions: This study showed that CH50 measurements alone cannot be the expression of the complement system function. And other measures such as the complement component like C1q, C3, C4, C5, and C9 with CH50 recommended.

Keywords: C3, C4, CH50, Nephelometry, SRID, Zanjan

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The effect of ginger powder supplementation on insulin resistance and glycemic indices in patients with diabetes type II: A randomized, double-blind, placebo-controlled trial

Behrouz Talaei * , Shohreh Bahreini , Hassan Mozaffari , Bemanali Jalali

b_talaei@hotmail.com, shohreh.bahreini@yahoo.com, mozaffari.kh@gmail.com

Method: This is a randomized, double-blind, placebo-controlled trial in which 87 participants affected by diabetes type 2 were randomly assigned into ginger (GG) and placebo (PG) groups. The GG received 3 one-gram capsules containing ginger powder whereas the PG received 3 one-gram cellulose microcrystalline-containing capsules daily for 8 weeks. HbA1c, fructosamine, fasting blood sugar (FBS), fasting insulin, homeostasis model -cell function, insulinβassessment insulin resistance index (HOMA-IR), sensitivity and the Quantitative Insulin Sensitivity Check Index (QUICKI) were assessed before and after the intervention. Results: Mean of FBS showed a decrease of 10.5 % (p=0.003) in the GG whereas this had an increase of 21% in the PG (p=0.01). Variation in HbA1c mean was in line with that of FBS. Statistical difference was found in the two groups before and after the intervention in terms of median of fasting insulin level and HOMA-IR index (P< 0.005) but not between the two groups. Also in terms of sensitivity to insulin, statistical difference was detected in the two groups before and after the intervention (P<0.005) but not between the two groups. Moreover QUICKI mean indicated significant difference before and after the intervention in the two groups (P<0.005 and P= 0.01 in the GG & PG, respectively), the mean difference, however, was significantly higher in the GG. Statistical difference -cellβwas also indentified in the PG and between the groups in terms of function at the beginning of the study (P<0.005 & p= 0.008, respectively). Conclusion: The study demonstrated that daily consumption of a 3-gram capsule of ginger powder by type 2 diabetic patients for 8 weeks is useful for these patients due to FBS reduction, HbA1c, variations in fasting insulin, HOMA-IR index, increate in sensitivity to insulin, and QUICKI index.

Keywords: Ginger, Diabetes Mellitus, Blood Sugar, Hba1c, Insulin Resistance

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The Effect of Ginger on Blood Lipid and Lipoproteins in Patients with Type 2 Diabetes : A Double-Blind Randomized Clinical Controlled Trial

Behrouz Talaei * , Shohreh Bahreini , Hassan Mozaffari , Bemanali Jalali

b_talaei@hotmail.com, shohreh.bahreini@yahoo.com, mozaffari.kh@gmail.com

Introduction: Type 2 diabetes is a complex metabolic disorder caused by a relative decrease in insulin secretion or its blood glucose lowering effect. Nowadays there is an uprising trend toward new approaches in type 2 diabetes management. In this study the effect of Ginger supplementation on blood lipid and lipoproteins in type 2 diabetic patients was examined. Methods: 81 patients with type 2 diabetes who were referred to Yazd Diabetes Research Center participated in this randomized clinical trial study within two-month interval From March 2011 to January 2012. Patients were randomly divided into two groups; Placebo (PG) and supplemented (SG) groups. SG were supplemented with 3 ginger capsules (1 gr ginger powder in each capsule) and PG received 3 Microcrystalline cellulose capsules with same shape, color and dosage in each day. total cholesterol, triglycerides, LDL-c, HDL-c and Apolipoproteins A1 and B100 were measured before and eight weeks after intervention. Results: According to the results observed, mean of LDL-C in SG before and after supplementation were 112.52 ± 22.09 and 106.10 ± 20.78 mg/dl respectively (P=0.03). Also the results showed significant difference in levels of APO A1 in SG and PG in the beginning and end of trial (P‹0.005). However no significant differences between groups were observed. Moreover no significant disparities were observed in level of APO B100, total cholesterol, triglycerides and HDL-C at the same period in studied groups. Conclusion: This study indicates that supplementation type 2 diabetic patients with 3 gr of Ginger on a daily basis, within 8 weeks along whit conventional diabetes treatments would improve LDL-C, APO A1.

Keywords: Ginger, Type 2 Diabetes, Blood Lipid And Lipoproteins

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Determine the prevalence of Staphylococcus aureus in traditional ice cream in Zanjan by culture and PCR techniques

Fahimeh Moharramkhani 1 *

1- Abhar. Taleghani Avenue South. Arasbaran alley. No. 50,
fmoharramkhani@yahoo.com

Introduction and aim: Staphylococcus aureus have virulence factors and extracellular protein toxins produced variety. One of the major extra cellular proteins, enterotoxin that causes food poisoning by this species of bacteria. The aim of this study was determination the prevalence of Staphylococcus aureus in traditional ice cream presented in Zanjan by culture and PCR techniques. Materials and methods: 50 traditional ice cream samples were collected from different producers across Zanjan. Evaluation for contamination by coagulase positive Staphylococcus aureus was done using the culturing method. The isolates were subjected to the PCR technique according to the Nucgene in order to confirm Staphylococcus aureus. Results: The culture of the samples indicated that 22 ice cream samples were contaminated by coagulase positive Staphylococcus aureus. 22 samples were confirmed to Staphylococcus aureus based on PCR using the Nuc primer gene. Conclusion: To prevent outbreak of poisoning and microbial infectious due to consumption of ice cream,pasteurization of milk and traditional ice cream as well as supervision and control during the production are essentia.

Keywords: Staphylococcus Aureus, Traditional Ice Cream, Nucgene, PCR

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The effect of Persian shallot (Allium hirtifoliumBoiss.) hydroalcholicextract onGlucokinase (GCK) enzyme activity and genes expression in diabetic rats' liver

Seyed Mostafa Hosseini Zijoud 1 *

1-Hamedan student research committee, Hamedan University of Medical Sciences, Hamedan, Iran,
seyedo2@yahoo.com

Introduction:The liver is an insulin-sensitive tissue and plays a major role in maintaining glucose homeostasis by regulating the interaction between the glucose utilization and production. Hepatic Glucokinase (GCK) is a key enzyme in glucose homeostasis and, as such, is a potential target for treatment strategies of diabetes. Dietary antioxidant compounds may offer some protection against the early stage of diabetes mellitus and the development of complications. Aim: In the present study the effect of Persian shallot (Allium hirtifoliumBoiss) hydroalchoholicextract on blood glucose leveland plasma insulin level and alsoGCK activity and its gene expression in liver tissue was investigated. Materials and Methods:Thirty two male rats were divided into 4 groups of 8, two diabetic groups received 100 and 200 mg/kg Persian shallot extract (2 ml, daily), two diabetic control and normal control groups received 0.9% saline (2 ml, daily) for 30 days. At the end of the experimental period fasting blood samples and liver samples were collected. Results:Findings of the present study indicated that the Persian shallot significantly reduces the Fasting Blood Sugar (FBS) level in parallel with slightly enhancement of insulin in diabetic rats' serum. Investigations of gene expression by RT-PCR showed that Persian shallot has led to gently increased GCK in diabetic rats.GCK activity increased significantly in Persian shallot treated group in dose dependent manner. Conclusion:These results indicate that Persian shallot exhibits a significant potential as an antidiabetic and hypoglycemic agent perhaps via its ability to enhance insulin secretion, GCK gene expression and its activity. So Persian shallot maybe useful for preventing or delaying the development of diabetes and its complications.

Keywords: Persian Shallot, Glucokinase, Gene Expression, Diabetes

P164

Study the potential of B. melitensis Omp31, Dnak, Hsp and TF proteins in inducing in vitro and in vivo immune responses in BalB/c mice

Amir Ghasemi * , Mohammad Hossein Salari , Amir Zarnani , Mahmood Jeddi-Tehrani

ghasemia77@yahoo.com, mhsalari2000@gmail.com, zarnani25@yahoo.com, mahjed@yahoo.com

Cell-mediated immunity is the dominant immune response required for protection against brucellosis. Therefore, candidate antigen for vaccination should induce specific cell mediated immunity. Bacterial pathogens with long-term residence within host phagocytes probably express a variety of heat shock protein genes to help them adapt to the harsh environmental conditions of pH, nutrition deprivation, ROIs, and reactive nitrogen intermediates (RNIs) as well as lysosomal enzymes encountered within the phagosome. Prominent among these responses is the induction of heat shock proteins, suggesting that considerable protein misfolding and damage occurs within this compartment. In this project, we studied the potential of B. melitensis Omp31, Dnak, hsp and TF proteins potential in inducing in vitro and in vivo immune responses in BalB/c mice. Hsp, Dnak and TF are members of heat shock protein family and Omp31 is an outer membrane protein. For this purpose, first we cloned genes coding for these proteins and then mice were divided in to ten groups. Eight groups were immunized with antigens or combinations of them, one group was immunized with PBS as negative control and another was immunized with heat-killed B.melitensis Rev.1 as positive control. To study immune responses of immunized mice, proliferation assay, cytokine assay, humoral response assay and protection assay were used. Mice immunized with each of antigens or combinations of them showed a considerable protection against bacterial challenge. In addition, mice immunized with TF and its combination with Omp31 showed a protection as good as the positive control. Our results emphasize on the need to a mixture of Th1 and Th2 immune responses for protection against B.melitensis 16M in mice. TF protein alone or in combination with Omp31 may thus be used as subunit vaccines in the cattle. In addition, the other antigens and their combinations may also be considered as important candidates for subunit vaccine production.

Keywords: Brucella Melitensis, TF Antigen, Omp31 Antigen, Hsp Antigen, Dnak Antigen, Vaccine, Immunological Protection, Proliferation, Cytokine, Th1/Th2

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The effect of Persian shallot (Allium hirtifolium Boiss) extract on blood sugar and serum levels of some hormones in diabetic rats

Hojat Momeni 1 *

1- Dept. of Biochemistry, Faculty of Medicine, Babol University of Medical Sciences, Babol, Iran., poya51318@gmail.com

Background and Objective: Diabetes mellitus is characterized by hyperglycemia, resulted from defects in insulin secretion or action. It is widely believed that the antioxidant micronutrients obtained from plants afford significant protection against diseases like diabetes mellitus. The purpose of this study was to determine the effects of Persian shallot (Allium hirtifolium Boiss) on FBS, HbA1c, insulin, T3 and T4 levels in type 1 diabetic rats. Material and methods: Thirty two male rats were divided into 4 groups of 8, diabetic groups received 100 and 200 mg/kg Persian shallot extract, diabetic control and normal control received %0.9 saline for 30 days. At the end of the experimental period fasting blood samples were collected and FBS, HbA1c, insulin, T3 and T4 levels were measured. Result: Findings of the present study showed that hydroalcoholic extract of Persian shallot can significantly decrease serum levels of FBS and HbA1c in treated groups (in a dose dependent manner) ($P<0.05$). The serum levels of insulin and T3 slightly increased by Persian shallot but the T4 serum level was declined. Conclusion: These hypoglycemic and beneficial effects of Persian shallot extracts in diabetic rats could probably be due to the antioxidant capacity of its phenolic and organosolphors content.

Keywords: Allium Hirtifollium, Persian Shallot, Type 1 Diabetes, Insulin

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Effect of hydro-ethanol extracts of Allium sativum, garlic, on histopathological alterations and Blood glucose levels in alloxan-induced diabetic rats

Ahmade Reza Hamidi 4 , Ahmad Oryan 3 , Adel Mohammad Ali Pour 2* , Mohammad Hashem Niya 1
1- Department of Pathology, School of Veterinary Medicine, Razi University, Kermanshah, Iran., 2- Department of Biochemistry, Medical School, Hamadan University of Medical Sciences, hamedan, Iran, 3- Department of Pathology, School of Veterinary Medicine, Shiraz University, Shiraz, Iran., 4- Department of Clinical Studies, School of Veterinary Medicine, Shiraz University, Shiraz, Iran.,

m.hashemnia@razi.ac.ir, amapoor@gmail.com, oryan@shirazu.ac.ir, dvmahmadhamidi@yahoo.com

Introduction Garlic (Allium sativum L.) is traditionally used as a treatment agent of diabetic mellitus. The present study evaluated the differential effects of ethanol extraction of this plant on the blood glucose concentration and the pathology of pancreatic β-cell mass and liver in diabetic rats. METHODS Thirty adult female Albino rats (200±20 g) were used in this experiment. Diabetes was induced in 20 rats by simple intraperitoneal injection of 120 mg/kg 10% alloxan tetrahydrate. The rats were randomly assigned into two diabetic groups (each group containing ten rats) and one non-diabetic control group (n=10). On the 12th day, one of the diabetics groups was treated with the ethanol extract of garlic (300 mg/kg). Results Administration of garlic tended to significantly bring the serum glucose toward the normal value, while the serum glucose of the diabetic rats remained significantly high. Histopathologically, tissue sections of the pancreas in the treated rats did not show a significant difference with the untreated diabetic rats. Slight improvement in the hepatic tissue of the treated diabetic rats was seen compared to those of the untreated ones. Conclusions This study indicated a significant anti-hyperglycemic effect of garlic and supported its traditional usage in treatment of diabetes mellitus.

Keywords: Allium Sativum, Garlic, Diabet

Iranian Association of Clinical Laboratory Doctors

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Comparison between Entrobacteriacea identification test by API and conventional method

Manijeh Elmi 1 * , Nahid Esmaeilian 1

1- Social security,
m_elmi62@yahoo.com, m_elmi62@yahoo.com

We compared the results of two different laboratory methods for defined correlation between them: API and 4 Tube identification test.50 gram negative bacilli isolated of specimens culture (urine and stool) identified by two different methods. We inoculated microorganisms on biochemical test media (TSI, SIM, Urease test, Citrate utilization), and API strips. After incubation period we read result of biochemical reactions and identified them. Result: 82 % of strains were same identified. 14 % of strains were not identified by tube test, but identified by API. 3 % of strains miss identified with API because of use mix colony while these were lesser in tube test method. 1 % of strains were not identified by any of two methods. (weeksella virosa) Conclusion: Discrepancies with respect to conventional methods may be observed .They are due to the different principles of the reaction used in API technique. In addition, substrate variation exists that also account for percentage differences. The results of this study shown similar pattern in two method but API has higher specify and sensitivity for entrobacteriacea than use of conventional tube (with at least 4 tubes). The validity of the identification of an unknown bacterial culture by its reactions in range of biochemical tests dependence absolutely on the use of a PURE culture of the bacterium for the inoculation of the test media.

Keywords: Entrobacteriacea, Identification test, API

P168

Antimicrobial susceptibility of with respiratory infections of pseudomonas aeruginosa in Imam Reza General hospital , Tabriz 2010-2011

Goli Angoti 1 , Fatemeh Fallah 2 , Maryam Hajizadeh 3 , Behroz Pourasghari 4 * , Mahboub Shahmoradi 5

1- Dep.Shahid Beheshti Univ.M.C International Branch, Tehran, 2- Shahid Beheshti Univ.M.C, 3- Tabriz University of Medical Science, 4- Imam Reza hospital in Tabriz,
goli_angoti@yahoo.com

Introduction: pseudomonas aeruginosa is a virulent opportunistic pathogen that is one of the major causes of hospital acquired infection. It has the unique ability to infect bady systems. Despite introduction of a wide variety of antimicrobial agents with anti-pseudomonal activity is important.life-threatening infections caused by pseudomonas aeruginosa contribute to morbidity and mortality in hospitalized patient. Aim: aim from this study was conducted to determine the antibiotic susceptibility patterns of pseudomonas aeruginosa isolated from respiratory tract specimens obtained from hospitalized patients. Method and materials: 70 case pseudomonas aeruginosa gathered from the respiratory system of hospitalized patients during one years then they were tested for antimicrobial susceptibility using disk diffusion method. Results: the rate of antimicrobial susceptibility of isolates were 85% to Imipenem, 73.8% to Amikacin, 57.3% to ciprofloxacin ,38.2% to Tobramycin ,30% to carbenicillin, 20.6% to ceftriaxone,11.8% to tetracycline,10.7% to cotrimoxozole, 3% to Cefexim. Discussion: Imipenem was the most effective and Amikacin was the secondary effective antimicrobial agent in this study. considering of antimicrobial resistance rate, surveillance of antibiotics therapy is necessary.

Keywords: Nosocomial Infection, Pseudomonas Aeruginosa ,Tabriz

P169

In Vitro Antileishmanial Activity of Zinc Sulphate on the Viability of Leishmania(L)major Promastigotes

Ali Fattahi Bafghi 1 * , Mohammad Noorbala 1 , Mohammad Taghi Noorbala 1

1- Med Parasitology & Mycology Dep- School of Medicine- Shahid Sadoughi University of Med Sciences- Postal Cod: 8914173149- Safaeeyeh- Yazd- Iran,
afbafghi@ssu.ac.ir

Introduction & Aim: Acute Cutaneous Leishmaniasis is an endemic disease in developing countries. The first choice drug of treatment according to WHO recommendation is the pentavalent Antimony. High cost, several side effects, multiple injections and incomplete efficacy are limitation of this therapy. Many modalities have been used for treatment the disease; several studies evaluate Zinc sulfate efficacy but with paradoxical advantages. this study was designed to evaluate the effectiveness of zinc sulphate in vitro in both strains of cutaneous leishmaniasis. Methods: Design of study was Lab trial. endemic standard strain of leishmania, Leishmania(L)major [MRHO/IR/75/ER]was prepared and cultured in standard media, then several concentration of Zinc sulfate added to media. number of organisms are counted daily in five day with Neubauer slide method and Cell Proliferation ELISA, separately and compared with control group media with no drug. Results: the results show that strain of leishmania major were sensitive to zinc sulphate, increasing concentrations, dose dependently inhibited the growth of parasite. Zinc sulfate with concentrations of, 0.5, 1, 2 and 3% added to cultured parasite and counted pomastigotes with Neubauer slide method, daily for five days. the inhibitory effect of zinc sulfate on parasite was dose dependent and most inhibition effect was seen with 3% concentration. there was significant difference between Zn S04 groups and control ($P < 0.05$). In second stage 24 hours after adding 3, 4, 5, and 6% of Zinc sulfate to media counted parasite with Cell Proliferation ELISA kit, the result showed significant difference between Zn S04 groups and control ($P < 0.05$). Conclusion: this study showed good inhibitory effect of Zinc sulfate with 3-6% concentrations on viability and multiplicity of Leishmania parasite with increasing concentration dependency.With consideration of safety of drug compared to pentavalent antimony, encourage the use of zinc sulphate in the treatment of cutaneous leishmaniasis.more animal and clinical studies need to obtain the best concentration, method, duration and possible side effects of drug.

Keywords: Leishmania(L)Major,Rural Cutaneousleishmaniasis, Zincsulfate, In Vitro

P170

Identification of Legionella pneumophila in Intubated patients with TaqMan Real time PCR

Nader Divan Khosroshahi* , Taghi Naser Pour , Pooran Johari

naderkhosroshahi@yahoo.com, Taghin@yahoo.com, taghin@yahoo.com

Legionellaceae family contains Legionella genus with over 42 species and 64 serogroups, which is one of the most important causes of respiratory disease in human. More than 30% of hospital-acquired pneumonia is caused by Legionella. Ventilator-associated pneumonia (VAP) is an infection acquired in hospital wards, particularly in ICU. This disease approximately affects 9 to 20 percent of the Intubated patients. Mortality in these patients varies between 8 to 76 percent. Legionella are one of the important factors for infection in intubated patients. In this study, 109 samples of lung secretions were collected from intubated patients admitted to wards in ICU, NICU four hospitals in a three-month period. Cultivation method and Real time PCR method were used for the study of Legionella pneumophila colonization in these samples. Of the 109 samples , with Real time PCR analysis of 16s rRNA gene fragments belonging to the species Legionella pneumophila , 11 samples were positive, But with the culture method on the specific buffered charcoal-yeast extract medium (BCYE), detected no positive cases. Of the total positive cases , 6 males and 1 female and 4 were infants. The seven adults were between 40-65 years of age. Results of this study indicate that the use of molecular methods in diagnosis of infection caused by Legionella pneumophila, Have great value because of its high specificity and rapid diagnosis of disease.

Keywords: Legionella Pneumophila, Taqman Real Time Pcr, Hospital Infection, Intubated Patients

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P171

The comparison of API-20E kit with the conventional biomedical methods for the identification of Enterobacter genus in laboratory

Farahnaz Sadighian 1 * , Zahra Shahandeh 1 , Khadije Beigom Rekabpour 1

1- Babol- Paramedical faculty-University of medical sciences- Gajafroz st.,
f.sadigh@gmail.com, shahandeh_za@yahoo.com, fr-rekabpour@yahoo.com

Introduction Enterobacter genus, especially E.aerogenosa and E.cloacae species as the agents of nosocomial infections increase mortality rate. Some of them produce beta-lactamase and to lead multi-drug resistance. Physicians treating patients with Enterobacter infections are advised to avoid third-generation cephalosporins, because resistant mutants can appear. Misdiagnosis of these bacteria leads to treatment failure. Aim: In this survey, we made a comparison between the API-20E and conventional biochemical tests carried out for the identification of Enterobacter. Material and method In this study, 118 bacteria were isolated from clinical specimens, identified by conventional biochemical tests, as, Enterobacter genus, at hospital laboratories. The bacteria were transferred to microbiology laboratory at paramedical faculty for identification of Enterobacter by API-20E kit. Results From 118 bacteria were identified, as, Enterobacter genus at hospital laboratory, 36(30.5%) and 82(69.5%) bacteria were respectively positive and negative by using of API-20E kit. 12 extra genus, none Enterobacter was reported. The most common isolated bacteria were Klebsiella 29(35.4%). Also, one case of Salmonell and Shigella were determined. Conclusion With regard to the results, there is significant difference (>0.05) between conventional method and API-20E kit. Therefore, it seems necessary supplementary tests are done, or, API-20E kit is used for identification of bacteria at hospital laboratories.

