ABO incompatibility in newborn babies

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Abstract

Background: Hemolytic disease of the newborn due to ABO incompatibility (HDN-ABO) is the most common cause of hemolytic disease of the newborn. The spectrum of disease that results is extremely broad, with relatively small percentage of infants requiring intervention for control of hyperbilirubinemia or anemia. In Iraq, significant neonatal hyperbilirubinemia including ABO incompatibility is still common cause of morbidities and mortalities.

Objectives: To know the severity of the Hemolytic disease of the newborn due to ABO incompatibility, it’s relation to the age, sex, gestational age, birth weight, parity of the mother and effectiveness of phototherapy in treating neonatal jaundice and preventing exchange transfusion.

Patients and methods: This Descriptive study was done in Children Welfare Teaching Hospital from the first of April t 2010 to the end of September 2010. A total of 100 neonates admitted to NCU of this hospital with blood group A, B or AB Rh+ve ,whose mothers were blood group O Rh +ve, were included in the study .The data were collected from the patient's mothers , the patient's relatives and case sheets. All patients were examined and their blood samples were tested for blood group and Rh, TSB, Direct coomb's test (DCT), hematocrit (Hct) and reticulocyte percentage. The data were observed and analysis was carried out using the Statistical Package for Social Sciences-Version 17 ( SPSS.v17).

Results: The total number of patients were 100 with age range from 1-12 days. Fifty three percent were males and 47% were females,85 % were term, 13% were preterm and 2% were post term. Family history of neonatal jaundice,history of jaundice ‘s treatment is negative in 54% .Seventy six percent presented during the second and third day of life and the jaundice was the hallmark of the disease in 100%. TSB was 322±76mmol/l. The Hct was 40-75% in( 89% ) and less than 40% in(11%). Reticulocyte percentage was less than 5% in 81 % patients and more than 5% in 19% patients . Direct coomb's test (DCT) was negative in all patients. Seventy - seven percentage of patients treated with phototherapy ,and in 46% of them the duration of phototherapy was 24-48hr, while 23% of patients treated with exchange transfusion and phototherapy.

Conclusions: HDN-ABO incompatibility is important cause of bilirubin encephalopathy (kernicterus).The age of neonate, gestational age , birth weight, parity of the mother has relation to the severity of the disease .The phototherapy is effective in treating neonatal hyperbilirubinemia and in preventing the need for exchange transfusion. The outcome is not good.

Keywords: Hemolytic disease, newborn, ABO incompatibility, neonatal jaundice
Clinical prognostic factors after the first attack of early onset multiple sclerosis in Iraq

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Abstract:
Background: Paediatric-onset multiple sclerosis (MS) has been a focus of great interest in recent years. The prognostic factors in early onset of MS have been evaluated in few studies with various methodologic approaches, and the discussion about the existence of clinical courses different from that of adult-onset MS is still open.

Objectives: To evaluate effect of the clinical factors after the first attack of central nervous system inflammatory demyelination in individuals with onset of multiple sclerosis before age 18 on the outcome of the disease.

Materials and Method: A record based study was conducted in multiple sclerosis center in the medical city in Baghdad. The records of 1125 multiple sclerosis patients from 2000 to 2009 have been surveyed. 77 patients had onset of multiple sclerosis below 18 years. Their first episode of central nervous system inflammatory demyelination data have been analyzed.

Results: 48 of the patient were female (62.3%) and 29 patients were male (37.7%). F: M ratio 1.6:1. Mean age at onset was 14.95 years. Seven patients were children (age below 10 years) (9.1%) and 70 patients were adolescents (age 10 to 18 years) (90.9%) at onset. The most common presenting symptom was optic neuritis (35.8%) followed by brain stem lesion. 59 patients had monofocal presentation (76.6%) and 18 had polyfocal presentation (23.4%). 47 patients had complete improvement of the first attack (61.0%), the rest had partial or no improvement. The mean progression index was 1.44±2.31. There was a strong inversed correlation between the progression index and interval between the first and second attacks ($P=0.0001$).