Keywords: Enterobacter, API-20E, Nosocomial Infection, Multi-Drug Resistance

P172

A Survey on tick fauna of hedgehogs (Hemiechinus auritus) in central part of Iran

Mahdi Salimi * , Khodadad Pirali-Kheirabadi

mehdisalimi69@yahoo.com, khpirali@yahoo.com

BACKGROUBD: Since ticks conserve and transmit highly pathogens have abundant importance in medical and veterinary science. They choose different animals, from humans to wild and domestic mammals, reptiles and birds, as host. Hedgehog is one of hosts that was infected by ticks. Study about hedgehog's ticks was carried out by Azimi and his coworkers in Tabriz, for first time. Then Rhipicephalus tranicus from this animal was reported, in 2011.OBJECTIVES: The objective of this study was to diagnosis and description of hedgehog's ticks. METHODS: For this purpose, 6 Hedgehog from rural area of Najafabad (Isfahan province) collected and was studied precisely. Ten ticks from the ear, abdomen surface and Thoracic Limb of animal was observed. For more identification, the ticks preserved in 70% Etanol contain 5% glycerin and transported to parasitology laboratory of the faculty of veterinary medicine of Shahrekord University. RESULTS: Ticks were temporary mounted and qualified image were prepared by light microscope and tick identification was performed using wallker tick systematic keys, the specimens were identified Rhipicephalus appendiculatus, Rhipicephalus turanicus and Haemaphysalis concinna. CONCLUSIONS: Recognition of new hosts and dimension of tick's dispersion is first step to solve of their problem. Current study indicated Rhipicephalus appendiculatus, Rhipicephalus turanicus and Haemaphysalis concinna on hedgehog, in central part of Iran. Present of such ticks on new host and their daily increasing resistance, request the more payattention in prevention and control programs. Haemaphysalis concinna was reported for the first time from hedgehogs of Iran.

Keywords: Haemaphysalis Concinna, Hedgehog, Iran, Rhipicephalus Appendiculatus, Rhipicephalus Turanicus

P173

Drug resistance pattern in extended spectrum beta lactamase (ESBL) producer Escherichia coli strains isolated from hospitalized and out-patients with urinary tract infection

Narges Nooritalab 1 *

1- Social Security Organization, Ayatollah Kashani Hospital, Tehran , Iran,
nooritalabnarges@yahoo.com

Abstract Introduction and aim : In recent years, treatment failure of extended spectrum beta lactamase (ESBL) producing organisms, conferring resistance to cephalosporins, penicillins, and azteronam, is increasing and they tend to be multidrug resistant. This study was designed to determine the frequency of ESBL producing uropathogenic Escherichia coli and their resistance to antibiotics in Ayatollah Kashani hospital patients. Material and methods: 315 strains of E.coli were isolated from 2041 urine samples of hospitalized and out-patients. ESBL producers were screened by Double Disk Synergy Test as recommended by the Clinical and Laboratory Standards Institute (CLSI). The antibiotic resistance patterns of all isolates were identified by disk diffusion method. Results: From the total of 315 isolates, the frequency of E.coli isolated from hospitalized and out- patient samples were respectively 117 (37%) and 198 (63%). Production of ESBL was found in 35/2% of all isolates (40/7% in hospitalized and 29/7% in out-patients). According to antibiogram results, the rate of resistance to Nalidixic Acid, Trimethoprime / sulfamethoxazol and Gentamycin in ESBL producers was higher than that in other isolates (Respectively 41%, 37% and 28% in ESBL producers, compare with 35%, 32% and 18% in other isolates). Also, higher rate of resistance to most antibiotics and ESBL production were found in isolates of hospitalized patients. Conclusion: High prevalence of drug resistance and ESBL production in hospitalized patients showed that overuse of extended spectrum cephalosporins and other antibiotics is one of the most important factors in acquisition of drug resistance in organisms. So antimicrobial susceptibility testing and ESBL production monitoring are necessary in all laboratories.

Keywords: E.Coli ,Extended Spectrum Beta Lactamuse, Urinary Tract Infection, Drug Resistance

P174

Study of agents of nail fungal infections in Mashhad

Fariba Berenji 1 * , Abdolmajid Fata 1 , Ali Naseri 1 , Majid Ganjbakhsh 1

1- Department of Medical Parasitology& Mycology, Imam Reza Hospital, School of Medicine, Mashhad University of Medical Sciences, Mashhad,
berenjif@mums.ac.ir, fataa@mums.ac.ir, naseria@mums.ac.ir, mganjbakhsh14@gmail.com

Background: Onychomycosis is a chronic infection of the nails. Knowledge of the epidemiological and mycological characteristics is an important tool for control of this infection. The aim of this study was documented the descriptive epidemiological features of Onychomycosis in 404 patients referred to Parasitology & Mycology Laboratory of Educational, Research and Cure Center of Emam Reza of Mashhad (2005-2010) Materials and Methods: During 5 years (Mar 2005-Mar2010), 404 patients with nail lesions suspected of having onychomycosis, were examined in mycology laboratory of Educational, Research and Cure Center of Emam Reza of Mashhad. The specimens were obtained from clinically abnormal nails, by scrapping of the nail bed, the underside of the nail plate. Fresh smears with 10% KOH were prepared and examined directly under the microscope. For fungal cultures, all samples were inoculated on each of two isolation media (1) Sabouraud dextrose agar (SDA, HiMedia Laboratories) (2) SDA with 5% chloramphenicol and cycloheximide. For positive sample of Candida Chromagar Himedia was used.The culture tubes were incubated at 25°C and 37°C and examined daily for six weeks. Results: From 404 suspected case of onychomycosis 107were positive in direct smear and 90 cases in culture. (Direct smear man34/6%, Woman65/4%-culture man33/4%woman76/6%). Females were affected more frequently than males. Fingernails (61%) were affected more frequently than toenails(39%) Candida albicans (36case) was the prevalent yeast, Candida.glaberata(17case),Candida parapsilosis 2 case..Dermatophytes were isolated in 5 case, yeasts in 2 cases.. Moulds were mainly Aspergillus spp. (23 case) ,Penicilium(5case), Acromonium (2case) . Conclusion: This study demonstrated that Candida albicans, Aspergilus spp.and Candida glabereta dermatophytes and Penicilium are the most prevalent agent causing onychomycosis in our region. Female were more infected as they have more risk exposure like more contact to water and detergents and using nail polishes. !0% of patients are under 10years old which can be reasoned by habit of sucking finger.

Keywords: Fungal Infection, Onychomycosis, Nail, Mashhad, Iran

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P175

Development of a multiplex SYBR green Real time PCR assay for detection of respiratory viruses

Mozhdeh Soltani 1* , Zhila Yavariyan , Taleat Mokhtari Azad , Azadeh Shadab , Atefeh Yari

moji.sl479@yahoo.com, nilj57156@yahoo.com, mokhtari@hotmail.com, ariaadonis@yahoo.com, yaria1@mums.ac.ir

Introduction: All of us in our life have been infected by respiratory viruses at least one time: It is often difficult for the physician to distinguish between viral and bacterial etiologies and this may result in over use of antibiotics .In many cases of community acquired respiratory infections clinicians treat patients empirically. The development of molecular methods for the direct detection of viruses have been progressed recently .The objective of this study was recognizing the panel of respiratory RNA viruses by sybrgreen multiplex PCR. Method: Randomized 172 influenza negative respiratory specimens of all age groups of hospitalized patients were collected. After RNA extraction cDNA was synthesized. Three SYBR multiplex real times PCR assay were developed for the simultaneous detection of 12 respiratory RNA viruses. Each set of multiplex method detected four viruses: first set Respiratory syncytial virus, human metapnumo virus ,rhinovirus ,Enteroviruses second set parainfluenzavirus1-4 and the third set coronaviruses NL63 ,229E ,SARS,OC43 . Result: Application of the SYBR green multiplex PCR method on clinical samples from 172 patients in one year study resulted in detection of 19 PIV3, 9 PIV4 and 1 corona virus NL63. Discussion: We analyzed a SYBR green multiplex Real time PCR assay for a rapid and relatively inexpensive method of detection of respiratory viruses however the sensitivity and specificity of this method should be compared with the other methods.

Keywords: Multiplex Sybrgreen, Real Time PCR, Respiratory Infection, IRAN

P176

Giardiasis and other parasitic Infectionsin stool specimens, in children

Reza Pishkarie Asl * , Mohammadreza Agdam Saei

rpishkar@yahoo.com, rezasaey@yahoo.com

Background : Infestation of the gastrointestinal tract with parasites is one of the commonest causes of the digestive tract syndromes especially in developing countries. The aim of present study to determine the incidence of parasitic infestation in the stool specimens in pediatric age group. Method: Stool Stool specimens of all the children referred to Tabriz Children Hospital regardless of their clinical complaint , in the 1390 are examined microscopically. Finding : 0.8% of 4521 specimens were positive regarding parasites , isolated Giardia Lamblia being 0.7%. Positive stool specimens of boys related to girls were more frequent. Conclusion : The incidence of infestation with Giardia is remarkable and regarding the possible complication of infestation , more intensive hygienic teaching of the public is recommended to prevent the expansion of the infestation.

Keywords: Protozoal infection, Stool examination, Giardia, Giardiasis

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P177

Investigate the frequency of mec-A gene in the asymptomatic carriers of MRSA among the students of Semnan University of medical sciences

Reza Nasr * , Amirhosein Hajighorbani , Maryam Aliannejadi , Mohammad Karimi , Mobina Madihi , Hasan Bahramirad

rnbio2536@gmail.com, mph5443@gmail.com, bootimar2536@yahoo.com, ghoghnoos2536@yahoo.com, a43ar46@yahoo.com, ghorbani.sem@gmail.com

Background and aim: Staphylococcus aureus is one the most important and most common cause of hospital infectious with increasing prevalence throughout the world. This Gram-positive bacterium exists in the anterior part of respiratory system and in the nose ventricle of 10-40% of population especially in medical care personnel. These asymptomatic carriers are considered as the permanent source for spreading this bacterium and specially for releasing the type-resistant tomethicillin. Resistance to methicillin and vast majority of antibiotics in MRSA is coded by mec-A gene which produces the PBP2a protein. The aim of this study was to investigate the frequency of mec-A gene in the asymptomatic carriers of MRSA among the students of Semnan University of medical sciences. Methodology: Participants were 240 students from Semnan University of medical sciences which were randomly selected in this study. Sampling was performed by using sterile swab from anterior part of both nasal canals and cultured on Mannitol Salt Agar. Staphylococcus aureus was identified by galactosis and coagulase test and specific PCR was performed to detect the presence of mec-A gene. Results and conclusion: of 91 extracted samples of Staphylococcus aureus, 6 samples had the gene for resistance to methicillin. These findings showed that the frequency of asymptomatic carriers of Staphylococcus aureus in the students of Semnan University of medical sciences is similar to the previous studies; however, the frequency of gene for resistance to methicillin is less than similar previous studies.

Keywords: MRSA, Mec-A

P178

Isolation, Identification and Enzyematic Characterization of Candida spp isolated oral candidiosis from the Cancer Patients with Receiving Chemotherapy in Tonekabon and Ramsar Citys (2012)

Somayeh Moghimian * , Ayatollah Nasrollahi Omran

negin.moghimian@yaho.com, Ayat51@yahoo.co.in

Material and methods: 20 samples have been gathered from cancer patients doubted to have oral candidiasis referring to oncology center of Ramsar hospital and Mrs. Keihanian's clinic in Tonekabon city, during a six month period. Simultaneously 20 samples have been gathered from non- cancer patients with Oral candidiasis who have referred to Tonekabon and Ramsar laboratories. The samples have been cultured on sabouroud dextrose agar medium chloramphenicol antibiotic. After yeast growing, candida yeast was separated through microscopic and macroscopic observations and then Germ tube indicated if they arte Albicans or not; and then the species have been recognized through culturing in chrome agar medium in which each candida has the special stain. The determined samples were put in enzyme mediums to measuring phospholipase, proteinase and lipase enzymatic activities; existence of the corona around each colony can be considered as the enzymes and its size indicates the virulence amount in separated candida. Results: in 19 samples among 20 ones , that is in 95% cancer patients , candida species have been determined and this has been 30% in non- cancer patients.16 candidas , that is 84%, were albicans and three ones , that is 16% were glabrata; and all separated candida species in cancer patients and healthy people contains enzymatic activities , that this activity was in its highest level in cancer patients.

Keywords: Candida Albicans, Cancer, Oral Candidiasis, Enzyme

P179

The comparison of Nocardia isolation techniques such as Paraffin Bait, Humic acid vitamin B agar and Paraffin agar from TEHRAN soil

Masoumeh Rasoulinasab 1 * , Shadi Habibnia 1 , Parvin Heydarie 1 , Mohammadreza Pourmand 1 , Mehdi Fatahi 1 , Seyyed Saeed Eshraghi 1

1- TUMS
smrasouli@ymail.com, habibnia315@gmail.com, parvinh2000@gmail.com, pourmand@gmail.com, mehdi.fatahi371@gmail.com, eshraghs@tums.ac.ir

Background and objectives: Nocardia are aerobic saprophytic bacteria which normally available in soil. Nocardia-resulted infections can cause pulmonary infection in both immune-compromised and healthy individuals. Isolation is difficult and culture media is at risk of pollution with medium and fast growing microorganisms. So, the project explains the appropriate media to compare in order to better isolation of the microorganism. Materials and Methods: A total of 110 Soil samples were collected from different regions of TEHRAN province and then transferred to the laboratory of microbiology, Faculty of Health. Simultaneously, cultured in the three media Paraffin Bait, Humic acid vitamin B agar and Paraffin agar Results: A total of 110 collected Soil samples, totally 31 samples (28.18%) were reported positive of which 19 samples (17.27%) were isolated by Paraffin Bait, 4 samples (3.63%) by Humic acid vitamin B agar and 8 samples (27.7%) by Paraffin agar. Conclusion: The efficiency of Paraffin Bait Technique regarding to provide more isolation, less cost and more detection of suspicious colonies is better than other Technique.

Keywords: Nocardia, Soil, Tehran, Paraffin Bait Technique

P180

Evaluation of HTLV-1 activity using proviral load and Tax mRNA expression in HAM/TSP patients and healthy carriers

Atefeh Yari 1 * , Mahdi Norouzi , Abdolrahim Rezaee , Mahmoud Mahmoudi , Mojdeh Soltani , Taraneh Rajaei , Hadi Rezaei

1- Department of VirologySchool of Public Health and Institute of Health ResearchTehran University of Medical Sciences,
yari.atefe@yahoo.com, mnorouzi@tums.ac.ir, rezaeer@mums.ac.ir, mmamoudi@tums.ac.ir, moji.sl479@yahoo.com, rajaeitaraneh@yahoo.com, rezaeih3@mums.ac.ir

Introduction: HTLV-1 is the first human retrovirus recognized that is associated with HAM/TSP and ATLL. Studies have shown that less than 5% of HTLV-1 infected carriers develop HAM/TSP or ATLL and about 95% remain asymptomatic. Tax can activate cellular genes such as cytokines, oncogenes. Aims: To assess HTLV-1 proviral load and Tax expression, to have a better index for viral activity. Methods: Thirty HAM/TSP patients, thirty HTLV-1 healthy carriers and MT-2 were evaluated for HTLV-1 activity. PBMCs were isolated and activated using PMA, ionomycine. Taq man Real time-PCR method using specific primers and fluorescence probes were performed for Tax expression and proviral load assessment. B2microglobulin and albumin were used as control genes in Tax expression and proviral load respectively. Results: Although, an insignificant increase in Tax expression was observed in inactivated PBMCs of HAM/TSP patients, it was significantly enhanced in activated PBMCs of HAM/TSPs compared with healthy carriers (p=0.042). Proviral load in patients were higher than carriers. There was a significant correlation between Tax mRNA expression in activated PBMCs and proviral load. (R=%37, P=0.012) Discussion: It has been addressed which proviral load is a valuable index for monitoring of HTLV-1 infected subjects. The results of the present study demonstrated that Tax expression in activated PBMCs along with proviral load assessment in HAM/TSP patients are more reliable factor for prognosis and monitoring of healthy carriers and HAM/TSP patients.

Keywords: HAM/TSP, HTLV-1, Tax

P181

A survey of Klebsiella oxytoca in antibiotic-associated hemorrhagic colitis by using a specific gene pehX-PCR and antibiotic susceptibility pattern

Sepideh Khodaparast 1 * , Seyed Fazlollah Mousavi , Mohammad Yousef Alikhani , Fereshteh Shahcheraghi , Masoumeh Azimi Rad , Mona Mohammad Zadeh , Leyla Kashi

1- Hamedan University of Medical Sciences
alterego_sepid@hotmail.com

Materials and Methods: In this study, fecal samples -collected from hospitalized patients who received antibiotic- were transferred to the supportive media. Primary culture and differentiation on the specific media has been utilized to determine the strain by standard method. Finally, bacterial samples were confirmed by PCR method for detection a specific gene for Klebsiella oxytoca (polygalacturonase pehX gene). The pattern of antibiotic resistance has been investigated by using method of Kirby-Bauer disk diffusion. Result: The study was carried out over 18 months(2010-2012), the number of 383 samples collected from patients who had catched diarrhea 1 week to 2 months after starting antibiotics therapy were analyzed, the separation of 57 cases of K.oxytoca were confirmed by analysis microbial and biochemical tests. At last, 40(10.4%) cases of K.oxytoca were confirmed by a specific polygalacturonase pehX gene PCR from other bacterial species. The pattern of antibiotic resistance analysis showed, bacteria's are sensitive to Amikacin 97%, Gentamicin 87%, Imipenem 92%, Meropenem 90%, Ertapenem 97%, Ampicillin/Sulbactam 67%, Amoxycillin 12%, Ampicillin10%, Cotrimoxazole 67% and the group of Cephalosporin's 72% .These results were confirmed by standard method of CLSI. Conclusion: Following the researches in other countries, our results confirmed, there would be a particular attention to Klebsiella oxytoca among other pathogens causing colitis in Iran.

Keywords: Antibiotic-Associated Colitis, Klebsiella Oxytoca, PCR, Antibiotic Susceptibility

P182

Investigating candida activity of neutrophils in cancer patients with oral candidiasis and receiving chemotherapy in Tonekabon and Ramsar Cities in 2012

Sharare Behjati Asle * , Ayatollah Nasrollahi Omran

sh_divilish6666@yahoo.com, ayat51@yahoo.co.in

Material and methods: in this study, 20 cancer patents and 20 healthy people have been bleed as the samples; and after separating serum and neutrophil cells, anti- candida activity of these cells and also apsonic activity of serum have been measured by tetrazolium salt (TTC), as a new technique.teh fungi samples have been cultured on sab-dex agar medium, through continuously passage. Giemsa staining has been applied for counting neutrophils. Separated neutrophils from patients and healthy people have been cultured with healthy people and patients' serums in multiple form and then the fungi was added to the four groups; after one hour incubation, desoxy cholic acid lyses the cells and testing cells surviving and measuring killing power has been done by adding TTCto reminded candida. healty neutrophils, healty serums 81/65±6/70, healty neutrophils, patient serums 73/80±6/16, patient neutrophils,healty serums 38/70±8/06,patient nuetrophils,patients serums33/50±5/90 Results: this study indicates that neutrophils are decreased in patients normal blood compared to healthy people and there is a significant decrease in anti- candida activity of neutrophils in cancer patients than healthy people. This decrease in anti-canddia activity has been related to deficiency in cells and changing the serum; in a way that , a significant decrease can be seen in killing power of cells in cancer patients to healthy people. Conclusion: according to the findings, if using special drugs like cytokines lead to increasing neutrophils activity, it can be hopeful that it might solve infection problems in cancer patients, especially fungal infections.

Keywords: Neutrophil Cancer Tetrazolium Salt Candidiosis Infection

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P183

Molecular detection of Fusarium solani infection in Aids patients by PCR

Atousa Ferdousi , Mohammad Hassan Shahhosseiny 1 * , Mansur Bayat , Seayd Jamal Hashemi, Mohammad Ghahri

1- Islamic Azad University Qhos Branch
shahhosseiny@yahoo.com

Background and purposes : Fusarium solani is an ascomyceteous fungus, which is widely distributed in soil, plant debris and aqua ecosystem. This fungus previously has been known as a phyto pathogenic organism. However, recently it has frequently been reported as etiologic agent of opportunistic infections in humans and animals. Host with immunodeficiency, especially Aids patients, is considered as one of the high risk groups for disseminated fusariosis. The mortality rate in this condition is 100%. The aim of this study is design and application of PCR test for detection of Fusarium solani in Aids patients. Method: Uniplex PCR with mitochondrial cytochorome b (mt cyt b) as target gene, and 330 bp fragment as PCR product was optimized. Sensitivity and specificity of the test was evaluated. Serum of 45 aids patients (35 belong to the institute Pasture and 10 from aids research center in imam khomaini hospital) have been collected and inactivated by heating. Then by using DNG method the DNA of specimens were extracted. The optimized PCR test with specific primers of Fusarium solani was done for all of the samples. Results: In the optimized PCR test, the DNA fragment of 330 bp was amplified. The test had a high sensitivity and specificity level. Among 45 patients 9 cases (20%) were positive for Fusarium solani infection. Discussion: Due to rapidness and accurate results, molecular method for detection of infectious disease has been widely utilized recently. Fusarium solani as a common opportunistic infection has been frequently reported as the etiologic agent of disseminated fusariosis in different countries and even can cause nosocomical infectious too. Mortality rate in this situation is 100%. Obviously, rapid and accurate diagnosis of etiologic agent is an essential item for selecting the best drug and strategy to manage the disease.

Keywords: Fusarium solani, PCR, AIDS

P184

Comparison of three diagnostic methods (staining, culture and PCR) of Mycobacterium tuberculosis in clinical fluids

Mohsen Tabasi 1 * , Zakariya Bameri 1

1- Bacteriology Department, Pasteur Institute of Iran-Tehran,
mohsen68tabasi@gmail.com, z_bameri@yahoo.com

introdution: Tuberculosis is still one of the most important infectious diseases worldwide. Moreover the incidence seems to be increasing due largely to the AIDS epidemic. the development of rapid procedures for diagnosis of Tuberculosis has been a dreamy goal. PCR has opened new diagnostic possibilities in infectious diseases. Objective: In this study we compared three diagnostic methods (staining, culture and PCR) of Mycobacterium tuberculosis in clinical fluids. Method: Totolly 138 clinical samples collected from Zahedan city that suspected to Tuberculosis (82 pleural fluids, 35 CSF, 5 Ascetic fluids, 5 symposia fluids, 4 Pericardial fluids, 4 Bone marrow and 3 other fluids). The clinical samples were processed for detection of Acid fast bacilli by smear, culture and PCR. Results; From 138 clinical samples totaly 15 cases were positive. PCR positive were in 13 specimens, 12 specimens were positive in culture and just two specimens were positive for smear. the positive results have been compared with cytological or clinical findings. Discussion; In this study Mycobacterium DNA was rapidly detected by means of the PCR in 13 of 138 clinical samples while 12 samples Mycobacterium tuberculosis growth in culture. this findings shows the usefulness of this approach in detecting Mycobacterium DNA in clinical fluids (e.g. Pleura fluid and CSF). Conclusion; For bacteria like Mycobacterium tuberculosis that required long time to growth on culture, approaches sensitivity and specificity are more useful.

Keywords: Mycobacterium Tuberculosis- Staining- Culture - PCR

P185

Title:Neonatal conjunctivitis

Hasan Jahani Hashemi , Zahra Ghasemi , Abbas DanandePour , Fatemeh Samiee Rad *

jahanihashemi@yahoo.com, z_ghasemy@yahoo.com, danandehpour@yahoo.com, fsamieerad@gmail.com

Background: One of the most common ophthalmologic problems present in the newborn is conjunctivitis.Around the world ophthalmia neonatorum associated with blindness in approximately 10,000 babies annually.The most common causes of conjunctivitis are bacterial and viral infection or allergic conditions. In all form of etiologies, the clinical presentations of conjunctivitis are similar and including: erythema and edema of the eyelids and the palpebral conjunctivae with purulent eye discharge. Our objective is to evaluate the occurrence of neonatal conjunctivitis in all the babies that born in the Kosar Hospital. Patients and Methods: For this cross-sectional study data were evaluated from 117 babies developed purulent eye discharge, that born at the Kosar Hospital between March 2010 and December 2012. Conjunctival swab for Gram stain and culture were obtained from the palpebral conjunctiva of all the babies with neonatal conjunctivitis. Both descriptive and statistical analysis methods were applied. Results: Of 117 eye swabs cultured, 26 (22/3%) showed no growth.The onset of conjunctivitis was within the first week. The incidence ofconjunctivitis was almost the same among babies delivered vaginally or by Cesarean section. The most common organism grown from conjunctival swab was Staph aureus (35%) followed by, Klebsiella (32%), E. coli (17/6%), Enterococcus (10%), Proteous (2%) and Pseudomonas (1%). Conclusions:Today neonatal conjunctivitis is more likely to be acquired postnatally. Awareness of the perinatal implications and established hand hygiene guidelines will provide safer health care for the mother and her baby.

Keywords: Conjunctivitis, Neonate

P186

Molecular epidemiology of Adenoviruses in respiratory infection in Golestan province-Iran

Zakiye Nazari 1 * , Naeme Javid 1 , Abdolvahab Moradi 1 , Jafar Akbarmehr 1 , Alijan Tabarraei 1

1- islamic azad university ahar,
zakiye.nazari@yahoo.com, naeme_javid@yahoo.com, abmoradi@yahoo.com, ja_mehr@yahoo.com, alijant@yahoo.com

Introduction & Objectives: Respiratory tract infections (RTI) are one of the main cause of mortality adults and children worldwide. Most of RTI are caused by viruses, such as adenovirus (AdV). Adenoviruses are responsible for 4 million death every year. The aim of this study was to evaluate frequency of Adenovirus in respiratory infected patients in Golestan province. Method: This study has been conducted from 2010 to 2012 on 400 patients with clinical diagnosis of respiratory infection who were visited in different centers for health services in Golestan province. Nasopharyngeal specimens were taken and transferred to the virology laboratory in VTM transport medium. Demographic and clinical data were collected. DNA extraction was performed and evaluated by PCR method for adenovirus detection. SPSS v.16 software was used for data analysis. Result: Of total of 400 patients, 37 cases (9.2%) were infected with adenovirus. No significant correlation was found between age, sex, season and positive cases. Cough in 27 cases (73%), body pain in 25 cases (67/6%), and fever in 24 cases (64/9 percent) were found as the most common clinical signs and 35 patients (94/5 percent) had at least one symptom, and 2 patients (15/5 percent) did not have any of these symptoms. Discussion: According to the results the prevalence of respiratory adenovirus infection is consistent with other studies in Iran and other countries. Molecular methods were found to be useful for rapid diagnosis of adenovirus infections and it will be important for control and treatment of infection. Respiratory infection, Adenovirus, PCR, Golestan province

Keywords: Respiratory Infection, Adenovirus, PCR, Golestan Province

P187

Identification of Malassezia yeast species isolated in patients with Pityriasis Versicolor in sari, Iran, 2012

Parvaneh Afshar 1 * , Maryam Ghasemi , Shamsi Kalhorii , Saeid Mofid Nahkaei , Ferydon Barzegar

1- Referral Laboratory, Mazandaran University Of Medical Sciences, Sari, Iran
afshar164@yahoo.com

Background: The genus Malassezia is part of the normal mycota of the skin of humans and other warm-blooded animals as etiological agents of pityriasis versicolor. Several species of Malassezia genus are known based on morphological, biochemical and molecular approaches. Therefore, the aim of this study was to determine the distribution of Malassezia species in patients with pityriasis versicolor based on morphological, physiological and biochemical criteria in Sari, Iran. Materials and Methods: In total, among 134 patients clinically suspected with pityriasis versicolor , attending to the Department of Mycology, Boali Sina Hospital and Referral Laboratory of the Mazandaran University of Medical Sciences , 116/134 (86.5%)positive patients for Malassezia elements, namely, yeast cells and short hyphae in microscopic examination, were included in the study. All 116 samples were inoculated in plates containing modified Leeming and Notman agar medium and identified as species level based on mycological criteria. Results: However, only 100/116 (86.2%) or 100/134 (74.6 %) of the patients showed Malassezia spp in culture. M. globosa (54%) was the most commonly isolated species followed by M. furfur (32%), M. slooffiae (6%), M. restricta (6%) and M. sympodialis (2%). Mixed Malassezia species were not identified. Conclusion: M. globosa was found to be the predominant pityriasis versicolor isolate in Sari, Iran. Whereas, since Malassezia species show differences response in their antifungal therapy, thus correct identification of Malassezia species and do antifungal susceptibility test could facilitate selection of appropriate antifungal.

Keywords: Pityriasis Versicolor, Malassezia,Lipophilic Yeasts

P188

Proviral HTLV-1 infection detection in the Beta Thalassemia Major patients with TaqMan Real-Time PCR Methods in Tonekabon in 2012-13

Sepideh Hamidi 1 * , Ali Nazemy 1

1- Islamic Azad University,
sepidehhamidi.99@gmail.com, alinazemy@yahoo.com

Abstract Background and Aim: Human T-cell Lymphotropic Virus type 1 is a human retrovirus which causes two distinct human diseases, adult T-cell leukemia or lymphoma and a chronic, progressive demyelinating disorder known as HTLV-1-associated myelopathy/tropical spastic paraparesis. Like human immunodeficiency virus (HIV), infection with HTLV-1 and 2 are persistent retroviral infections and are life-long. Less than 5% of those infected progress to one of the HTLV- related diseases, but there is not any specific antiviral treatment of the infections and they are often fatal. Beta Thalassaemia Major Patients are at the particularly increased risk of HTLV-1 because of needing to transfuse blood frequently. in this study molecular screening based on flourescent probes was used for detection of HTLV-1 infection. Methods: 100 whole blood samples of Beta Thalassaemia Major patients were collected from Shahid Rajaee Hospital in Tonekabon city. After extraction of DNA by use of commercial kit(MBST) (Iran), TaqMan Real-Time PCR was performed for detection of the HTLV-1 DNA ,tax specific gene,integrate into genom of patients lymphocytes. Results:The TaqMan Real-Time PCR assay indicate that from 100 Beta Thalassemia Major patients whom refered to shahid Rajaee Hospital, 2(3/3%) patients had HTLV-1 infection. Conclusions:Since of sensitivity, simplicity, rapidity and also ability of simultaneous detection of different genotypes of HTLV and lower cost of molecular assay based on fluorescent probes (TaqMan Real-Time PCR) than other molecular and serological tests, this technique can be used as confirmatory test for detection of HTLV infections in blood banks.

Keywords: HTLV-1 Infection, Beta Thalassaemia Major, Proviral Load, Taqman Real- Time PCR

P189

Prevalence of resistance to antibiotics according to International Classification of Diseases (ICD-10) in Boali hospital of Sari, 2011-2012

Parvaneh Afshar 1 , Azar Kabirzadeh 2 , Benyamin Mohseni Saravi 3 , Ebrahim Nemati 4 * , Shamsi Kalhorii 4 , Maryam Ghasemi 5 , Reza Agah 6

1- Referral Laboratory, Mazandaran University of Medical Sciences, Sari, Iran, 2- Health information Management & HIT Department, Mazandarn University of Medical Sciences, 3- Health information Management, Mazandarn University of Medical Sciences, 4- Microbiology laboratory of Boo Ali Sina Hospital, Mazandarn University of Medical Sciences, 5- Department of Pathology, School of Medicine Mazandaran University of Medical Sciences, Sari, Iran, 6- Mazandarn University of Medical Sciences,
afshar164@yahoo.com, az.kab@gmail.com, bsaravi@gmail.com, ebrahim_nemati@yahoo.com, kalhorishamsi@yahoo.com, azghasemi@yahoo.com, agahreza@yahoo.com

Introduction: One of the issues in health care delivery system is resistance to antibiotics. Many researches were done to show the causes and antibiotics which was resistance. In most researches the methods of classifying and reporting this resistance were made by researcher, so in this research we examined the International Classification of Diseases 10 the edition (ICD-10). Methods and Materials: This is a descriptive cross section study; data was collected from laboratory of Boo Ali hospital, during 2011-2012. The check list was designed according the aim of study. Variables were age, bacterial agent, specimen, and antibiotics. The bacteria and resistance were classified with ICD-10. The data were analyzed with SPSS (16) soft ware and the descriptive statistics. Results: Results showed that of the 10198 request for culture and antibiogram, there were 1020(10%) resistance. The spicemen were 648(63/5%) urine, blood 127(12/5%), other secretion 125(12/3%), sputum 102(10%), lumbar puncture 8(0/8%), stool 6(6/0%) and bone marrow 4(0/4%). The E coli was the most 413(40/5%) resistance cause to antibiotics which was coded with B96.2 and the most resistance was to multiple antibiotics 885(86/8%) with the U88 code. Conclusion: The results showed that by using the ICD-10 codes, the study of multiple causes and resistance is possible. The routine usage of coding of the ICD-10 would result to an up to date bank of resistance to antibiotics in every hospitals and useful for physicians, other health care, and health administrations.

Keywords: Bacteria, Antibiotics Resistance, ICD-10

P190

Isolation and identification of Pseudomonas aeruginosa from patients with cystic fibrosis by culture method and compared with PCR methods

Fatemeh Ghasemi 1 * , Masoumeh Douraghi 1 , Abbas Rahimi Foroushani 1 , Mandana Mobarhan 1 , Mohamad Mehdi Soltan Dalal 1

1- TUMS,
ghasemi_ghasemi@yahoo.com, douraghim@yahoo.com, rahimifo@tums.ac.ir, mmobarhan@yahoo.com, solnatrad34@yahoo.com

Background and objective: cystic fibrosis is most common among genetic diseas. pseudomonas aeroginosa is considered as most important pathogen among those patients. The correct diagnosis in patients with CF because of phenotypic variation and non-fermentative Gram negative bacilli close to the pseudomonas aeroginosa species is difficult. misdiagnosis of bacteria in sputum cultures of patients is major obstacle in the management of those patients. therefore, in this study accurancy of laboratory methods are evaluated in isolation of those bacteria. . Material and method: sputum samples after collection were cultured on media. Pseudomonas aeruginosa were identified using phenotypic tests. After extracting DNA ,strains were confirmed by molecular method whether theyr pseudomonas aeroginosa or not. Results: out of 100 sputum samples, 40 samples (40%) were positive by culture as P. aeruginosa While three strains (7.5%) were identified as Pseudomonas aeruginosa by biochemical tests, were not confirmed by molecular study. Conclusion: Molecular methods aremore accurate and quick than conventional laboratory tests But due to the high cost of the proposal shall be developed in the future phenotypic tests But due to the high cost of shall be proposal developed phenotypic tests in the future.

Keywords: Pseudomonas Aeroginisa, Cystic Fibrosis, PCR

P191

Co-cutaneous infection caused by Lishmaniasis (atypical lesion) and Trichophyton tonsurans (case report)

Parvaneh Afshar 1 * , Shamsi Kalhorii 1 , Mohammadreza Mahdavii 2

1- Referral Laboratory, Mazandaran University of Medical Sciences, Sari, Iran, 2- Mazandarn University of Medical Sciences,
afshar164@yahoo.com, kalhorishamsi@yahoo.com, mahdavii899@yahoo.com

Cutaneous Lishmaniasis has worldwide distribution caused by species of the genus lishmania. It's wide spread has been reported in more than 82 countries. This paper represents a case of atypical cutaneous Lishmaniasis on the leg of a 22 years old male person referring for the investigation of a lesion suspected to Tinea corporis. The patient is a young soldier، since 4 months before referring to this center، had two small circular swollen and undulated lesions ، has been under therapy with different antibiotics and injecting corticosteroid، but the lesion was progressive. After failing of treatment، he referred to this center for proper diagnosis and treatment. Sample was collected from the skin and the hair. Since the patient was a soldier on the south of Iran، where there are cases of Lishmaniasis. Whereas we suspected it as Lishmaniasis and tried the laboratory identification on the mycological microscopic examination was using the 20% KoH, KoH/CFW and Gimsa staining. Microscopic examination showed Branching filaments & arthroconidia. Besides، the parasite investigation through preparation of Gimsa staining of the lesion was done and presence of lishmania body was confirmed. (sThough the appearance of the lesion differed with the atypical cutaneous Lishmaniasis lesion.) In addition, Specimen culture is done on sabourauds dextrose agar with cycloheximide medium and incubated at 26 ºC to 28 ºC for up to 4 weeks. Cultural growth was identified as Trichophyton tonsurans. This report represents the association of the other microbial infections on the skin leading to the change of the main appearance of the initial infection. he infections which are not clear due to being atypical are simply disregard ding on the type of infection، place of lesion and the individual's immune system develop acute complication for the patients. Therefore having proper information about the endemic infections of the region and having proper laboratory investigation in order to identify the organisms seems necessary.

Keywords: Lishmaniasis، Tinea Corporis،, Trichophyton Tonsurans, Parasites

P192

Characterization of Nocardia spp isolated from IRAN soil samples using phenotypic traits

Shadi Habibnia 1 * , Masoumeh Rasouli 1 , Parvin Heidarieh 2 , Mohmad Reza Pourmand 2 , Mehdii Fatahi Bafghi 2 , Seyyed Saeed Eshraghi 2

1- TUMS, 2- Albors University of Medical Sciences,
Habibnia315@gmail.com, smrasouli@ymail.com, parvinh2000@gmail.com, pourmand@gmail.com, eshraghs@tums.ac.ir

Background and objectives: Nocardia is soil saprophytic bacterium and a kind of pathogen that after entering respiratory tract or damaged skin creates a dangerous disease called nocardiosis . Nocardia species have many similarities to the kinds close to it. Because Nocardia species have various complexes, limited phenotypic tests are not able to detect these species precisely. Thus, more tests are more helpful. Therefore, in this study, isolates identified based on 22 phenotypic tests. Materials and Methods: 300 soil samples from the different regions of IRAN have investigated with Paraffin Bait technique. 57 samples (19%) suspected to Nocardia reported positive. In order to verification, after partial acid fast staining, lysozyme media was used. To determine the species, we used Hydrolysis of Casein, Hypoxanthine, Xanthine, Tyrosine, Urea and Utilization of citrate as a sole carbon source, Growth on at 45°C tests. Also,they eproduce Acid from oxidation of Glucose, Maltose, Lactose, Galactose , Salicin, Xylose, Raffinose, Arabinose, Mannitol, Rhamnose, Sorbitol and Sucrose. Results: After Doing phenotypic tests, the 23 species of N.asteroids(40.35 %), the 12 species of N. cyriacigeorgica(21.5%), the 3 species (5.26%) of N. takedensis & otitidiscaviarum, the 2 species of N. africana (3.5%) and the 1 species (1.75%) of N. pseudobrasiliensis, N.coubleae was detected. twelve isolates was undetectable (21.5%). Most species were related to N. asteroids. Conclusion: Due to the increase of new species and the variation of phenotypic tests, with performing more extensive tests, we can achieve more accurate results. For verifying the results we can use molecular technique.

Keywords: Nocardia, Soil, IRAN, Phenotypic Test

P193

Centrifuged-based enrichment method, a practical approach for detection of RF Borrelia

Zahra Salehi * , Yousef Erfani

salehi_zahra1368@yahoo.com, yerfani@sina.tums.ac.ir

Introduction: Relapsing fever (RF) is a disease caused by tick or louse transmitted bacteria of the genus Borrelia. It occurs worldwide but is most common in Africa. Endemic form of RF also exists in Iran mainly in Ardebil, Hamedan and Zanjan. The mainmanifestation of this disease is recurring fever with massive numbers of bacteria found in the blood during the fever peaks. With early diagnosis of RF, even low dose of Tetracyclin or Eritromycin is sufficient for its treatment due to high sensitivity of RF Borrelia to antibiotics.Main idea: The standard method for detection of these bacteria is Giemsa staining of thin blood direct smears. But because of thin and transparent morphology of Borrelia spirochetes and relatively low number of bacteria existing in blood between fever peaks direct smear has low sensitivity and consequently gives false negative results. On the other hand, other new sensitive diagnosis methods such as quantitative buffy coat (QBC) and PCR need expensive equipment not available in all clinical laboratories. To provide simple, fast, cheap and sensitive diagnosis, a Centrifuged-based enrichment method is developed. In this method by twice centrifuging blood sample before Giemsa staining, the concentration of bacteria increases in a way that even <10 spirochetes per ml can be easily detected making enrichment method superior to other available methods. Conclusion: Because of simplicity, minimal laboratory equipment required and high sensitivity, enrichment method is considered a valuable tool for RF diagnosis especially in rural laboratories.

Keywords: Relapsing Fever, Enrichment Method, Direct Smear, QBC, PCR

P194

A study on transfer of Antibiotic resistance plasmids between Salmonella enteritidis and Escherichia coli K12

Jafar Akbarmehr 1 *

1- Islamic Azad University Sarab Branch Sarab Iran,
ja_mehr@yahoo.com

The present study was done for determination of antibiotic resistance patterns of Salmonella enteritidis, and also to investigate the transfer of antimicrobial resistance plasmids between S. Enteritidis and Escherichia coli K12 via conjugation. 22 S. Enteritidis strains, were isolated from poultry by bacteriological tests and then identified by mPCR technique using three pairs of specific primers. Antibiotic susceptibility test to ten common antibiotics was performed by Kirby-Bauer method on Muller Hinton agar. The transfer of R-plasmid was determined by conjugation between S. Enteritidis (donor) and E.colik12 (recipient) according to Hart et,al(1996) method. Based on antibiogram results, Cephalotin was the most effective antibiotic (100% sensitivity) followed by Enrofloxacin (95.45% sensitivity) and Gentamicin (86.36%sensitivity) and the highest resistance (40.90%) was observed to Tetracycline followed by Streptomycin(31.81%) and Nalidixic acid(22.72%). Nine Salmonella isolates(40.9%) were resistant to more than one antibiotic (2-5 antibiotics). In conjugation experiment, 15 Salmonella isolates which were sensitive to Nalidixic acid and resistant to one or more antibiotics were examined for transfer of R-plasmid to E.coli K12. In this experiment, seven Salmonella isolates(40.66%) transferred their resistance patterns to E. coli K12. This study has revealed that horizontal transfer of antibiotic resistance plasmids via conjugation can occur among Salmonella isolates and also demonstrated a high prevalence of resistance to the common antibiotics among S. Enteritidis which should be considered in the treatment of nontyphoidal Salmonella infections in humans and poultry.