Conclusion: The prognosis of MS in paediatric age group after the first attack depend on the degree of recovery and the degree of residual disability. The initial site of insult is a predictor of the duration of further attacks. No significance to the age of onset and gender as a prognostic factors, and polyfocal first attack is independent predictor of outcome in MS.

Key worlds: Multiple sclerosis and Prognosis

Carotid Doppler Study in Patients with Cerebral Infarction

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Summary:

Background: Duplex ultrasound is inexpensive, non-invasive and can provide functional and anatomical information about vessel stenosis and plaque morphology. Color duplex flow ultrasonography has thus become the most widely used noninvasive method of assessing extra cranial cerebrovascular occlusive disease.

Objectives: To find the relation of the severity of carotid artery stenosis, intima media thickness, and atheromatous plaque morphology with the size of cerebral infarction.

Patients and Methods: A prospective study, conducted from September 2010 to May 2011, in Department of Radiology in Baghdad Teaching Hospital. A total of 62 Patients with clinical & radiological (brain CT) diagnosis of acute stroke, (42 males & 20 females) had been referred from Medical & Neurological units to the Radiology Department / Ultrasound Unit for carotid arteries examination.

Results: Thirty out of 62(48.4%) patients had evidence of ipsilateral carotid stenosis distributed as: 18 out of 30 patients (60%) had < 50% stenosis, 8 patients (26.7%) had 50-69% stenosis, and 4 patients (13.3%) had > 70% stenosis. Also in our study we found that homogenous hypoechoic and ulcerated plaques were more frequent in patients with large size infarcts.

Conclusion: From this study we concluded that the size of cerebral infarction is related to degree of ipsilateral carotid artery stenosis, especially when the plaque is soft with irregular or ulcerated surface, and that increased intima media thickness of common carotid artery is strongly associated with stroke and its risk factors.

Keywords: carotid Doppler, carotid intima media thickness, atheromatous plaque morphology.
CT Scan Value Of Temporal Bone In Assessment Of Congenital Deafness

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Summary:
Background: Computed tomography (CT) of the temporal bone is the first-line recommended imaging modality for SNHL. Because it can identify inner ear malformations that may be responsible for hearing impairment.

Objectives: To demonstrate CT abnormalities encountered in children with congenital deafness and to assess the value of CT in the prediction for cochlear implantation. Also to evaluate the incidence and types of inner ear abnormalities in children with congenital deafness identified with CT scan for implantation difficulties.

Patients & Methods: This is a cross sectional study carried out during the period from October 2009 to October 2010 at Baghdad medical city complex on children patients who are suffering from congenital deafness. The study included 60 patients (120 ears), 27 males and 33 females, were evaluated by CT scan of temporal bone before cochlear implants.

Results: Most of the cases undergo CT scan examination were normal (80%). Enlargement of the vestibular aqueduct is most common (10%) causes of congenital inner ear malformations, followed by cochlear malformation (8.3%) while dysplasia of lateral semicircular canal found in (3.3%) of cases.

Conclusion: High resolution CT scan is recommended in all patient for pre implant analysis of temporal bone morphology due to its reliability and easy availability. CT scan is the modality provided critical information on abnormalities of the otic capsule, pneumatisation of the mastoid, middle ear abnormalities, cochlear ducts patency and vascular abnormalities- thus helping to assess the suitability of the ear for implantation, determine the side to be implanted and to find any associated abnormality which could adversely influence the surgery or post operative period.

Key word: temporal bone, inner ear malformations, CT scan, cochlear implant
Review of Male Breast Disorder in Medical City

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Summary:

Background: Although uncommon, diseases of the male breast engender a tremendous emotional response. Fortunately, most diseases present with a mass and are easily detected. Unlike the female breast, only ducts but no lobules are present.

Objectives: The aim of this descriptive study is to present the clinical, pathological and ultrasonographic features of different breast lesions amongst males.

Patients & methods: Data obtained from 93 male patients with breast disorders collected between the first of January 2008 to the end of December 2009 and based on clinical examination were done in surgical wards in Baghdad teaching hospital and the main referral training centre for early detection of breast tumors.