Keywords: Plasmid, Salmonella, Conjugation, Antibiotic

P195

Polymorphism of apical membrane antigen-1 (ama-1) and knob-associated histidine-rich protein (kahrp) genes of P. falciparum by nested PCR and sequencing in the malarial patients of south (Hormozgan province) and southeast (Sistan va Baluchestan province) areas of Iran

Ahmad Mardani * , Hossein Keshavarz , Aliehsan Heidari , Homa Hajjaran , Ahmad Raeisi , Mohammad Reza Khorramizadeh

ahmadmardani@yahoo.com, hkeshavarz@tums.ac.ir, aliehsan2001@yahoo.com, hhajjaran@yahoo.com, raeisia@sins.tums.ac.ir, khoramza@tums.ac.ir

Introduction and Aims: The apical membrane antigen-1 (AMA-1) and the knob-associated histidine-rich protein (KAHRP) antigens of P. falciparum are prime vaccine and molecular therapy candidates for falciparum malaria, respectively. The main objective of the present study was to determine the polymorphism of apical membrane antigen-1 (ama-1) and knob-associated histidine-rich protein (kahrp) genes of P. falciparum by nested PCR and sequencing in the malarial patients of south (Hormozgan province) and southeast (Sistan va Baluchestan province) areas of Iran. Methods: In this descriptive cross-sectional study, the domain I of ama-1 and the region III of kahrp genes were amplified by nested PCR from 50 P. falciparum isolates collected from Hormozgan (16 isolates, %32) and Sistan va Baluchestan (34 isolates, %68) provinces different areas of Iran during 2009 to August 2010 and sequenced. Sequences and statistical analyses were performed using tests and bioinformatics softwares. Results: A relatively high level of nucleotide (0.01747) and haplotype (0.957) diversity were observed at the P. falciparum ama-1gene domain I of Iranian isolates. In this study, three distinct alleles (340 bp, 370 bp, and 400 bp) were observed at the region III of kahrp gene on the basis of the molecular weight of nested PCR products. Disscusion: Considering the efficiency of AMA-1-based vaccines provided and the necessity of genetic structure application of any area isolates in designing of vaccine and molecular therapeutic reagents, the results obtained will have significant implications in the design and the development of an AMA-1-based vaccine and the molecular therapeutic reagents in the form of local and regional for falciparum malaria.

Keywords: Polymorphism, Apical Membrane Antigen-1 (AMA-1), Knob-Associated Histidine-Rich Protein (KAHRP), Plasmodium Falciparum, Malaria, Iran

P196

Herpes simplex virus type 2: Seroprevalence in pregnant women

Zakieh Rostamzadeh *

rostamzadehzakieh@gmail.com

Herpes Simplex Virus type 2 (HSV-2) is a highly prevalent sexually transmitted infection (STI) The prevalence of HSV-2 infection is increasing in many populations and geographic areas . Herpes simplex virus type 2 (HSV-2) is the cause of most genital herpes and is almost always sexually transmitted. Most HSV-2 infections are consequently expected to occur after the onset of sexual activity. Genital herpes is a cause of morbidity and increases the risk of HIV acquisition, due to disruption of mucosal membranes. Data on prevalence of herpes simplex virus type 2 (HSV-2) infections are limited in Asia. Our study focuses on seroepidemiology of HSV-2 infection among pregnant women in Urmia-West Azerbaijan to estimate the regional seroprevalence of anti HSV-2 antibody in Urmia and to investigate the possible correlation of seropositivity with abortion history. This study was conducted on 86 randomly selected pregnant women. ELISA was performed to detect anti HSV-2 IgG antibody. Detailed history and questionnaire filled. Of the 86 cases screened for anti HSV-2 IgG antibodies, 5 (5.81%) tested positive. These results may have public health importance for our country as the high rate of HSV-2 infection and be useful for designing strategies for focusing prevention efforts for HSV-2 infection.

Keywords: Herpes Simplex Virus Type 2: Seroprevalence In Pregnant Women

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P197

Detection of Cyclospora, Cryptosporidium and Microsporidia Protozoa by Parasitological and Molecular Methods in Stool Specimens Referred to Tabriz Diagnosis Laboratories, 1388-1389

Abbas Shahbazy 1 , Nader Ghabouli Mehrabani 1 * , Shirzad Gholami 1 , Faezeh Hamidi 1 , Nasrin Mirsamadi 1 Iran Nokhahi 1 , Ardavan Ghazanchaii 1 , Shahrokh Izadi 1

shahbazy42@yahoo.com, nader.ghabouli90@gmail.com, sgholami@yahoo.com, F_hamidi60@yahoo.com, N_mirsamadi@yahoo.com, I_nokhahi@yahoo.com, A.ghazanchaii@gmail.com, sh_Izadi@yahoo.com

Introduction and aim: Cyclospora, Cryptosporidium and Microsporidia as opportunistic infectious agents causing chronic diarrhea in immune deficiency individuals presents most concern in the world. This study was conducted to determine the frequency and choosing the appropriate method for diagnosis of these pathogens. Research method: 1825 stool samples were examined by direct method and concentration (formalin-ether) for detection of Cryptosporidium, Cyclospora and Microsporidia. The positive cases were detected by cold kinyoun acid fast and modified trichrom staining. In order to confirm positive cases, we used PCR amplification of 18s rRNA for Cyclospora and SSU RNA for cryptosporidium and Microsporidia. Results: no cases of pathogens were diagnosed through direct method. Out of 18 positive cases by concentration method, 15 cases were Cryptosporidium and 3 of those were microsporidia. Cryptosporidium was confirmed in 3 out of 15 cases through cold kinyoun acid fast.by modified trichrom staining, microsporidia was detected just in one non-diarrhea sample. No case of infection with Cyclospora was observed with these methods. In other hand, the frequency of Cryptosporidium was 0%, 0.8%, 0.2%, 1%, microsporidia 0%, 0.2%, 0.05%, 0% by direct, concentration, cold kinyoun acid fast and modified trichrom and PCR respectively. Conclusion: diagnosis of cyclospora, cryptosporidium and microsporidia as factors of chronic diarrhea is important. PCR as a molecular method for confirmation of pathogens has high sensitivity and specificity which this study also confirmed the same.

Keywords: Cyclospora, Cryptosporidium, Microsporidia, PCR, Tabriz

P198

Study of hepatitis C virus (HCV) frequency in Major thalassemic patients of Gorgan

Masoud Bazouri * , Abdolvahab Moradi , Alijan Tabaraei , Akbar Mirbazel , Sareh Zhand

masoudbazouri@yahoo.com, sa_zh2006@yahoo.com, alijant@yahoo.com, ammoradi@yahoo.com, akbermerbazel@yahoo.com, naeme.javid@gmeil.com

Background: Hepatitis C virus (HCV) is one of the main causative factors of liver disease which can lead to cirhosis and hepatocellular carcinoma. HCV is principally transmitted by exposure to infected blood; Although HCV screening of blood donors, the incidence of transfusion HCV has continued to decline .Regular blood transfusions for patients with thalassemia major have improved their overall survival. The goal of the present study was to detect the distribution of HCV in patients with thalassemia in Golestan Province, Iran. Materials and Methods: In this study, 226 cases with major thalassemia were entered. Anti-HCV in samples was detected using ELISA, Viral RNA from anti-HCV positive samples was extracted with an extraction kit and the cDNA kit was used for viral genomic cDNA synthesis. PCR was performed on all samples by a general pair of primers. Results: results demonstrate that 50.8% of samples were female and 49.2% was male, The mean age of patients was 20.24. RT-PCR results revealed 3/12(25%) samples were HCV-RNA positive. Conclusion: this study showed the rate of infection with HCV in thalassemcic patients in golestan province is high

Keywords: HCV, Major Thalassemic, Golestan Province, Iran

P199

A New Selective Pure Oilve Oil Agar For Isolation Of Moraxella (Barnhamella) Catarrhalis

Firouz Ghanbary Shamsabad 1 *

fnh100gh@yahoo.com

Background:To dertermin ythe pure olive oil agar medium lipoytic activities by moraxella catarrhalis causing in order to differentiations from neisrria spp.Morxella catarrhalis noumerous diseases in human being.micro-orangnisems have properties of lipoytic activities and can hydrolysis olive oil agar medium .its bitter and purgent taste and esters of tyrosol and hydrotyrosol included octecthal and (trigycerids and fats),and contains small quality of acid (FFA),glycerol,pigments ,flavor compositions,and microscopic bits of olive oil agar. STTING: Shidid Beshti university of medical sciences(SMUS),loghman hakim general hospital. OBJECTIVE:Moraxella (Branhamella)Catarrhalis hydrolysis the pure olive oil agar agar onto the plate and produced a clear zone and a halo around the bacteria. METHODS: A Total of 100 adults outpatients and hospitalized potents were enrolled. the patients refered to and morning sputum and flexible and brochoavelor lavage(BAL) sample lavage(BAL) and analysis the brochoaveoler wrer cultured onto the plate of pure olive oil agar medium of olive oil agar medium for 24-48 hours at incubator of 37C the olive oil agar used for hours at 62C. RESULTS: Moraxella (Barnhamella) Catarrhalis hydrolysis the pure olive oil agar onto the plate and produce a clear zone and a halo around the bacteria. CONCLUSIONS: A total of 100 patients included as participant in this study.the patients were included 56 men and 42 women.the study concluded for six months.

Keywords: Moraxella (Branhamella) Catarrhalis ,Pure Olive Oil Agar,Bronchoscopic,Repiratory Tract Infections

P200

Evaluation of isolated bacteria from endotracheal tub in patients admitted at shahid beheshti hospital/hamedan

Mahdi Kholoujini 1 * , Sepideh Sadegh Nemati 2 , Parisa Rasooli 2 , Azam Ahmadi 2 , Alireza Ahanchian 2

1- Shahid Beheshti Hospital, 2- Beheshti Hospital Hamedan Iran
mehdikh1351@yahoo.com, saray1357@yahoo.com, beheshti7131@yahoo.com

Background: Nosocomial infection are nearly the most health in the world.The high costs of treatments and the great number of patients with high mortality and morbidity rate and also increased incidence of these infection are suggestive of the importance of these infection ,The aim of this study was prevalence determination of bacteria isolates from tracheal aspirated in patients admitted in shahid beheshti hospital Methods: this cross –sectional study was conducted in a period of six month from 1/1/1391to31/06/1391.Direct smear and culture and susceptibility test performed with standard method. data were analyzed by software win SPSS Results: A total of 115 samples of 143 samples sent culture were positive .including 38 females (33%)and 77males(67%),mean age 61 years was assessed .In gram –negative bacteria most Entrobacter 17(14.8%)and gram- positive bacteria including staphylococcus aureus17(14.8).the viridanse streptococcus 8(7%) staphylococcus –coagulase negative in 6 case(5.2%) were in this study Conclusion: the present study shows that gram negative bacteria have high prevalence and pesdomonas have the most prevalence in gram-negative bacteria this group sensitive to ciprofloxacine and imipenem and in gram positive group staphyloccus aureus were most prevalence and sensitive to trimetoprim and vancomycine .recent study can by applied in selection of antibiotic.

Keywords: Teraceal Tube, Nosocomial Infection,Shahid Beheshti Hospital

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P201

Molecular epidemiology of Stenotrophomonas maltophilia isolated from a pediatric ward of a general hospital

Azadeh Hajihasani 1 , Masoumeh Douraghi 1 * , Malihe Talebi 2 , Mohammad Rahbar 3 , Mohammadmehdi Soltandallal 3 , Mona Mohammadzadeh 3 , Sepideh Khodaparast 3 , Sedighe Ghoorchian 3 , Amir Aliramezani 3

1- Poorsina Street, 2- Hemmat Blv, 3- Chamran Highway
azade.hajihasani@yahoo.com

Background: Stenotrphomonas maltophilia is an opportunistic nosocomial pathogen with high mortality rate in immunedeficient cases. Due to the susceptibility of pediatrics, infection may occur more frequently in hospitalized children. The aim of this study was to evaluate the genetic relatedness of S.maltophilia in a pediatric ward of Tehran hospital by Pulsed-Field Gel Electrophoresis (PFGE) method. Methods: A total of 50 S. maltophilia isolates which collected from blood culture of hospitalized children in pediatric ward were included during 12 month. Identification of isolates was performed using biochemical test and 23S rRNA PCR. Genetic pattern of isolates and their homologies was assessed via PFGE which followed by analysis using GelCompare II. Results: PFGE typing of 50 isolates demonstrated that there were two genotypic patterns among hospitalized children. There was no difference in the distribution of pulsotype patterns during the 12 month. Conclusion: The current study demonstrates that stenotrphomonas maltophilia isolates may transmitted from common source to hospitalized children. It seems that PFGE method can be used to track the source of contamination and to prevent the transmission of infection in hospital

Keywords: Stenotrphomonas Maltophilia, PFGE, 23S rRNA

P202

Prevalence of constitutive and inducible resiatance to clindamycin in staphylococcal isolates in Aliebne Abitaleb Hospital in Rafsanjan, Iran 2011

Mahnaz Tashakori 3 * , Fatemea Mohseni Moghadam 3 , Hossein Esmaeili 3 , Mehrnaz Karimi 3 , Elham Ranjbar 3 , Parvin Jafarpour 3

dmt_330@yahoo.com, m_tashakori44@yahoo.com, parvin_jafarpour@yahoo.com

Introduction: Resistance to clindamycin (CL) in staphylococci is both constitutive and inducible. In this present study, we evaluated the prevalence of the constitutive and inducible resistance to CL among isolated staphylococci in Ali-Ebne Abitaleb Hospital in Rafsanjan, 2011 Material and Methods: This descriptive-analytical study was conducted on 100 non-duplicated staphylococci isolates. All collected isolates were identified based on conventional laboratory methods. Susceptibility to oxacillin , cefoxitin, erythrocyin and clindamycin(CL) was performed by agar disk diffusion method according to CLSI guidelines .D-test was carried out for all the isolates with resistant phenotype for erythromycin and susceptible phenotype for CL. Results: Of the 100 staphylococcus isolates, 66% were susceptible to CL, 27% had constitutive and 7% had inducible resistance to Cl. The frequencies of constitutive and inducible resistance for CL in methicillin resistant Staphylococcus aureus (MRSA) were 51.2% and 12.82% respectively. statistical analysis revealed the inducible resistance in MRSA isolates to be 3.92 times more frequent than that in MSSA isolates Conclusions The study results revealed that inducible clindamycin resistance should be determined in all MRSA isolates and also staphylococcus strains resistant to erythromycin and susceptible to clindamycin by using D-Test.

Keywords: Staphylococcus, Clindamycin, Constitutive Resistance, Inducible Resistance, Iran

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P203

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

Ali Ramezani 3 * , Masumeh Doosti 3 , Mehdi Faghihi 3 , Maryam Garshasbi 3 , Hussain Basiri 3

ramazani@zums.ac.ir, masumedoosti@yahoo.com, Mehdifaghihi@yahoo.com, maryamgarshasbi@yahoo.com, HussainBasiri@yahoo.com

Background and Aim: Pseudomonas aeruginosa is a Gram-negative, opportunistic pathogen causes death or great infections. Metallo-beta-lactamases(MBL) 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-buer) 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 antimicrobial 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

P204

Biofilm phenotypic expression of Staphylococci isolated from food

Mojgan Oshaghi 1 * , Vahid Vaezinia 1 , Sina Habibi 1

1- Tehran medical university,
mobin255@gmail.com, vahidv90@Gmail.com, SinaHabibi@live.com

Method: A total of 190 samples were collected from various food. The isolation of staphylococci were performed according to EN ISO 6808-3 standard procedure using bird parker agar supplemented with egg yolk tellurite Emulsion. All staphylococci colonies were identified by diagnosis tests. Then staphylococcus colonies were cultered on CRA Plate (BHI Agar, Sucrose, Congo Red). Black colonies were consider as Biofilm positive Staphylococci while the non-producer remain red. Result: According to the analysis of 190 various food samples, 121 (63%) were positive for Staphylococci, including 46 (38%) S.aureus and 76 (62%) CNS strains. Biofilm phenotypic expression in CRA was detected for 44% for S.aureus and 10% for CNS that all of Biofilm positive CNS strains were S.epidermidis. 9% of S.aureus and all of S.epidermidis strains were positive biofilm after 24h incubation period. Discussion: Biofilm-forming ability has been increasingly recognized as an important virulence factor in Staphylococci, facilitating their persistence in the host, evading its defenses and allowing bacterial survival at high antimicrobial concentrations. There was signification difference in biofilm expression between S.aureus and S.epidermidis strains. Biofilm production on CRA in S.aureus is slower than S.epidermidis strains. This result in agreement with other study and in contrary of some other reports. Samples were more frequently contaminated with Biofilm positive S.aures than S.epidermidis strains. Biofilm in the food-processing industry is mainly associated with damp surfaces, where the microorganisms can more easily aggregate. It is known that decreased activity of water in the environment leads to growth inhibition or even revitalization of the microorganisms. Biofilm producing strains of S. aureus were better able to attach to mammary mucosal surfaces and cause infections than strains that did not produce biofilm. The surfaces of food products were more frequently contaminated with Biofilm positive strains than the other sample type, suggests that biofilm production is a risk factor for infection and transmission diseases.

Keywords: Staphylococcus, Biofilm, Food

P205

The study of prevalence of aminoglycoside Resistance genes in uropathogenic E. coli Exteracted from patients with urinary tract Infection in Delfan Township

Somaye Momeni Mofrad , Gholamreza Goudarzi * , Pegah Shakib , Jamileh Nowroozi

somayemomeni64@yahoo.com, goudarzi.gh@gmail.com, shakib.pegah@yahoo.com, jamileh.nowroozi@yahoo.com

Introduction: Urinary tract infection is among most occurring bacterial infections. Escherichia coli is the most prevalent etiologic agent of urinary tract infections isolating from 80% of cases. Aminoglycosides are potent bactericidal agents inhibiting bacterial protein synthesis by binding to the 30S ribosomal subunit. E. coli have acquired multiple resistances to a wide range of antibiotics such as aminoglycosides. Enzymatic alteration of aminoglycosides by aminoglycoside-modifying enzymes is the main mechanism of resistance to these antibiotics in E. coli. The aim of this study was detection of genes encoding aminoglycoside modifying enzymes (aac(3)–IIa,ant(2)-Ia,aph(3)-Ia,aph(3)-IIa) in uropathogenic Escherichia coli isolated from urine by PCR. Materials and methods Hundred urinary isolates were collected from patients with urinary tract Infection in Ibn Sina Hospital of Delfan Township. Isolates were characterized through standard microbiological tests. Antibiotic susceptibility patterns of confirmed isolates were determined by disk diffusion method for gentamicin, amikacin, kanamycin and neomycin according on CLSI guidelines. All isolates were screened for the presence of the AMEs genes using the PCR method. Results: Resistance rate of these strains to Aminoglycosids such as Gentamicin, Amikacin, Kanamycin and neomycin is respectively %39, %1, %26, and %31. The highest resistance rate (%39) belongs to Gentamicin, and the lowest (%1) to Amikacin. The most prevalent AME gene was aac(3)-IIa which was found in 44% of the isolates, and aph(3′)-Ia were present in 34% of the isolates and ant(2)-Ia and aph(3)-IIa genes were detected in none of the isolates Discussion: Most of the resistant UPEC isolates harbor modifying enzymes which shows the impact of the mechanism in aminoglycoside resistance. Similar to other reports worldwide, aac(3)-IIa was the most frequent resistance gene in these isolates. The concordance between gentamicin resistance and the presence of aac(3)-IIa gene was 92.3% in E. coli. Moreover, resistance to Kanamycin was closely associated with the presence of aph(3)-Ia gene($p<0.05$).

Keywords: Aminoglycosides, Aminoglycoside Modifying Enzymes, Escherichia coli

P206

Epidemiology of cutaneous leishmaniasis in Haji Abad district (2009-2011)

Mohammad Hasan Kohansal Koshki 1 * , Safdar Dehghani 1 , Esmail Yarmohamadi 1

1- zanjan university of medical science,
kohansalhasan@zums.ac.ir, sdahghani@yahoo.com, yarmohamady20@yahoo.com

Backgrounds and Objectives: Cutaneous leishmaniasis is the most common disease with high prevalence in Iran. According to Fars province is endemic focus of cutaneous leishmaniasis. The aim of this study was to obtain information on the disease epidemiology Haji Abad district in Hormozgan province. Materials and Methods: This descriptive - analytical study were done from the beginning April 2009 to the end of March 2011 on 79 patients with cutaneous leishmaniasis that treatment and follow-up in Health Centers of Haji Abad district. Information about each patient, including age, gender, location, history of illness, number of ulcer wounds, diseases involving organs were extracted. Data analysis using SPSS version 16 software was examined. Results: from 79 patients with cutaneous leishmaniasis were 40 males (51%) and 39 women (49 %) as well as 9 person living in in urban areas (11%) and 70 (89%) person in rural areas. 50/6 % were in the age group below 10 years and 13/9 % in the age group 20-11 years, and 1/2 % in the age group 50-41 years. Most reported cases of illness related to the year 2011 with 27 cases, and the months of October, November and December, and most reported cases of the disease; with 27 cases is Talashekoieh village. Conclusions: Cutaneous leishmaniasis in this region shows a significant increase that is a sign of the epidemic in this region .Therefore, requires a comprehensive planning measure to control the disease.

Keywords: Cutaneous leishmaniasis, Epidemiology, Haji Abad

P207

Evaloation of invitro and invivo Antibacterial Effect of Polygonum avicular Aqueous and Organic Leaves and Roots Extracts on Streptococcus pyogenes and klebsiella pneumoniae

Nahid Naderi Safarizadeh 1 *, Shahrzad Nasiri Semnani 2 , AzadehTofigi 2

1- Researcher department of microbiology,Islamic Azad university,Zanjan-Branch.Zanjan.Iran, 2- Assistant of Biology Researcher Center, Islamic Azad university, Zanjan- Branch.
Nahidnaderi98@yahoo.com

Background: Streptococcus pyogenes is causes of fharyngitis , cellulitis, glomerulonephritis and acute rheumatic fever. Klebsiella pneumoniae is causes of pneumonia, sepsis and UTI. Polygonum avicular is a herb widely distributed in all region of world and used in folkloric mediecine. Aim:The aim of this study, was to investigate the antibacterial effect of Polygonum avicular leaves and roots extracts on Streptococcus pyogenes, Klebsiella pneumoniae in vitro and animal model study. Materials and Metods: Aqueous and organic extract of Polygonum avicular roots and leaves prepared.The antibacterial activity of Polygonum avicular leaves and roots extracts (aqueous, acetone and ethanol) was evaluated by determination of the diameter of inhibition zone against Klebsiella pneumoniae and Streptococcus pyogenes using agar diffusion method. Then minimum inhibitory concentration (MIC) and minimum bactericidal concentration (MBC) determined by Macrodilution method. In animal model study metods were IP injection and count colonies of spleen. Result: The ethanolic extract of Polygonum avicular leaves on Klebsiella pneumoniae has the best MIC(57 mg/ml) and MBC(113 mg/ml).In animal model study the effect of the ethanolic extract of leaves on Klebsiella pneumonia was the best. Conclusion:This study showed that the Polygonum avicular extracts can be used in control of Klebsiella pneumoniae and Streptococcus pyogenes infections.

Keywords: Antibacterial Effect, Polygonum Avicular Extracts, Streptococcus Pyogenes, Klebsiella Pneumoniae

P208

Competitive Internal Control Design of PCR Detection of Mycoplasma spp.

Tamana Nafariyeh 1 * , Mohammad Hassan Shahhosseiny 2 , Elham Moslemi 3 , Mohammad Reza Zolfaghari 3

1- Islamic Azad University, -Qom Branch, Department of Microbiology, Qom/Iran., 2- Iranian Gene Fanavar Institute (IGF), Tehran/Iran 2-Islamic Azad University, Shahr-e-Qods Branch, Department of Microbiology, Tehran/Iran., 3- Islamic Azad University, East Tehran Branch, Biology department, Tehran/Iran.,
shahhosseiny_igf@yahoo.com, num13er.xiii@gmail.com, t.nafariyeh@Yahoo.com

Introduction: Mycoplasma is one of the smallest alive microorganism, having the ability of transmitting from microbiological filters makes it to be a severe and important contaminant for cell culture, biological and biotechnological products. Using a rapid and sensitive method for diagnosing Mycoplasma's infection is the first priority. This method should be able to discover typical Mycoplasma's infection that PCR is, but for meeting the standard we need to produce the internal control competively in mycoplasma spp PCR recognizing which is the main aim of the project. Matherial & methods: PCR method for diagnosing Mycoplasma.spp was optimized by using of special primers for 16S rRNA. Composite primers for IC was made by gene primers of Lishmania's cintoplast and the section multiplied. Both target product and IC were cloned. Specification and sensitivity of test were studied. Minimum number of IC in each PCR test by attenuating and PCR spectrum were approved. Results: PCR amplicon for Mycoplasma spp and IC- M. spp were 272bp and 672bp respectively, so there was a significant different between their size that was desirable. Minimum number of IC in each test was 1000. PCR test is sensitive to recognize 10 bacterium of Mycoplasma.spp ، and there was no undesirable product. 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 technique that can reduce its efficiency. Using another DNA as an internal control can detect these inhibitors.

Keywords: Internal Control, Mycoplasma.Spp , PCR

P209

Candida spp.in stool samples of patients with diarrhea

Najibeh Asl Rahnemaii Akbari 1 , Asghar Salehpour 1 * , Iran Nokhahi 1 , Mehrangiz Rajaii 1

1- Tabriz University of medical Sciences, Faculty of Medicine, Parasitology and Mycology Department.
nagibeh_a@yahoo.com, salehpoura@yahoo.com, i_nokhahi@yahoo.com, raoskou@yahoo.com

Introduction: Candida is the most common etiologic agents of opportunistic fungal infections and gastrointestinal candidiasis in immunocompromised patients under goinging antibiotic therapy. In recent years, Candida spp. Have been reported from HIV patients with chronic diarrhea and colitis. This study is the survey of Candida spp. That was isolated from stool specimens of patients with diarrhea. Method Materials: 114 stool specimens were examined in clinical laboratory of Tabriz University of Medical Sciences. Each sample was cultured. The isolated yeasts were identified by morphological, biochemical criteria and cultured in chromic agar media. Results: 35 (30.7%) samples were positive for Candida spp in 114 stool specimens. Candida albicans, C.glabratr, C.krusei and C.parapsilosis were indentified. 97(85.08%) samples were watery, which92 (94.8%) were positive for parasitology and bacterial agents, but 5 (5.1%)for yeasts that Candida albicans and Geothricum candidium were isolated from them. Discussions: One of the important causes of morbidity and mortality among patients with AIDS, those under going bone marrow transplanting. Who have received antibiotic and hospitalized patients, is Candida spp. In this study, stool samples of hospitalized patients and children with chronic diarrhea were positive for Candida albicans and Geotrichum candidum. As these yeasts could disseminated and due to bloodstream infections with high rate of mortality in immunocompromised patients, it is important that etiological significance of intestinal candida must be identified and be treated.

Keywords: Opportunistic Fungal Infections, Gastrointestinal Candidiasis, Candida Albicans

P210

Assessment of Tuberculin and common recall antigens anergy in BCG vaccnated medical students in Tehran

Mojtaba Ziaie 1 *

1- Qom-20 Metry Beheshti No.332 Qaem Lab
qaem_medicallab@yahoo.com

It has been demonstrated that about 10-20% of infected individuals with Mycobactium tuberculosis and about 40-50% of healthy individuals exposed to this infectius agent such as BCG vaccinated people are negative to PPD by Tuberculin skin test such phenomenone is called anergy. Confirmatory test is evaluation the immune response to some other recall antigens.Identification of anergic individuals would help our combat against this disease .For such reason we conduct this study for the first time in Iran to assess the prevalace of anergy among medical students since they are one of the at risk individuals. Group of a hunderd and eighty medical students resident in Tehran were chosen and undertaken PPD skin test . Individuals with negative result were further assessed by panel skin test with recall antigens and Lymphocyte transformation test .A relatively high precentage of students were negative to PPD (42%). In addition 64% of PPD negative individuals were also negative to recall antigens. In order to confirm the PPD result,all individuals were assessed by Lymphocyte Transformation test to PPD , as the specific antigen and PHA, as standard positive control. The result demonstrated that LTT have a good correlation with panel and Tuberculin skin test.

Keywords: Tuberculin, PPD, PHA, Anergy, LTT

P211

Isolation and Detection of Entrotoxogenic Staphylococcus aurous Type A from Traditional Ice Cream in Tabriz by PCR

Elham Safi maleki 1 * , Zahra Deilami Khiabani , Habib Zeighami

1- Tabriz - Abresan - Tir Street - Adjacent Bureau Airlines - No. 19, 2- Zanjan,
malekielham26@yahoo.com, Zdeilami@yahoo.com, Zeighami@zums.ac.com

Food poisoning with staphylococcus aurous is a result of pre formed poison in food stuff. Enterotoxin staphyloccoi type A is the main enterotoxin produced by staphylococ positive coagolse.According to the report of disease control center, this poisoning is in the first rank among food poisonings based on statistics.Raw milk and its products are resources of most important nutritional diseases due to completeness and easy contamination. This study was conducted to examine the quality of traditional ice cream based on gene sea. Method In this study, 50 samples of traditional ice cream were selected randomly in different areas of Tabriz.After dilution and enrichment in BHI,staphylococcus aurous was isolated in exclusive Board Parker culture. In order to examine bacterial contamination, the samples were tested and different biochemical tests and molecule tests were conducted. Conclusion High percent of traditional ice cream was not confirmed with standards so that staphylococcus aurous was isolated of %54 of samples and of this %54 of samples % 14.81 gene sea was isolated. Discussion Staphylococcus aurous is anopportunistic pathogen that it is important from clinical and food stuff view point.We need to rapid method for identification. using PCR-based gene sea rapid test kits to detect the enterotoxin that causes diarrhea.

Keywords: Staphylococcus Aurous, Traditional Ice Cream, PCR, Gene Sea

P212

Comparison the cytology and serology method for diagnosis of Helicobacter pylori in gastric biopsy sampels

Maryam Hajizadeh * , Susan Gerami 2 , Babak Bayaz

maryamhajizadeh@gmail.com, smirnajd@gmail.com, b.bayaz159@gmil.com

Introduction: Helicobacter pylori is a Gram-negative, microaerophilic bacterium that found in the patients with chronic gastritis and gastric ulcers. H. Pylori leads to development of duodenal ulcers and stomach cancer. H.Pylori infect well over 50% of the world's population. Infection is more prevalent in developing countries and in our country. It infects more than 74% of the population. Correct detection of colonization of H.Pylori have a high mportance in order to finding therapeutic strategies for gastric disorders. Material and Method: In the present study, smears and serum from gastric biopsy samples of 175 patients, including 105 men and 70 women which refered to Emam Reza Hospital,Tabriz, Iran, were prepared. The smears were stained with crystalline and serum samples were analyzed by ELISA for detction of H. pylori. Results: 73 of 175 samples were H.pylori positive. In H.pylori Positive sampels in 89% of cases, the results of the two methods were similar.In 13% of the cases the results were conflicting. by cytology method the sampels were positive while by serology method were negative. Interestingly all of the citology positive sampels showed the same result by Elisa. Assuming false-positive results in cytology method, in 11% of cases of non-compliance, the sensitivity, specificity and accuracy of cytology method in diagnosis of Helicobacter is 100%, 83% and 90% respectively. Discussion: For evaluation of H.pylori, cytology method is a reliable, quick and easy method. But using Elisa in detection of H.pylori for peptic ulcer is controversial.

Keywords: H.Pylori, Serology, Cytology

P213

Study of Antimicrobial Effect of Polygonum avicular Organic and Aquatic Leaves and Roots Extracts on Staphylococus aureus in Animal Model

Hajar Osanloo 1 * , Sharzad Nasiri Semnani 2 , Azadeh Tofigi 2

1- Department of microbiology,Islamic Azad university,Zanjan-Branch.Zanjan.Iran, 2- Biology Researcher Center, Islamic Azad university,Zanjan- Branch
Hajarosanloo@gmail.com, shahrzadnasiri22@yahoo.com

Background and aim: The bacterial diseases are among the main problems in human life. Staphylococus aureus is one of pathogen bacteria and acute diseas. plants have less side effect compare to the synthetic medicine. Polygonum avicular is an annual herb and this have tannins, saponins, flavonoids, alkaloids.The aim of this study was evaluation antimicrobial effect of Polygonum avicular on Staphylococus aureus in animal model. Methods: 5×105 CFU/ml of bacteria was inoculated intraperitoneally and after 24 h, 0.5 cc of each Polygonum avicular extracts inoculate to female BALB/c mice. Then, the count of bacteria in spleen were determined on Muller-Hinton agar after 7 days as the standard protocol. Result: The average grown of bacteria 24 hours after of culture of spleen supernatant for ethanolic extract of leaf were 7.5×104 CFU/ml, and acetonic extract of leaf were 5.36×106 CFU/ml, were respectively in comparison with control groups that were 2.9×1010 CFU/ml.These results showed significantly decrease of bacteria in all experimental groups. Conclusion: The results indicated that etanolic extract of leaf were shown the most effective antimicrobial activity on bacteria in comparison with other extracts and can be useful in treatment of nosocomial infections.

Keywords: Polygonum Avicular Extract, Staphylococus Aureus, Antimicrobial Effect

P214

Study of Bacterial Pollution of Drinking Waters in the Taleghan Region in Iran

Mohammad Mehdi Attarpour Yazdi 1 *

1- No.31, Dehkadeh St., Keshavarz Blvd.
mmayazdi@yahoo.com

Introduction & Objectives: Based on opinion of the WHO, polluted water is one of the most common means of bacterial pollution transmission in human societies particularly in villages, decision was made to study of bacterial pollution of drinking water in the villages of Taleghan (with high prevalence of infectious diseases) to take another step forward to increase the level of hygienics local people. Methods: kind of study in this research is of descriptive type. In this research according to the approved standardsof WHO, WPCF and Iranian national standard, 114 water sample from different sources, wells and rivers from 81 village in Taleghan regions were taken and then by usig multiple tube (M.T) method to determined most probable number (MPN) of E.coli and preforming persumptive, confirmed and completed test, these samples were examined. Results: The frequency distribution table and diagrams (by applying computer programs) were used to describe and analyze the data. The drinking water from 16 villages from the WHO standards points of view is bacterialy polluted and not drinkable, in addition water in 7 rivers in the Taleghan region also has bacterial pollution which is caused by entering of manures into the river and also local tourists lack of attention to the hygiene. Discussion & Conclusion: The percentage of bacterial pollution present in the total drinking water in Taleghan region is 19% which of course is not a high figure according to Iranian standards but swift action must be taken to solve this problem. It is recommended in order to decrease the amount of bacterila pollution of the wells in this region; correct excavation, well protection, contamination monitoring and periodical bacterial tests should be carried out.

Keywords: Bacterial Pollution, Drinking Waters, Taleghan Region, E.Coli

P215

Detection of enterotoxigenic Staphylococcus aureus isolates in traditional ice cream in zanjan by PCR

Fahimeh Moharramkhani 1 *

1- Abhar. Taleghani Avenue South. Arasbaran alley. No. 50,
fmoharramkhani@yahoo.com, Zdeilami@yahoo.com, Zeighami@zums.ac.ir

Background and aim: Staphylococcus aureus is one of the most causes of food poisoning (FP) in dairy products. The main etiologic agent of FP is staphylococcal enterotoxins (SE). There are different types of SE, but type A (SEA) is the most important type. Because traditional dairy products are still produced and sold without a permit from the Ministry of Health, this study was conducted to evaluate molecular detection of enterotoxigenic Staphylococcus aureus (SEA) from traditional ice creams. Methods: In the current study, 50 samples of ice cream, which were produced by traditional methods, were transported to the laboratory under sterile conditions and were assessed. Samples were cultured and identified by routine bacteriological methods. The isolated bacteria were evaluated by PCR tests for diagnosis of the gene encoding of SEA . Results: The results indicated that 44% of samples were contaminated by Staphylococcus aureus . The PCR results showed that 13.63% of Staphylococcus aureus isolates possessed the SEA gene. Conclusion: Enterotoxin SEA is heat stable; therefore heating has no effect on dairy products contaminated by entertoxins and gastritis may occur in a short period of time. As PCR is a rapid, sensitive, specific and inexpensive method, we suggest that it can be replaced to traditionally .assays for detecting SE.

Keywords: Staphylococcus Aureus , Enterotoxin , Traditional Ice Cream, PCR

P216

Assess the prevalence of hepatitis B Hepatitis C and hepatitis E ,anti HBs-ab AND AIDS antibody in hemodialysis patients in Hamedan ,west of Iran

Mahdi Kholoujini 1 * , Alireza Ahanchian 1 * , Masoud Hamidi 1 , Sima Tavakoli 2 , Mohammad Ebrahim Nieaii 3

1- Shahid Beheshti Hospital, 2- Refreance Hamedan Lab Shahid Behshti Univercity , 3- Refrence and centeral lab , medical university of hamedan
mehdikh1351@yahoo.com, s-alireza-ahanchian@yahoo.com, m.hamidi2008@gmail.com, s.tavakoli426@gmail.com,

introduction: Hemodialysis patients at risk of hepatitis, particularly hepatitis infection HBV&HCV is the aim of this study was to evaluate the prevalence of hepatitisHBV_HCV-HEV and antibody against hepatitis B (HBs-Ab), as well as antibodies against HIV in hemodialysis patients in Hamedan Methods: This study was descriptive - cross sectional and hemodialysis patients admitted to two university hospitals, including shahid Beheshti hopital and the Besat hospital with ELISA method and SPSS soft ware statistics was performed $p<0.05$ Results A total of two hundred and four hemodialysis patients in Hamadan two patients with hepatitis B (0.98%), and three patients (1.4%) antibodies against hepatitis C and twenty-three (11.3%) of antibodies against hepatitis E were seropositive Eighty – seven people antibodies against hepatitis B (42.6%) were positive. HIV antibodies were found in any disease as well as hemodialysis., No significant association between age and sex of the patients lived job location (urban - rural) were observed using ($P> 0.05$) CONCLUSIONS: This study shows that the risk of hemodialysis patients are adopted for hepatitis infection control policy can significantly reduce the risk of this type of infection in these patients is very important.

Keywords: Hepatitis B , Hepatitis C,HEV –AIDS,Hbs-Ab

P217

Emergence of extensively drug-resistant Acinetobacter baumannii in hospitalized patients and hospital environment

Zohreh Ghalavand 1 * , Hossein Goudarzi 1 , Bahram Nikmanesh 2

1- Department of Microbiology, Faculty of Medicine, Shahid Beheshti University of Medical Sciences, Tehran, Iran, 2- Children's Medical Center Hospital, Tehran University of Medical Sciences, Tehran, Iran,
zghalavand@gmail.com, hgoudarzi63@hotmail.com, bahram_nikmanesh@yahoo.com

Introduction and objective: A.baumannii recently has emerged as a global threat to public health and a major cause of nosocomial infections with high mortality particularly in Intensive Care Units (ICUs). We aimed to determine the antibiotic susceptibility profiles of clinical and environmental A.baumannii isolates and to find the rate of contamination of hospital environment and equipment with A.baumannii. Methods: A total of 222 clinical isolates of A.baumannii were collected from three hospitals during June to December 2010 in Tehran, Iran. Of the 180 specimens collected from hospital environment, 22 were positive for A.baumannii. All of isolates were identified and confirmed as A.baumannii using conventional microbiological tests and blaOXA-51-like gene PCR. Antimicrobial susceptibility profiles of clinical and environmental isolates were determined by disk diffusion method. Results: The presence of blaOXA-51-like gene was detected in 221 (99.55%) of clinical isolates and 22 (100%) of environmental isolates. Our results showed that 99 (44.8%) clinical and 4 (18.18%) environmental isolates were XDR. All of isolates were susceptible to colistin. The results of environmental assessment showed contamination of medical equipment, patient's environment and health-care personnel with A.baumannii. Discussion: We highlight the emergence of XDR- A.baumannii in clinical and environmental isolates. Considering the contamination of environment with XDR- A.baumannii, we must pay more attention to prevent dissemination and colonization of XDR-isolates in hospital environment.

Keywords: Extensively Drug-Resistant (XDR), Antimicrobial Susceptibility, Acinetobacter Baumannii

P218

Detection of Malassezia species from lesional skin in patients with Pityriasis versicolor in Sina hospital , Tabriz

Mohmmad Adibpour * , Shahla Babayi Nejad , Haneye Ostovarazar , Effat Khodeyani , Hosin Koshavar 2 , Maryam Hajizadeh 2

adibpourm@yahoo.com, drshbabaie@yahoo.com, Hanieh.Ostovarazar@gmail.com, Drekhodaeiani@yahoo.com, Kooshavar@yahoo.com, maryamhajizadeh@gmail.com

Materials and Methods: In this study, about in 15 months 65 patients with lesions of Pityriasis versicolor were tested and to identification the species. 29 (44.6%) of them was male and 36 (55.4%) was female. Average of ages was 27.9, the youngest was a 1.5 years old boy with the lesions was behind his ear and the oldest was a man of 55 . Those who were in the ages of 21 – 30 made the largest group with 20 (30.8%) patients and the smallest was 51 – 60 with 3 (4.6%). We took samples from the scales of lesions and then cultured in Sc and M Dixon Agar of Acumedia company.For determining the species of Malassezia we used of Catalase reaction, Hydrolysis of Esculin, Tween 20, 40, 60 and 80 utilization, ability of growth the organism in fat free SDA medium. Results :In this study 7 species of Malassezia found as following : 23 (35.8%) cases Malassezia fur fur, 19 (29.1%) cases Malassezia globusa, 8 (12.2%) cases Malassezia slooffiae,5 (7.6%) cases Malassezia obtuse,4 (6.1%) cases Malassezia sympodialis, 4 (6.1%) cases Malassezia pachydermatis and 2 (3.1%) cases Malassezia restricta. The results were analyzed in Spss11.5 estatistical models with chi – square and fisher tests. Conclusion: In this study we tested some variables such as age, gender, occupation, predisposing factors and season . There was no sufficient different between species of Malassezia and any of variables. About 80% of patients were 15 – 35 years old and hyper hydrosis was an important factor in this infection.

Keywords: Malassezia Species, Pityriasis Versicolor, Tabriz, Iran

P219

Evaluation and Identification of hblA Enterotoxigenic Gene in Bacillus cereus food poisoning from Domestic and Pasteurized Yogurt and Cheese in Hamedan using PCR

Asieh Zohrabi 1 * , Zahra Dylami , Rasool Chocri

1- Postgraduate student, Department of Microbiology, Zanjan Branch, Islamic Azad University, Zanjan ,Iran
zohrabi.asieh@yahoo.com

Introduction: Bacillus cereus is an opportunistic pathogen and cause more food poisoning in humans is caused by the production of heat-stable toxin. These gram-positive bacteria and has been endospore and can grow in any situation and the shortest time for the growth of 8 hours a. operating two types of food poisoning emetic and diarrheal in humans. Objectives: Identification of hblA Gene in Bacillus cereus isolated fromDomestic and Pasteurized Yogurt and Cheese in Hamadan Materials and Methods: Of 80 samples of dairy yogurt and cheese dilution was performed after culture enrichment BHI and exclusive environment PEMBA and transfer colonies to nutrient agar medium Gram stain and spore tests Biochemical including testing VP and hmolyis beta and test drive was performed. these colonies were used for DNA extraction and PCR reaction. reaction PCR using primers specific for the colonies were confirmed by biochemical tests Result: Using biochemical and PCR Twenty-two of 80 samples (5/27 percent) were infected with Bacillus cereus.On the other hand, twenty two positive samples of infected bacteria in this investigation using PCR and specific primers, six samples (27/27 percent),were containing a gene of hblA. Conclusion: There are traditional methods for detection of B. cereus Bsyarvqt consuming and may Infections caused by other bacteria false resultst.PCR reaction is a fast and have a high sensitivity of about 96 percent in less than two hours, the answer can be found and there is no need to cultivate. Using this method can be based on a variety of Bacillus species groups identified in dairy products. Using PCR-based methods and test kits for the detection of enterotoxin genes hblA faster cause will result.

Keywords: Bacillus Cereus, Food Poisoning, Using PCR, Gene Hbla

P220

Immunological Evaluation Of Streptococcus agalactiae CPS III Type Conjugated to Diphtheria Toxoid as a vaccine Candidate

Roghaye Asgari 1 * , Reza Shapouri 2 , Mehdi Rahnema 2

1- Department of Microbiology, Zanjan, 2- Department of Microbiology,
roghayeasgari@yahoo,com, rezashpouri@yahoo.com, mehdirahnema@yahoo.com

Introdouction and Purpose: Streptococcus agalactiae are aerobic and anaerobic bacteria. In the liquid environments tend to grow up in a binary or chains short. they are found in the normal flora of the throat, urinary tract in genital naturally and cause skin infection, endocarditis, an infection after delivery, bacteremia, septicemia are infants during the first 10 days of delivery will show a higher prevalence. The purpose of this study connection type III capsular Streptococcus agalactia with diphtheria toxoid in the mouse as a candidate vaccine. Methods: Strain of this bacterium was obtained from Biology Reserch Center of Islamic Azad Univercity, Zanjan branch and then bacteria was grown on Todd – Hewitt broth media. then it is dialysed and depolymerized . To improve immunogenicity of purified antigen was coupled to Diphteria toxoied with EDAC as a linker and ADH as a spacer. reaction mixture was passed through a sepharose CL-2B column. Then four group of female BALB/c mice (each group was included 15 mice) was selected. Vaccination was performed by three doses with two week interval. Immunological characteristics were measured by ELISA, and blood sampling was performed before and after each injection. Results: ELISA demonstrated that antibody titer after the first injection in the group receiving conjugated group found in the CPS and DT is the addition of the second injection of antibody has increased, which indicates acceptable vaccine conjugate is. Conclusion: The use of diphtheria toxoid as a carrier protein is able to eliminate -III capsular polysaccharide T-independent properties also play a major role.

Keywords: Streptococcus Agalactiae Typeiii, Capsullar Polysccharid, Diphteria Toxoid, Conjugate, ELISA ,Amidation

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P221

Prevalence of Group B streptococcus in vaginal specimen from pregnant females refered to selected hospitals in Khoramabad by culture and real-time PCR method

Pegah Shakib , Gholamreza Goudarzi * , Azin Baharvand Ahmadi

shakib.pegah@yahoo.com, Goudarzi.gh@gmail.com, baharvand.azin@yahoo.com

Introduction and Objectives: Group B streptococcus is one of the most important casutive agent of meningitis, pneumonia and mortality in newborn. In this study, vaginal specimens obtained from pregnant women were screened by culture and real-time PCR. Methods: 2 vaginal swabs were collected from 100 pregnant women at 35-37 week's pregnancy. To culture and PCR, swabs transferred to transport medium and normal saline. Bacteriological swabs cultured on Todd Hewith Broth and were then subcultured on blood agar plate. GBS was identified using bacteriological tests. After DNA extraction from the vaginal swabs, real-time PCR was performed by using scpB gene-specific primers. Result and discussion: Of the 100 samples investigated, 14(14%) were positive by culture , PCR was positive in 12(12%) samples. 2 samples that were positive by culture only after enrichment was negative in PCR. On the other hand, 4 samples were positive by PCR and negative by culture. The results of this study and previous studies indicate the sensitivity and accuracy of the real-time PCRmethod for the evaluation of specific genes is B streptococcus.

Keywords: Group B Streptococcus, Pregnant Women, Vaginal Swab

P222

Prevalence of Group B streptococcus in rectum specimen from pregnant females refered to selected hospitals in Khoramabad by culture and real-time PCR method

Pegah Shakib , Gholamreza Goudarzi * , Masoome Ghafarzade

shakib.pegah@yahoo.com, Goudarzi.gh@gmail.com, ghafarzade.masoome@yahoo.com

Introduction and Objectives : group B streptococcus is a gram positive bacterium that can be accumulated temporary in digestive and genitourinary system of some people. Approximately, 10 to 30 percent of pregnant women that GBS has been accumulated in their bodies carry bacterium in both their rectum and vagina and 70 to 80 percent of these females transfer GBS to their infant. Materials & Methods : 2 rectum swabs were collected from 100 pregnant women at 35-37 week's pregnancy. To culture and PCR, swabs transferred to transport medium and normal saline. Bacteriological swabs cultured on Todd Hewith Broth and were then subcultured on blood agar plate. GBS was identified using bacteriological tests. After DNA extraction from the rectal swabs, real-time PCR was performed by using scpB gene-specific primers. Result and Discussion: 8 patients (8%) of the isolates tested were positive for GBS from rectum samples.On the other hand, the 10(10%) patients tested real-time PCRusing genome carries GBS in the rectum. Due to the fact that GBS infection is the main reason for new born infant, s deaths , diseases and after born fever , immediate diagnosis of organism in pregnant women is vital for in- time treatment.

Keywords: Group B Streptococcus, Gram Positive, Rectum Swab

P223

Evaluation of epidemiology pertosis during to the year1390

Fatemeh Najafi * , Fatemeh Rahmani , Hosein Mirzaei Amir Abadi

fatemeh najafi1359@yahoo.com, f.rahmani751@yahoo.com, h.mirzaei9@yahoo.com

Introduction & aims : The genus bordetella com perises three recognized species of gram negathve bacilli .B.per tussis is ahuman phatogen incriminated hn the majority of cases of whooping cough . a common child hood infection B.paraper tusis is also occasionally found in whooping cough these organisms colonize mucous membranes of throat and nasophary ,area and by producing various toxins the characteristic clinical manifestation of the diseasepredominatlycoughing and cyanosis starts : Choronic stages of diseaselasts for several days to weeks The aim of this studywas epimic logic sur vey on clinical specimens collected from qods hospital of qazvinprovinceduring1 may 2011 to feb 2012 Material & metod: ina retrospective descriptive cross sectional study 30docron's samples taken from nose of children with a mean age 2.0 years .the swabs transferred to trans port media and sent to pasteur Ins. Result : From 30 sample totally 5 case were contained 4 cases positive PCR with culture And only one case was positive PCR with negative culture for b. pertussis Discussion And con clusions: Mass vaccination for per tussis (Dpt)during last decades results total control in children in adults ,And youngest How ever the deasease could be observered sporadically that may transmit to neo nants and pre disposed child's www. ∏ ecom.com so in con clusion good health pre cautions are strongly recommended for diseas control case:30 Male:13 Female :17 Up to 2 years:8 Under 2 years:22 Positive:5.

Keywords: Bordetella , PCR

P224

The prevalence of erythromycin resistance genes (ermA, ermB, ermC) in staphylococci strains isolated from the nose of staff in selected hospitals of Khorramabad, Iran, detected by multiplex PCR assay

Farzad Tahmasbi 1 * , GHolamreza Goudarzi 2

1- Department of Sience Faculty of Biology, 2- Microbiology Department of Faculty of Medicine, Lorestan, University, of medical Siences,
tahmasbi.farzad@gmail.com, goudarzi.gh@gmail.com

Introduction and Objective: Resistance to Erythromycin in staphylococci may be due to modification in ribosomal target methylase encoded by erm genes. Resistance to erythromycin is usually associated with resistance to other macrolides. This study investigated the prevalence of the erm genes among 51 isolates of Staphylococcus aureus and 49 coagulase-negative Staphylococcus (CoNS) from the nose of staffs in units hospital. Research methods: Primary resistance to macrolids was detected by the disk diffusion method. All isolates were tested by a genotypic assay, multiplex PCR with specific primers. Results and discussion: 53% (Staphylococcus aureus 10, CoNS 43) isolates were resistant to erythromycin. The prevalence of the ermA, ermB and ermC genes in Staphylococcus aureus/ CoNS isolates were 0% / 6.1%, 7.8% / 2% and 13.7% / 53.1% respectively While they still had a low prevalence.

Keywords: Staphylococcus , Resistance, Erm Genes, Erythromycin.

P225

Study the genes encoding aminoglycoside-modifying enzymes among clinical isolates of methicillin resistance Staphylococcus aureus

Ali Ramazani 2 * , Zahra Shokravi 2 , Laleh Mehrad 2 , Rahim Sorouri 2 , Hamidreza Amirmoghaddami 2

ramazania@zums.ac.ir, mavara_hr@yahoo.com, mehrad_laleh@yahoo.com, sorouri@zums.ac.ir, baharlab@gmail.com

Background and Aim: Aminoglycosides are potent bactericidal agents that play an important role in antistapylococcal therapy. In this study, we used a multiplex polymerase chain reaction assay to investigate the prevalence of aac(6')-Ie/aph(2''), ant(4')-Ia, and aph(3')-IIIa, the genes encoding the most clinically prevalent aminoglycoside-modifying enzymes, and simultaneous detection of the methicillin resistance gene, mecA, in Staphylococcus aureus isolates. Materials and Methods: A total of 104 S. aureus clinical isolates were collected and tested by disk diffusion and agar dilution method for susceptibility testing. All isolates were screened for the presence of the three aminoglycoside-modifying enzyme genes and the methicillin resistance gene. Amplicon size of PCR products were confirmed by sequencing. Results: 58 out of 104 S. aureus clinical isolates harbored the mecA gene. The frequency of aac(6')-Ie/aph(2''), ant(4')-Ia and and aph(3')-IIIa genes were found in 46.7%, 23.3 and 18.3% of the isolates, respectively. All isolates harboring the aac(6')-Ie/aph(2'') gene were resistant to gentamicin (100% concordance). The nucleotide sequence of some isolates after analysis with Bioinformatics tools submitted and accepted in Gene Bank of NCBI. Conclusion: In conclusion, this study indicated that a high rate of aminoglycoside resistance was determined in methicillin-resistant staphylococci. The aac(6')/aph(2'') was the most frequently detected.

Keywords: MRSA, Aminoglycosides, aac(6\>)-Ie/aph(2\>\>), ant(4\>)-Ia, aph(3\>)-IIIa

P226

Detection Of Leptospiral Antibodies in Bovine

Nina Bakhshandeh 1 * , Pejvak Khaki 1 , Majid Tebianian 1

1- Department of Microbiology,Science and Research Branch,Islamic Azad University,Tehran,Iran., ninabakhshandeh@yahoo.com, Pej.khaki@gmail.com, mtebianian@yahoo.com

Introduction: Leptospirosis is a zoonosis caused by Spirochetes of the genus Leptospira, which has a worldwide distribution. Humans become infected through contact with contaminated animal urine, tissues, or water. The universally accepted test,Microscopic Agglutination Test is hazardous to perform , as live leptospira culture is used as antigen, moreover it is tedious and time consuming. Enzyme-Linked Immunosorbent assay has been found to be more sensitive serological test than convential methods for diagnosis of Leptospirosis. The aim of this study was detection IgG in Bovine Leptospirosis with ELISA. Methods: In this study four pathogenic serovars specie of Leptospira were used to inculate into the selective culture medium(EMJH)the bacteria were sonicated and extacted antigen were coated in maxisorpn plates. The dilution of serum and conjugates that were found optimum for the test were 1:100 and 1:20000 respectively, A group of 256 serum samples from bovine with suspected leptospirosis were screened by MAT test and those with titre ≥1:100 considered as positive controls.The cut-off test were determined with different positive and negative serum samples in compare with commercial SERION ELISA KIT. Results: On testing different samples of sera from infected and non-infected animals,111 were positive by both MAT and ELISA; while 18 MAT negative cases were positive by ELISA. Thus ELISA exhibited sensitivity and specifity of 98.6% and 92.3% respectively. Conclusions: According to high sensitivity and appropriate specifity of developed indirect ELISA method, we recommend that ELISA could serve as a good chice for early and rapid doagnosis of bovine leptospirosis.

Keywords: Leptospirosis, ELISA.MAT , Igg , Bovine

P227

Detection of invasive Candidiasis in patients with hematological malignancies and bone marrow transplant recipients

Mojtaba Nabili * , Tahereh Shokouhi , Jan Babaei , Mohsen Ashrafi , Ardeshir Ghavamzadeh

shokohi.tahereh@gmail.com , m.nabili2010@gmail.com

Introduction and Objectives: Invasive Candidiasis (IC) is a significant cause of morbidity and mortality in patients with hematologic malignancies and bone marrow transplant recipients. Basically, quick and early diagnosis prevents of IC progress. We established a real-time PCR assay for the detection Invasive Candidiasis and identification of causing Candida species. Materials and methods: From 2009 to 2011, 72 patients with hematologic malignancies and marrow transplant recipients were evaluated for IC in Sari and Tehran. Ten milliliter bloods for Real Time PCR and blood culture were collected twice from patient. DNA was extracted from blood using glass beads and QIAamp DNA Blood Mini Kit. The primers and hybridization probes were designed to potentiate the specific sequence of 18S rRNA genes using LightCycler system and Fluorescence Resonance Energy Transfer (FERT). Melting temperature (Tm) analysis performed for differentiate simultaneously between the different Candida species. The patients were evaluated for IC based on European Organization for Research and Treatment of Cancer/ Mycoses Study Group (EORTC/MSG) Consensus value definitions. Results: The female -to- male ratio was 1:2; the mean age was 32.1 years. The most common malignancies in these patients were AML; 20 (27.8%), ALL; 19 (26.4%), Hodgkin's lymphoma (11.3%) and other patients had non-Hodgkin's lymphoma, multiple myeloma, thalasemia and chronic lymphocytic leukemia that received chemotherapy. Out of 72 patients, eleven patients (15.3%) had positive real time PCR /probe results. The etiologic agents were c. krusei (5 cases), C. tropicalis (3 cases), C. parapsilosis (2 cases), and C. albicans (1 case). According to the criteria defined by EORTC/MSG who met clinical signs and host factor criteria of IC, 1(1.38%) and 10(13.8%) patients were stratified into probable and possible groups, respectively. Conclusion: The established Real-time PCR/FRET probe assay is a useful method for the quick identification of Candida species for the management of patients suffering from hematologic malignancies and bone marrow transplant recipients, in the risk of Candidiasis.

Keywords: Invasive Candidiasis, Hematological Malignancy, Real-Time PCR

P228

Klebsiella pneumonia MIC to disinfectant (DECONEX) and its correlation with antibiotic resistance

Mozhgan Azadpour * , Jamile Nowroozi , Gholamreza Goudarzi

mojganazadpour@yahoo.com, nowroozi J@yahoo.com, goudarzi.gh@gmail.com

Introduction Indiscriminate use of disinfectants contain quaternary ammonium Compounds In disinfect hospital areas may cause a lot of bacterial resistance to antibiotics. Most mechanisms of bacterial resistance to these Compounds are efflux pump. That is the same mechanism of resistance to antimicrobial drugs. Klebsiella pneumoniae causes about 8% of hospital-acquired infections (nosocomial infections) including pneumonia, wound infections, diarrhoea and urinary tract infections. The sensitivity of these bacteria to disinfectant and antibiotics has increased. Methods: MIC to disinfectants Including QAC was determined by MicroBroth dilution method and Susceptibility to antibiotics was determined by Disc diffusion method (Kirby bauer method) and results were analyzed by SPSS Software. Results and discussion: Growth of 42 strains (64.6%) of Klebsiella pneumoniae were inhibited in 18.75 µg/ml concentration of deconex and others including 19 strains (29.2%) in 9.37 µg/ml, 3 strains in 4.68 and 2 strains in 23.4 µg/ml concentration of deconex were inhibited. Resistance percent to antibiotics in Klebsiella pneumoniae with MIC 18.75 µg/ml concentration of deconex most antibiotic resistance were found in cefixime (26.2%), ceftriaxone(23%), tetracycline(18.5%) and kanamycin(16.9%) and in Klebsiella pneumoniae with MIC 9.37 µg/ml concentration of deconex most resistance respectively were attributed to cefixime and ceftriaxone(12.3%), tetracycline and kanamycin(10.7%) and Klebsiella pneumonia in this MIC were less resistant. Our study shows that there is correlation between increase MIC values to quaternary ammonium Compounds and Percent of antibiotic resistance.

Keywords: Quaternary Ammonium Compounds, Klebsiella Pneumoniae, Disinfectant, Antibiotic Resistance

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P229

Mycetoma caused by Exophiala jeanselmei; Report of a case

Sadegh Khodavaisy 1 * , Hamid Badali 2

1- Department of Medical Mycology and Parasitology, kurdistan University of Medical Sciences; Department of Medical Mycology and Parasitology, Tehran University of Medical Sciences, 2- Department of Medical Mycology and Parasitology, Mazandaran University of Medical Sciences,
sadegh_7392008@yahoo.com, badalii@yahoo.com

Mycetoma is defined as a localized, chronic, granulomatous, suppurative and progressive inflammatory disease of subcutaneous tissue and contiguous bone after a traumatic inoculation of the causative organism. We report a case of black grain mycetoma in a 43-year-old Thai man, with several draining sinuses involving the left foot. The entire biopsied tissue was used for mycological and histopathological investigations. Direct examination with KOH (10%) revealed black granules and hyphal elements but were not obviously clear. The histopathological observations led to the diagnosis of a eumycotic mycetoma caused by an Exophiala species. Clinical specimens were cultured on Sabouraud glucose agar and SGA supplemented with chloramphenicol (0.5µg/ml) and incubated at 27–30°C for 7 days. Growth of dematiaceous fungi was observed and these were morphologically classified as Exophiala species. Colonies were moderately expanding and initially moist (yeast-like), forming velvety, olivaceous-green aerial hyphae; colony reverse was olivaceous-black. The disease required extensive surgical excision coupled with intense antifungal chemotherapy to achieve cure.

Keywords: Exophiala Jeanselmei, Mycetoma

P230

Investigation of antifungai effects of several common antifungal drugs (clotrimazol, Miconazol, Fluconazol) alonly and incombination with Amphotericin B againts against candida species isolated from chronic candidal vulvovaginitis

Mehraban Falahati 1 * , Efate Alsadat Shojaei , Faride Zaini , Parivash Kord Bache , Parvaneh Rahimi Moghadam , Mohammad Reza Aghamirian , Shima Nozari , Sekhavatv Ameri , Sanam Afshar Moghadam , A Yeshe Makhdoomi

1- Tehran University of Medical Sciences
mehrabanfalahati@yahoo.com

Background AND Objective : Candidal vulvovaginitis is a female genital infection that is occurred by the over growth of candida species and specially candida albicans and occasionally appears as chronic and recurrent and resist to therapy. On the other hand the availability of new antifungal agents with novel mechanism ,of action has simulated to utilized combination antifungal therapiese. Therefore we decided to evaluate effects of common antifungal drugs alonly and also incombination with amphotericin B against candida albicans strains isolated from chronic vaginal candidiasis. Materials AND Method : This study carried out on 19 strains of candida albicance that sorted from vaginal candidiasis . Then evaluated the effect s of clotrimazole, miconazole, fluconazole alonly and incombination with amphotericine B on candida albicance by microdilution methods . And results investigated with statistical test such as man -vitni, kruscal valis , chi –squer and paired T test. Results : The mean MIC of clotrimazole ,miconazole ,fluconazole and amphotericin B after 48 hours respectively is 7.05,10.7,47 and 0.6 µgr/ml and the second step in combination drugs , FIC combination fluconazole + amphotericine B =0.6 and FIC combination miconazole + amphotericin B =1 reported . And the fungicide effects of amphotericin B (MFC) =1.18 evaluated. Conclusion: In this project after investigation results , amphotericin B with less MIC has the best inhibitory effects and in combination research fluconazole + amphotericin B has the best synergism effects and miconazole + amphotericin B has the less synergism effects . Amphotericin B has the best fungisid effects.

Keywords: Candida Vulvovaginitis, Combination Drugs, Synergism, Microdilution Btoth

P231

Relationship between blood group(ABO)with symptomatic & asymptomatic leishmania infantum infection in humans

Soheila Molaie 1 * , Mehdi Mohebali 2 , Negar Modares Sadrani 3

1- meshkinshahr-kala azar laboratory, 2- School of public Health Institute,Tehran University of Medical Scince, 3- Bs of Laboratory Scince, University of Medical Scince,Ardabil,Iran
smolaie83@gmail.com, mohebali@tums.ac.ir, negar_modares@yahoo.com

Background and objectives: According to this hypothesis that leishmania parasites can be escaped from immune system by blood group antigens (ABO) as a cover to prevent its recognition by the immune system. This cross-sectional study was designed on 99 eligible children from Meshkin – shahr city . Methods: Ninety nine children were divided to two groups as follows: group 1,54 children with kala – azar (anti-lei shmania antibodies at titers ≥1:3200 with clinical signs and symptoms) and group 2 consisted from 45 children with leishmania infantum (anti-Leishmania antibodies at titers 1/800 & 1/1600 without any clinical signs and symptons). Corre lation between blood group antigens and leishmania infantum infections was statistically tested by qi-square. Results: Group 1 was consisted from 29 males (53.7%) and 25 females (46.3%). Most patients were 1-2 years old. Relapse and resistant to glucantim therapy were seen in patients. 20 out 54 patients were blood group A (37%) and 7 out 54 were blood group B (12.8%). Group 2 was consisted from 25 males(55.5%)and 20(44.5%)females.19 out of 45 cases were blood group A(42.2%) and 4 out of 45 were blood group AB(8.9%).results of this study showed that statistically differences between kala-azar signs and blood groups was not significant(p=0.185). Conclusion:the results of the present study nearly correspondsto those of other studiesThe main vulnerable community of visceral leishmaniasis are mainly children.In order to decrease the mortality and morbidity its,investigation of risk factors in the occurrence of VL is essential.further studies are recommended.

Keywords: Leishmania Infantum,Symptomatic, Asymptomatic Infection,Blood Group,Visceral Leishmaniasis,Human

P232

Prevalence of Human T-Lymphotropic Virus Type I&II Among HIV Positive Intravenous Drug Abusers In Sanandaj, 2011

Abbas Ahmadi 1 * , Noeman Ardalan 2 , Mohammad Abdi 2 , Amir Amini 3

1- Tehran, Tarbiat Modarres University, Department of Clinical Biochemistry, 2- Islamic Azad University, Sanandaj branch, 3- Exercise Physiology Research Center, Baqiyatallah University of Medical Sciences, Tehran, Iran, abbasahmady@yahoo.com, nono.ardal@gmail.com, Abdi355@gmail.com, amir.amini466@gmail.co

Background and Objectives: HTLV-I is the etiological cause of Adult T-lymphocytic Leukemia (ATL) and a chronic degenerative neurologic disorder, called Tropical Spastic paraparesis (TSP). HTLV infection can be transmitted from mother to child or fetus, sexual intercourse, transfusion of contaminated blood units, and sharing syringes needles. As the presence of these infections in high risk groups can be an indicator of their prevalence in the society and blood donors, in this study was tried to determine the possibility of HTLV infection in HIV positive intravenous drug abusers in Sanandaj, Kurdistan, Iran. Materials and Methods: This descriptive study was performed on 130 HIV positive intravenous drug abusers. All participants completed written informed consents. After phlebotomy and serum separation, all specimens were kept in -20oC until analysis. Serum samples were screened for HTLV I&II antibodies by Dia-Pro ELISA kits, Italy. Positive and suspicious reactions reanalyzed. Samples with one positive reaction were enrolled in western blot confirmation test (HTLV blot 2.4, MP Diagnostics, Switzerland). The data was entered into SPSS 16 and the prevalence rate of these viruses was obtained. Results: of 130 cases one case with 35 years old was female and 129 cases were male, with mean age 29.2 years. Results indicated that among this high risk groups there is no HTLV I or II positive case. Conclusions: Our findings imply that the prevalence of HTLV I&II antibody among HIV positive intravenous drug abusers at present is zero. This may reflect its low prevalence in general population and in blood donors. However, applying safety guidelines for preventing further propagation, screening of all blood donors and general population is recommended.

Keywords: HIV, HTLV I&amp,amp,II, Intravenous drug abuser, ELISA, Western Blot

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P233

Investigation of Clonality among Mycobacterium tuberculosis by PFGE

Mohammad Pooeedeh 1 * , Mahnaz Saifi 2

1- Qom-Azad Islamic University, 2- Pasteur Institude Of Iran-Tehran, pooeedeh@gmail.com, mahnasaifi@yahoo.com, masoomi@ymail.com, jabarzade@ymail.com

Results: The comparison of DNA fragments between Mycobacterium tuberculosis strains and Salmonella Chlerasuis serotype Branderup H9812 as molecular weight marker, were analysed by Gel compare II software and revealed two common pulsotypes (Common type A with 71 isolates and just one MDR tuberculosis patient and common type B with 29 isolates and 3 MDR tuberculosis patients) were ever known. Conclusion: 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 a society to know that if there are special genotypes between resistance strains and if these strains can be spread more among populations.Our researches show that about 90% of studied patients are traveling between Tehran to Eslamshahr, Shahriyar and karaj, so we should raise up and apply more control systems to inhibit the spread of these bacili more than before. In the other hand being 3 MDR-TB smear negative in common type B is an alarm to colonal expansion of these organism and needed more medical cares. Researches on mycobacterium tuberculosis show that analysis of large restriction fragments produced by restriction endonoclease enzyme in comparision with other techniques such as biotyping, serotyping and bacteriophage typing have more hetrogenicity in populations. probably such observed limited polymorphisms in this resaerch were due to conservation of restriction site of xbaI endonulease in genome.Nevertheless they were significant and we could discriminate spices of mycobacterium tuberculosis. We suggest applying another molecular typing techniques contemporarey with PFGE to have more genetic diversity.

Keywords: Mycobacterium Tuberculosis-Pulsed-Field Gel Electrophoresis

P234

Identification Molecular typing of Mycobacterium tuberculosis isolates using with IS6110-RFLP

Neda Alikowsarzadeh 1 * , Mahnaz Seyfi 1 , Esmail Jabarzadeh 1 , Elham Safarpour 1 , Ahmad Reza Bahremand 1 , Morteza Masumi 1 , Ali Karimi 1

1- Shah Seyed Ali Street In Qom
Roshanakkowsarzadeh@yahoo.com, Mahnazseuifi@yahoo.com, e.jabarzadeh@ yahoo.com, elham safar pour @yahoo.com, ahmad reza bahremand@ yahoo.com, Morteza masumi@ yahoo.com, ali karimi@ yahoo.com

Introduction: Molecular genotyping methods are important in detecting the dominance of transmission or reinfection in a population. 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 mycobacterial speices genomes. Material & method: During one year study genotyping of 100 of M. tuberculosis (M.t.) isolates from patients referred to Pasteur Institute of Iran were accomplished with IS6110-RFLP typing method.The IS6110 DNA probe was prepared with amplification of 245 bp-fragment using PCR method.This fragment was purified and labeled by digoxigenin. Enzymatic digestions were accomplished on extracted DNA of all Mycobacterium tuberculosis isolates using PvuII enzyme. After hybridization and detecting procedures the RFLP patterns were analyzed with GelcomparII software. Result According to the obtained dendrogram 35 common types (CT) and 17 single types (ST) and 3 predominant CTs were detected. We could not find any meaningful relation between antibiotypes and genotypes. Four MDR TB strains isolated among studied population. Conclusion According to our study the finding that 3 prevalent genotypes constituted 21% of the isolates show limited transmission rate among studied population. On the other hand high diversity among the rest of genotypes maybe due to newly acquired TB which is urgent need for TB control program. This will be value when compared with other characteristics such as level of virulence or antibiotic resistant pattern of isolates.

Keywords: Mycobacterium tuberculosis, IS6110 – RFLP, probe, PvuII enzyme, antibiotic resistan

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P235

Evaluation of Phylogenetic Typing of Escherichia coli Isolated from Wound Infections

Zahra Etebarzadeh 1 *

1- Department of Microbiology, Islamic Azad University, Masjed soleiman branch, Masjed soleiman, IRAN,
zahra_etebarzadeh@yahoo.com

Introduction and objective: Despite advances in the operative techniques and prophylactic use of antibiotics, postoperative wound infections remain a major source of morbidity and mortality for patients undergoing surgery. E. coli as the most important cause of wound infections after S. aureus is considers about 25-30% of these infections. Phylogenetic analyses have shown that E. coli strains fall into four main phylogenetic groups (A, B1, B2 and D). The aim of this study was typing and phylogenetic grouping of E. coli isolated from wound infections. Methods: After collecting wound infection samples, various biochemical and microbial tests were performed to detect of E. coli strains. After the final diagnosis and DNA extraction for typing and phylogenetic grouping of E. coli strains, multiplex (triplex) PCR technique of two genes (chuA and yjaA) and a DNA fragment (TSPE4.C2) was used. Then in order to identify genes and a DNA fragment, PCR products were electrophoresed and strains were divided in A, B1, B2 and D phylogenetic groups based on the presence or absence of genes and a DNA fragment. Results: 80 E. coli strains isolated from patients with postoperative wound infections were divided into the phylogenetic groups B2 (45%), D (29%), A (18%) and B1 (8%). Discussion: The results showed that pathogenic strains of E. coli in wound infections are belong mainly to B2 phylogenetic group and, to a lesser extent, to group D. Also the results showed that the molecular phylogenetic typing method based on PCR of genes and a DNA fragment as a simple and rapid method in typing and classification of E. coli strains is used for understanding about pathogenesis of infections, hospital infections control and epidemiological studies.

Keywords: E. coli, Phylogenetic typing, Wound infection

P236

Molecular detection of beta-lactamase genes (blatem, blactx) drug resistant and Glutaraldehyde in isolates of Acinetobacter baumannii separated from surfaces and equipments in selected hospitals of Tehran by using Multiplex PCR method

Mojtaba Sade1 , Hussein Godarzi2 , Gita Eslami2, Fatimah Fallah2*

1- PhD student at medical bacteriology course in Shahid Beheshti medical sciences medical-health services University , 2-(international branch) Microbiology department of medical college of Shahid Beheshti medical sciences University
msde110@gmail.com

method and determining the least preventing density of ceftazidim by Micribroth-Dilution method according to the CLSI instruction and considering ESBL enzyme and blatem, blactx genes and sensitivity or resistance of the resistant levels against drugs across from Glutaraldehyde have been evaluated. Conclusions: In this study, the isolates were resistant to imipenem and meropenem antibiotics and lincomycin (131 isolates, 100%) and cefetozaxim and docycilin (90%) and gentamicin(85/97%) and ciprofloxacin (98%) and ceftazidime (99%) and 100% of isolates were susceptible to colestin. minimum inhibitory concentration of imipenem and meropenem was 64 µgr/ml in 79 isolates. Discussion: In this study the importance of existence of MDR acintobacter baumanii that isolated from surfaces and equipments of hospitals discussed and the resistance of these isolates across from related glutaraldehyde to efflux pumps and purins and producing different genes of betalactamase -that confirms the resistance of levels across from disinfectants in hospitals- have direct relation and can have a crucial role in controlling plan and preventing of expansion of resistant isolates in hospital infections.

Keywords: Acintobacter Baumannii, Beta-Lactamase Genes, Disinfectants, Medical Resistance, Frequency Distribution Of Medical Resistance

P237

Isolation and determination of antibiotic resistance in Staphylococcus aureus isolated from blood culture of hospitalized patients from Khorram Abad Shohadaye Ashayer hospital

Fatemeh Saleh 1 , Soheila Soleiman Nezhad 2 , Hosein Azizi 3 , Nader Davvari 2 , Pegah Shakib 4*

1- Graduate student of Islamic Azad University of Urmia, Expert Laboratory shohadaye Ashayer hospital Khorram Abad , 2- Expert Laboratory shohadaye Ashayer hospital Khorram Abad , 3- Graduate student of Islamic Azad University of Borojerd , 4- MA in Microbiology, Expert, Department of Microbiology, Faculty of Medicine, Lorestan University of Medical Sciences
f.saleh11@yahoo.com, fungimed44@yahoo.com, azizihosein23@yahoo.com, naderdavari304@yahoo.com, shakib.pegah@yahoo.com

Introduction: Staphylococcus aureus is Gram-positive spherical cells in the skin, skin glands and mucous membranes of mammals are found. Staphylococcus aureus produces a variety of toxins. These toxins cause damage to the host cell membrane or combinations of host cell damage and contribute to bacterial invasion. aureus Can couse pneumonia, meningitis, endocarditis, or sepsis-induced organ pus in any other cause. Material and Methods: From February 1390 until July, 1391, 17 isolates from blood culture of patients in Khorram Abad shohadaye Ashayer hospital Staphylococcus aureus were identified with routine tests. Then, by the method of antibiotic susceptibility test Disk diffusion was performed according to CLSI criteria. Results: Among 17 isolates of Staphylococcus aureus isolated, 58.8% resistance to Cefixime, 17.6% to Ceftriaxone, 5.8% to Amikacin, 35.2% to Ceftazidime, 17.6% to Gentamicin, 17.6% to Imipenem, 17.6% to Cefotaxime, 17.6% to Tetracycline, 23.5% to Ciprofloxacilin, 11.7% to Ceftizoxime, 35.2% to Ampicillin, 11.7% to Co-Amoxiclave,5.8% to Clindamycin, 11.7% to oxacillin, 5.8% to Aflaksalyn, 5.8% to azithromycin were observed. The overall conclusion: Staphylococcus aureus is one of the causes of hospital acquired infection that is resistant to multiple antibiotics, including many beta-lactams (cephalosporins), aminoglycosides, tetracycline has acquired.

Keywords: Staphylococcus Aureus, Disk Diffusion Method, Sepsis

P238

The Prevalence of Bacteria Isolated From Tracheal tube in intubation Patients in Shahid Beheshti Hospital, Kashan, and Determination of the Antibiotic Susceptibility Patterns of the geram negative bacteria

Hasan Kosha , Hasan Ehteram , Zahra Paghale , Omid Roostaie , Mahzad Erami * , Parvaneh Keshavarzi

koosha.hasan@yahoo.com, h_ehteram@yahoo.com, erami_m@yahoo.com, omidroostaie@yahoo.com, parvaneh_keshavarzi@yahoo.com

Material & method: This descriptively study was performed from March 2012 to February 2013 Shahid Beheshti Hospital in Kashan. We surveyed 260 intubated patients with endotracheal aspiration, who had clinical manifestations of pneumonia and were admitted to different wards such as ICU (221 cases) ,CCU (2cases),NICU(3cases)and other section of hospital .Their average age was 55.6 and 124 of them were female and 136 of them male.. The specimens were microbiologically investigated and the isolated bacteria were identified by using standard cultural and biochemical tests. The antibiotic susceptibility testing was then performed on the isolates by disc diffusion method according to CLSI guideline. Results: Acintobacter (65.4%) was the most commonly isolated pathogen and followed by Klebsiella (18 %) , Staph. coag. negative.(13%), Pseudomonas aeruginosa (10%) , Ecoli (9.6%) , Staph aureus(9.2%) ,Enterococcus spp (2.3%), Enterobacter spp (1.9%),Citrobacter (1.1%),Stereptococcus (0.76%),Proteus spp (0.4%).Also 4 cases (1.5%)of sample were negative culture and 4 cases(1.5%) of them were fungi. Isolation of one organism was seen in178 cases (68.46%) and multiorganisms in 78 cases (37.2%).The antibiogram results of geram negative bacteria in order of sensitivity has included: Amikacin , Imipenem , Gentamicin , Ciprofloxacin , Piperacilin,Ceftizoxime, Ceftriaxone,Cefixime,Cefepim,Ceftazidim Conclusion:Detection of Acintobacter with Klebsiella , Staph. coag. negative and. E.coli increases the probability of nosocomial pneumonia. Also this survey indicates the emergence of antibiotic resistant infections in the studied hospital. So, there is a need to improve the effectiveness of integrated infection control programs to control and manage nosocomial infections caused by highly resistant organisms.

Keywords: Tracheal Tube , Intubation Patients , Antibiotic Susceptibility

P239

Prevalence of antibiotic resistance in Acinetobacter strains isolated from wound cultures of hospitalized patients from Khorram Abad Shohadaye Ashayer hospital

Fatemeh Saleh 1 , Soheila Soleiman Nezhad 2 , Hosein Azizi 3 , Nader Davvari 2 , Pegah Shakib 4 *

1- Graduate student of Islamic Azad University of Urmia, Expert Laboratory Shohadaye Ashayer hospital Khorram Abad , 2- Expert Laboratory Shohadaye Ashayer hospital Khorram Abad , 3- Graduate student of Islamic Azad University of Borojerd , 4- MA in Microbiology, Expert, Department of Microbiology , Faculty of Medicine , Lorestan University of Medical Sciences

f.saleh11@yahoo.com, fungimed44@yahoo.com, azizihosein23@yahoo.com, naderdavari304@yahoo.com, shakib.pegah@yahoo.com

Introduction: Acinetobacter are Gram-negative bacteria commonly involved in nosocomial infections. This opportunistic nosocomial pathogens are resistant to many antibiotics, causing infections such as bacteremia, pneumonia, meningitis, urinary tract infections and surgical wound infections. Material and Methods: From February 1390 until July, 1391, 20 isolates of Acinetobacter from wound culture of patients in Khorram Abad Shohadaye Ashayer hospital were identified with routine tests. Antibiotic susceptibility test by Disk - Diffusion method was performed according to CLSI. Results: Of 20 isolates of Acinetobacter, 60% resistance to Cefixime, 75% to Ceftriaxone , 40% to Amikacin , 65% to Gentamicin , 40% to Imipenem, 20% to Cefotaxime, 20% to Tetracycline , 70% to Ciprofloxacin, 10% to Ampicillin, 50% to Aflaksalyn, 25% to Cotrimoxazole was observed. The overall conclusion: The results of this study showed a high antibiotic resistance of Acinetobacter isolates, especially with the Cephalosporins.

Keywords: Acinetobacter, Antibiotic Resistance, Cephalosporins

P240

Antifungal susceptibility profile of the black yeast Exophiala dermatitidis, a neurotropic opportunist in humans

Massoud Zanjanchi Nikoo 1 , Hamid Badali 2 *

1- Rasoul Akram Hospital, Social Security Organization, Rasht, Iran, 2- Department of Medical Mycology and Parasitology, School of Medicine/Invasive Fungi Research Center (IFRC), Mazandaran University of Medical Sciences, Sari, Iran, massoudnikoo@gmail.com, badalii@yahoo.com

Material & Methods: Thus, the in vitro activities of eight antifungal agents against clinical (n = 66) and environmental (n = 15) strains of Exophiala dermatitidis were obtained. The Clinical and Laboratory Standards Institute (CLSI) provides no specific guidelines for testing the in vitro antifungal susceptibility of this fungus. No other testing protocol has also been validated for testing the susceptibility of E. dermatitidis. Results: In the present study, the resulting MIC90s for all strains (n = 81) were as follows, in increasing order: posaconazole, 0.125 µg/ml; itraconazole, 0.25 µg/ml; voriconazole, 0.5 µg/ml; amphotericin B, 0.5 µg/ml; isavuconazole, 1 µ/ml; caspofungin, 8 µg/ml; anidulafungin, 8 µg/ml and fluconazole, 16 µg/ml, without any significant differences in the pattern of susceptibility between environmental and clinical strains ($p > 0.05$) and genotypes A and B ($p > 0.05$). The difference in the MIC90s between the two groups of isolates did not differ by more than one dilution. Discussion: Therefore, the present study based on in vitro activity showed that posaconazole and itraconazole might have a potent activity with a best choice of alternative to amphotericin B, for E. dermatitidis cerebral phaeohyphomycosis. In addition, the un-marketing agent isavuconazole, which is also available as an intravenous preparation, has adequate activity against the latter agent. However, their clinical effectiveness in the treatment of Exophiala dermatitidis infections remains to be determined.

Keywords: Exophiala Dermatitidis, Genotype A And B, Ntifungal Susceptibility

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P241

Comparison of selective media in the presumptive test of multiple tube fermentation (MPN) technique, for determination of coliform contamination in water sources

Masoumeh Eslamifar 1 * , Masoumeh Hashemi Karouei 2 , Mohammad Ali Zazoli 2 , Khalil Akbari mohammadi 2 , Masoum Ali Movahedi 2

1- Mazandaran-Sari-18km of Farah Abad road-Faculty of Health, 2- Mazandaran -Tonekabon-Islamic Azad university-Department of Biology,
microbiologist.eslamifar@yahoo.com, mssepid4977@gmail.com, zazoli49@yahoo.com, khak43@yahoo.com, movahedi_43@yahoo.com

Materials and methodsIn this survey 23 water wells samples randomly 2 times were collected from 9 selected areas of Sari city, and transported to laboratory under standard terms. The water microbiological quality was determined by the standard MPN method (APHA, 2005). water samples was inoculated in Three sets of triple tubes of selective media and their incubation at 37 ◦C for 48 h. the positive tubes were sub cultured into BGLB and EC broth and were incubated at 44.5 ◦C for 48 h. A loop full from each positive gas tubes was streaked on EMB Agar plates. gram reaction and biochemical test of isolates were determined: Results Lactose broth medium due to the high false-positive results caused by growth of non-coliform fermentative organisms and the growth of gram-positive bacillus,was not be considered as the best option. LTB has more positive presumptive tubes than the MacKankey broth . Mackankey broth Due to the growth of Proteus and Pseudomonas, has less efficiency than any other medium.BGLB has been introduced as a highly efficient medium for the isolation of total coliforms and fecal coliforms (93% positive for total coliforms) and(77/5% for Fecal coliform).This study shows that in the specific conditions of time and temperature, this medium, can be used directly to determine the coliform bacteria.

Keywords: Selective media, MPN test, (Water sources)

P242

Diagnosis of Bordetella pertussis and parapertussis from collecting samples of Mazandaran province, Iran, in 1390

Fereshteh Shahcheraghi 1 , Sara Ghobadi Rad 2 , Mohsen Asouri 2 , Ali Asghar Ahmadi 2 * , Masood Keighobadi 3 , Effat Hayati 3 , Mohammadreza Ebrahimpour 4

1- Tehran- 12 Farvardin Ave, No 69, 2- Mazandaran- Amol- 5th Km Babol ancieant road, 3- Mazandaran- Sari, 4- Mazandaran- Amol,
Shahcheraghifereshteh@yahoo.com, ghobadisara11@gmail.com, f118ma@yahoo.com, ahmadi.pasteur@gmail.com, keighobadi216@yahoo.com, nadereh7hayati@yahoo.com, mohamadreza.ebrahimpour@yahoo.com

Materials and methods: 305 samples of nasopharyngeal and nasal from patients with suspected whooping cough (patients with persistent cough for more than two weeks) of Mazandaran province were sent to the microbiology lab of North Research Center of Pasteur Institute of Iran(NRC-IPI). In this study, culture method was used to separate samples. Specimens were cultured on Zhang and charcoal agar mediums by swap. mediums have 40µg/ml cephalexin antibiotic and haven't cephalexin antibiotic, suspected colonies were tested by Gram stain. Supplementary experiments were performed in the colonies with Gram-negative coccobacillus Results: Of the 305 cases, 20 cases (56.6%) were positive for Bordetella pertussis, one case was under 2 months. 13 cases were between 2-6 months and 6 cases were older than 6 months. 35% of patients did not use the vaccine and the rest patients, despite vaccination were afflicted. Discussion: The results of this study show that most isolated strains were related to the age group under 6 months in Mazandaran and 14.9% of received samples were Belonged to the group 2-6 months and their tests were positive, whilst half of these have received the vaccine. Type and brand of the vaccine, accuracy at the age of vaccination, check efficacy of the amount of vaccine and maintenance of cold chain of vaccines can be an important subject to survey the causes of these situations.

Keywords: Whooping Cough, Bordetella Pertussis, Vaccin

P243

Survey on brain autopsy samples of Rabies suspected animals from northern provinces of Iran during 2011-2012

Saeid Kavoosian 1 , Ali Asghar Ahmadi 1 , Ramezan Behzadi 1 , Mohsen Asouri 1 *

1- Mazandaran, Amol, 5th Km of Babol ancient Road,
saeidkavoosian@yahoo.com, ahmadi.pasteur@gmail.com, r_behzadi@pasteur.ac.ir, F118ma@yahoo.com

Materials and Methods: Samples was the autopsy of brain of suspected animals for rabies that had attempted to bite. By veterinary and health offices in the northern cities of Iran, autopsy brain samples collected in the proper container and sent to the North Research Center. Samples prepared at first and then the presence or absence of Negribodies searched. On the next step, if didn't seen any Negribody by two expert Employee, the extract of samples passaged on mice, If the mice developed the symptoms of the disease, the samples were reported positive. Results: 202 Sample received, 151 cases was positive for rabies (74.75%). Ardabil Province was sent 32 samples that 26 cases of that was positive(81.25%) ranked at first position in four provinces, Gilan with a 80.6% positive of 63 suspicious samples placed on second position and respectively Golestan(70%) and Mazandaran(66.67%) provinces with 90 and 18 suspicious samples sent to our research center was next rank groups. One of the bitted human infection resulted in death reported in this two years period. Conclusion: Because of the samples was from suspected cases of animal brain that have been sent by veterinary and public health offices to our research center, 74.75% average risk of rabies in domestic and wild animals cannot be attributed to the normal society of these animals, however, is a high percentage that requires rapid and proper planning. Also less sample collection of some provinces, despite the high number of animal bite, describes the higher necessity of evaluation of rabies incidence on animal population and the relevant authorities have to look deeper into the rabies problem.

Keywords: Rabies, Negribody, Northern Provinces

P244

The survay of prevalence of in pation refer to payvand clinical and specialty laboratory from 1384-1391

Elham Zeinali Nia *

eliza_z64@yahoo.com

Introduction: Pediculus humanus is a human obligatory parasites and its history goes back to ancient. The human blood is its only nutritious compound. Adult P.humanus is about (2-3) mm length and has a color spectrum from pink to black.P.humanus is an insect without wings that can neither fly nor jump. Pediculosis is not limited to a specific society or culture and can be seen in all people (especially in epidemic diseases). According to its importance, this study was done to investigate the pediculusis incidence in patients suffer from P.humanus that came to Payvand laboratory. Method:In this survey 26 patients who were suspected to have pediculusis, visited the Lab.After macroscopic exam for presence of live lice or nits, part of hair were encased and imposed to 10% KOH and evaluated for nits after 5-10 minutes under microscope.Results:Most of the patients were 4 to 10 years old. 5 were males and 21 were females.17 of girls were infected by presence of lice or nits. None of the boys were positive. Among all positive cases only 1 insect was seen and 8 cases were with empty nits. The symptom of illness in 1 case was not disappeared after 3 weeks of treatment. In one case both mother and child were positive.Discussion:Most of referred cases to lab were because of traveling and infection from kindergarten where children are closed and by use of each other personal stuff such as hat, scarf and towel which are infected. According to well economic and social situation of people who were studied one of the most important agents in spread of infection was being in crowded places. For prevention giving medical advices to families who are under treatment is helpful.

Keywords: Pediculus humanus, Hair, Nit

P245

First report of clonal evolution multidrug-resistant Acinetobacter baumannii Isolates in west of Iran by Pulsed-Field Gel Electrophoresis (PFGE)

Parviz Mohajeri 1 * , Abbas Farahani , Mohammad Mehdi Feizabadi , Abiri Ramin , Najafi Farid

1- Department of Microbiology, Faculty of Medicine, Kermanshah University of Medical Sciences Shirudi shahid Blvd, Daneshgah St, Postal code 67148-69914 Kermanshah, IRAN
p_mohajeri@yahoo.com, abbasfarahani25@yahoo.com, mfeizabadi@tums.ac.ir, ramin_abiri@yahoo.com, farid_n32@yahoo.com

Background and Objective: A. baumannii are usually multidrug resistant (MDR), including third generation cephalosporins, amino glycosides and fluoroquinolone. Pulsed-Field Gel Electrophoresis (PFGE) was then used to investigate the genetic relationships among the MDR isolates. The aim of this study was to determine MDR isolates, the existence of OXAs genes and finger printing by PFGE among MDR isolates of A. baumannii collected from Kermanshah hospitals. Material and Methods: Eighty-four A. baumannii were collected from patient at Kermanshah hospitals and Forty-two isolates identified MDR phenotype. The isolates were identified by biochemical tests and API 20NE kit. PCR was performed for detection of blaOXA-23-like, blaOXA-24-like, blaOXA-51-like and blaOXA-58-like betalactamase genes in MDR isolates and clonal relatedness was done by PFGE (with the restriction enzyme ApaI) and patterns analyzed by Bionumeric 7.00. Results and Conclusion: This study showed high resistant to Ciprofloxacin, Piperacillin and Ceftazidime (100%) and spread blaOXA-23-like gene (93%) in MDR isolate. The PFGE method obtained 6 clones: A (10), B (9), C (5), D (4), E (11) and F (3) that clone E was outbreak and dominant in different parts of hospitals studied. Most of isolates in clone A, B and E were more resistant than other clones. Only Tigecylcine > colistin remains effective for the treatment of infections caused by MDR A. baumannii.

Keywords: Acinetobacter Baumannii, Multidrug Resistant, OXA-Type, PFGE

P246

Occurrence of methicillin resistant Staphylococcus aureus (MRSA) in domestic cats

Arash Najafi Far 1 , Mahdi Askari Badooie 1 * , Ehsan Khaksar 2 , Hamed Zaman Khan 3 , Omid Moradi 3

1- 1.Faculty of Veterinary Medicine, Garmsar Branch, Islamic Azad University, 2- 3.Department of Clinical Sciences, Faculty of Veterinary Medicine, Garmsar Branch, Islamic Azad University, 3- 4.Department of Clinical Sciences, Faculty of Veterinary Medicine, University of Tehran,
arash.64.n@gmail.com, mic.consult@gmail.com, ehsan_khaksar@yahoo.com, Hzamankhan@ut.ac.ir, omn1360@yahoo.com

Staphylococcus aureus and other Staphylococci are among the most important pathogenic bacteria with significance in nosocomial infection and public health, which usually inhabit skin and mucus membranes of humans and warm-blooded animals. Due to the increasing tendency of keeping pet animals in urban areas, the risk of transmission of microorganisms like Staphylococci from animals to humans and vice versa has increased. The aim of this study was to investigate the presence of mecA gene as an indicator of methicillin resistance in S. aureus and other coagulase positive Staphylococci (CoPS) isolated from domestic cats. Fifty-two Staphylococcus spp. were isolated, of which 19 were S. aureus and 10 belonged to other CoPS. PCR assay showed presence of mecA in 57.9% (11/19) of S. aureus and 40% (4/10) of other CoPS isolates. In sum, 51.7% of CoPS isolates harbored the mecA gene and frequency was higher in S. aureus comparably. Due to the increasing number of pet ownership in cities, screening of pet animals for zoonotic and potential biological agents is crucial to prevent transmission to humans and especially children.

Keywords: S. Aureus, Methicillin Resistance, Domestic Cat

Workshops

W1

Quality Improvement: Lean Six Sigma

Reza Mohammadi , Rozita Khanafari

r.mohammadi.bio@gmail.com

Quality improvement is a component of total quality management (TQM). Laboratory tests are established by method evaluation and test performance is contiouously monitored by quality control. Quality improvement is beyond monitoring, detecting, and preventing errors. Quality improvement achieves new levels of performance, not otherwise realized through quality control. Lean six sigma provides a culture for qualty improvement. Every work is a process, and every process has variation and waste. Variation results in unpredictable and undesirable health outcomes. Waste results in delays. Lean six sigma uses a problem-cause-solution methodology to improve any process through waste elimination and variation reduction. Lean six sigma suggest a DMAIC methodology (Define, Measure, Analysis, Improve, and Control) for qulaity improvement.

Keywords: Quality improvement, six sigma, Lean six sigma

W2

Quality issues impacting routine coagulation tests: Illustrated by case studies.

Jamal Barsheed

United Arab Emirates
jamal.ali@stago.com

Assays in the routine coagulation laboratory are affected by numerous factors that will affect the results quality of routine coagulation assays. Preanalytical variables including sample and reagents handling and storage are among the most common factors that will lead to erroneous laboratory results. In addition, monitoring the analytical performance of coagulation analyzers by means of proper internal quality and external quality assurance procedures ensures the reliability of patient results reported and improves the clinical outcome. Case studies illustrating the impact of these important factors on the reliability of routine will be discussed to show how these factors will impact routine coagulation tests. Finally, some of the post analytical variables that will impact the interpretation of routine coagulation assays will be discussed.

W3

QF-PCR and its role in Clinical and Prenatal Diagnosis

Behjat Gholami

Spain
gholami.behjat@gmail.com

QF-PCR is on the basis of the detection of repeated DNA or STR which include approximately 30% of human genome. The intended use of this technique is mainly in the field of Diagnostic such as chromosomal aneuploidy, Gentic testing, Oncology and reproductive health. In this technique extracted DNA amplifies by PCR and then the PCR products analyze by Capillary electrophoresis.

W4

Reverse Hybridisation in modern diagnostics

Rosemarie Preyer

Germany

Reverse Hybridisation is an established and well standardized method, designed for rapid and reproducible detection of polymorphisms, point mutations and infections. It provides a wide range of information by one multiplex reaction. A PCR is first carried out, using DNA from biopsy, body fluid or swabs. The amplified gene fragments are then characterized in a hybridisation reaction with sequence-specific oligonucleotide probes, which are immobilized on nitrocellulose strips. This technique fits to the needs of modern diagnostics in the field of pathogens and their resistances like Mycobacteria tuberculosis as well as mutation on cancer genes like K-RAS. AID GmbH, located in south of Germany, was founded 1989 by Dr. Schllhorn develops, produces and sells a broad range of reverse hybridisation tests. Since 2009 AID GmbH maintains a successful partnership with Arian Gene Gostar to provide these kits in Iran market.

W5

Impact of Quality Assurance process on Hematology Analyzer Data Generation & Interpretation

Vijay Parekh

India
vijay.parekh@mindray.com

Introduction: More and more clinical laboratories today use automated hematology instruments to count blood cells & analyse them. Today, it is practically impossible to manage the ever increasing workload, ensure higher reliability and contain costs without these devices. However, notwithstanding their widespread presence, mere availability of a hematology analyzer in a laboratory does not guarantee highly reliable diagnostic data unless the user of analyzer is familiar with the instrument's features, aware of the factors that affect their performance, possesses expertise to cross verify the morphological abnormalities flagged by analyzer and is adequately experienced in correlating patient's clinical history, signs & symptoms with the analyzer data. The testing process covers three phases i.e. Pre-analysis, analysis and Post-analysis. Failure to follow the correct steps, beginning with test requisition, blood collection, specimen handling till the analysis, using recommended reagents & QC material etc. and including the data interpretation stage; would result in wrong conclusions. There are no prizes for guessing its adverse impact on patient care. Naturally therefore, every diagnostic laboratory must have a well defined & standardized testing path that efficiently assists medical professionals in providing better healthcare to the patients, who are the undisputed ultimate beneficiaries of these efforts. Objective for ordering blood test: is to make or confirm a diagnosis, to monitor efficacy of treatment given, to establish patient's baseline data for comparison later or simply screen for abnormalities during health check-up programs. Sample conditions: attention to patient preparation before & during blood collection, usage of correct type & proportion of anticoagulant, specimen storage and transport conditions before testing (especially when collection site is remote from testing site) etc. are all very important. Testing process: In case of automated analysers, the need to correctly standardize them (with calibrators traceable to recommended reference methods) & meticulously maintain the equipment as per manufacturer's recommended guidelines cannot be overemphasised. A wrongly calibrated analyzer generates worthless data and the onus of preventing that is the responsibility of the operator. The user must also implement appropriate internal QC procedures besides participating external quality assessment programs conducted by an independent third party. Corrective steps, when and if indicated by QAP results, also must be taken immediately. A misconception prevalent among many hematology analyzer users is to use reagents other than those manufactured/recommended by the original equipment manufacturer. Unlike biochemistry testing for instance, reagents for hematology analyzers cannot be substituted. If they are compelling reasons to substitute reagents using an alternate source, the analyzer user must own responsibility of ensuring that such reagent substitution does not negatively affect the data quality and must maintain documentary evidence to validate the decision. Post analysis: after the data is generated and before it is sent to the referring physician for review, the laboratory-in-charge has to at least correlate the figures with the available data/facts such as patient's clinical history & past medical record. If the analyzer has flagged any possible existence of an abnormality, s/he must interpret the flags (which are often manufacturer specific and cryptic) and report their significance in easily understandable medical terms. Table-1 provides a quick guide to Pre-analytical, Analytical and Post-analytical factors that affect analyzer performance. However, excellent articles are available and provide an in-depth detail of these factors. Any other factors? Analyzer users, conscious of the influence exerted by existing clinical conditions on the final data would be able to spare the embarrassment of making an erroneous interpretation. Please refer Table-2 for a non exhaustive list of conditions (clinical or sample etc.) that may result in either false decrease or false increase of numeric data and/or false positive flags. Conclusion: With increasing sophistication, modern hematology analysers provide higher efficiency, greater reliability, decrease blood film review rates. However, they have not eliminated the need for being vigilant of the pitfalls that adversely the data interpretation. Therefore, assuring Total Quality to the end users – such as referring physicians & the patients - is the primary responsibility of all automated analyser users. They must know not only the capabilities but the limitations of analysers they use.

Table No. 1

	S T A G E S		
A C T I V I T Y	Pre-Analytical	Analytical	Post-Analytical
Sample / Specimen			
Blood collection	Blood source i.e. venous, arterial or capillary etc., Needle size, Container type, Stasis etc.	Ensuring suitability of specimen being tested	During interpretation, awareness of their influence on the final result
Anticoagulant	Type, it's concentration and final ratio to blood, proper mixing etc.	Awareness of its effect during analysis	Awareness of its effect on the result
Sample Handling	Storage conditions before analysis	Mixing, bringing to RT before testing	Awareness of its effect on the result
Reagents	Selection w.r.t. their suitability, storage conditions & temperature	Stability after reconstitution	Awareness of their limitation in detection of abnormality
Calibrators & Stds.	Selection, Traceability & reconstitution	Stability after reconstitution	
Analyzer / Instrument (any equipment or implement used for analysis)	Knowledge of technology used its capabilities & limitations. Ensuring precision & Calibration	Proper usage as recommended by manufacturer in the Operation manual	Timely & periodic maintenance & calibration checks, as recommended in the Operation manual
Quality Assurance Process			
Practising IQC	Material selection w.r.t. its suitability & the data range covered. Viz. commercial QC material, re-testing of retained samples etc.	Preparation & testing to be similar to handling of routine patient samples	Ensuring data recovery as expected and charting the outcome
Participating in QAP	To take action on result of previous EQA participation	Handling EQA material just like patient samples	Prompt dispatch of results to the EQA agency
Using Delta checks	Assigning unique ID for each patient	Ensuring correct linkage of unique ID with the correct patient	Comparing current data with previous results
Using Moving averages	Monitoring the trend	Accumulating data points	Watching for the patient mix effecting Moving. Ave.
Level of responsibility	Primarily a medical technologist who is trained to operate analyzer	Primarily a medical technologist who operates analyzer as trained	Lab. Supervisor (usually a qualified pathologist) with necessary expertise

Table No.2:

CAUSES OF FALSE DECREASE *	AFFECTED PARAMETER	CAUSES OF FALSE INCREASE *
'in-vitro' cell lysis due to sample aging, clotted blood, presence of Cold agglutinins, leucocytes or leucocyte+plt aggregating in presence of antibody or due to alteration of the cell membrane, uremia, fragile WBCs	Total White cell count	NRBC, Giant PLTs, poorly lysed RBCs, Abnormal or unstable Hemoglobins, PLT aggregates, cryoglobulinemia, cryofibrinogenemia, paraproteins, Malaria parasites, hyper bilirubinemia, carryover from previous sample with high WBCs
Non lysis of red cells causes 'relative' decrease, neutrophil aggregation, Neutrophil peroxidase deficiency	Neutrophils # (WBC Diff)	Plasma interference (causing decrease of Eosinophils)
Abnormal lymphocytes (e.g. in CLL)	Lyphocytes # (WBC Diff)	Non lysis of red cells causes 'relative' increase, Malaria parasites, giant PLTs
Monocyte peroxidase deficiency	Monocytes # (WBC Diff)	Abnormal lymphocytes (CLL), Malaria parasites, shift neutrophil
Clotted blood	Hemoglobin	High WBC count, Hyperlipidemia, paraproteinemia, cryoglobulinemia
Cold agglutinins, 'in-vitro' cell lysis, extreme microcytosis	Red cell #	WBC very high, large PLTs, Hyperlipidemia, Cyroglobulinemia, cyrofibrinogenemia
False reduction of Red cells, factitious reduction of MCV due to hyperglycemia or excess EDTA (Short draw), Cold agglutinins	Hematocrit	Sickling, Hypo osmolar state, Factitious elevation of MCV (except when due to cold agglutinins) due to prolonged storage, sample aging
Partial clotting, PLT activation during blood collection, EDTA or Heparin induced aggregation, PLT setelliitism, Giant PLTs falling over upper threshold (impedance based counting)	Platelets #	Microcytic or fragmented Red cells, WBC fragments, Hemoglobin H disease, cyroglobulins

* Important: All factors do not affect all hematology analyzers. Patented technologies come with their respective Strengths as well Limitations

W6

Bio Safety Levels & its significance

Owis Yaqub

Singapore

Validation, assessment is one the growing concepts in the field of medical & biological lab to control contaminations for environment, user & sample. Bio Safety cabinets & their classes beside Bio Safety Levels are most significant topic for labs as well. Viral infection diagnosis & screening, pharmaceutical applications, cell culture, IVF lab, cytotoxic reagent preparation, drug preparation, biohazard element & many other application in life science & medicine brought ISO professional people to this point of classification of safety levels. Types of filters required, positive & negative pressure, air flow, adsorption filter for chemical & many other titles will be discussed on this training program & workshop. Topic & aspects to be explore & explain: 1-Bio Safety Levels. 2-Bio Safety Cabinet Classifications. 3-Bio Hazard. 4-Aerosol & Particle. 5-HEPA & ULPA Filters. 6-Chemical & Physical Decontamination. 7-Validation & Assessment for Lab sterility. 8-VOC & its significance on human embryo. 9-Quality Control for medical lab. 10-Air Flow, Horizontal & Vertical flow.

W7

Workshop on Evaluation of the quality and performance of in Vitro Medical Laboratory Diagnostics (In Vitro Diagnostics, IVD)

Siamak Mirab Samiee 1 , Marjan Farzami 1 , Bita Entekhabi 1 , Mahdi Rafiee 1 , Fariba Sabzavi 1

1- Reference Health Laboratory, Ministry of Health and Medical Education

This workshop will be held along The 6th International & 11th National Congress on Quality Improvement in Clinical Laboratories titled «Evaluation of the quality and performance of In Vitro Medical Laboratory Diagnostics (In Vitro Diagnostics)». Organizers have been developed the workshop content for medical laboratory directors and technical staff as the core audience. - An overview of how to ensure the quality and performance of In Vitro Medical Laboratory Diagnostics (In Vitro Diagnostics), -How to comply with the requirements of Medical Laboratory Standards (standards and checklists) addressing Diagnostic Methods and Procedures, kits and reagents and laboratory equipment, -The registration system of In Vitro Diagnostics in Iran, -National system for IVD Quality and performance Surveillance system; role of Director and technical staff, -The responsibility of IVD manufacturers and suppliers.

W8

Detection & Screening with using of Molecular Techniques in Lab

Mohammad Ali Saremi 1 , Iman Rezaei 2 , Masoud Houshmand 3

1-Baqiyatallah University of Medical Sciences, Applied Virology Research Center, 2- KTE Company, 3- Center for Special Diseases

masaremi@yahoo.com

Today accurate diagnosis is golden key of the way of specific treatment to reduce the risk of side effect of drug & other therapeutic methods as much as possible in medicine. Detection of certain disorder & screening the procedure of it during the period of treatment after diagnosis is required to find out which method of treatment & furthermore what dosage of particular drug or therapy is sufficient for particular patient. Molecular Techniques as a novel & highly specified method are the best chose for this aim because these techniques are accurate, need smallest amount of sample, fast, qualitative & quantitative, sensitive, keen and more successful in the field of diagnostic in Lab. Techniques such as PCR & Real Time PCR are the best examples for this concept which need small amount of sample & will release the fast & accurate result for the majority of disorders in the field of medical lab.

Keywords: Detection & Screening, Molecular Techniques,Pcr, Real Time Pcr.

W9

PGS with Real Time PCR

Mohammad Ali Saremi 1 , Iman Rezaei 2 , Masoud Houshmand 3

1-Baqiyatallah University of Medical Sciences, Applied Virology Research Center, 2- KTE Company, 3- Center for Special Diseases

masaremi@yahoo.com

Infertility & increase of the age of fertility & chromosomal beside Genetics abnormalities in human are the critical growing medical problem in societies in the world & methods of treatment & diagnosis are more significant. Genetic tests for couple & eventually for the fertilized embryo in IVF Lab for couples with the risk of abnormalities is going on in almost all standard IVF & Genetic Centers around the world. Techniques are using for this aim improving daily with the help of novel techniques. PGD: Pre implantation Genetic Diagnosis is a very well know method to analysis of numbers & position of chromosomes in embryo to find out any abnormalities for fertilized embryo in lab with the help of FISH for one or two Blastomeric cells. Single gene disorder & other genetic abnormalities can be explored with novel molecular techniques such as Real Time PCR with is known as PGS: Pre implantation Genetic Screening.

Keywords: Pgd, Pgs, Ivf, Infertility, Fertility, Chromosomal & Genetic Abnormalities, Pcr.

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Laboratory & Diagnosis

Official Journal of Iranian Association of
Clinical Laboratory Doctors

Vol. 4, No. 18, Supplement Issue, April 2013