Results: Gynecomastia was the most common pathological abnormality of the male breast (77 patients, 82.8%). Most of the patients presented in the 2nd decade of life. Amongst the malignant conditions, infiltrating ductal carcinoma was the only malignant tumor detected (5 patients, 5.37%).

Conclusion: The majority (94.63%) of male breast lesions are benign. Ultrasonographic examination is useful—but not the only for distinguishing benign versus malignant lesions, FNAC and histopathological examination yield the final diagnosis.

Keywords: Male breast, Gynecomastia.
Comparative study between ultrasound findings and intra-operative findings in non-traumatic Abdominal Pain:

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Summary:

**Background:** acute abdominal pain is one of the most common presentations in surgical wards. Ultrasound has been grown in popularity as an easy, quick and non-invasive imaging the abdomen. US is very useful means of non-invasively, modality for assessment of acute abdominal pain.

**Objective:** Study of the most common acute none traumatic abdominal diseases in adult patients admitted to Baghdad Teaching Hospital in department of surgery .Correlate the operative findings with sonographic features as to make the initial diagnosis of the diseases included in this study. Compare the diagnostic yield of abdominal ultrasound with that of computed tomography (CT).

**Methods** : The present study included eighty nine consecutive adult patients with non traumatic abdominal pain as their chief complaint were admitted in the department of surgery at Baghdad Teaching Hospital during the period from April 2009 to January 2010. Ultrasound was performed in all patients in addition to CT scan as the first techniques

**Results:** The results showed that acute non traumatic abdominal pain was more frequently in female patients (73.46%) than male (26.53%). Gall bladder disease was the most common cause of upper abdominal surgeries (n= 45). No differences were observed between surgeries for intestinal obstruction or acute appendicitis(n=6) at P < 0.05 High accuracy of using of US, CT scan in the diagnosis of acute abdominal pain ,the compatibility with the operative finding was %89.79 , 83.33% respectively

**Conclusion:** Sonography should be the first imaging technique in adult patients for the diagnosis of acute abdominal pain. CT scan should be used as a complementary study for suspected abdominal cases.

**Key ward:** abdominal pain, Acute, diagnosis, ultrasound
Clinical Implications In Pyle’s Disease, (Familial Metaphyseal Dysplasia), Report Of Five Cases with Review Of The Literature.

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Summary :

Background:  Pyle’s disease is a distinct skeletal dysplasia with defective metaphyseal modeling and Erlenmeyer-flask deformity of tubular bones.

Objectives: Clinical implications in five reported cases with mechanical bone properties different from normal bones were presented. One patient with Genu-valgum deformity had corrective osteotomy done with internal fixation showing osteotomy healing and sustained deformity correction with more than twelve years of follow up. Two patients presented with fractures and angular malalignment with abundant callus. The other two had insufficiency fractures due to repetitive low energy activities.

Results: Patients with Pyle’s disease have less than normal mechanical bone properties, insufficiency fracture or gross fractures may develop after low energy or repetitive trauma. Internal fixation can be used and healing may progress with abundant callus.

Conclusions: Pyle’s disease stands as a distinct type of metaphyseal dysplasia with characteristic clinical-radiological criteria. Genu valgum deformity may warrant osteotomy correction, Internal Fixation can be used and osteotomy may be rapid to heal with the widened bone surfaces. Protection against potential angular malalignment is important until there is sound healing of the fractured bone. Because of increased fragility of bone, a word of caution may be appropriate in the young patient indulged with sports activity.

Key words: Pyle’s, Metaphyseal, Osteotomy
Descriptive study of incidence of side effects of Pegylated interferon alpha therapy and their relation to age, gender, duration of treatment and type of hepatitis in 50 Iraqi patients.

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Summary:

Background: Hepatitis C and B is common disease all over the world and their chronicity is a social and medical problem so medical treatment by alpha interferon can change the mortality and morbidity.

Object: Identify the incidence of the side effects of pegylated interferon alpha in a sample of Iraqi patients with chronic hepatitis B&C and their relation to age, gender, duration of treatment and type of hepatitis comparing them with the literatures from other countries.

Patients and methods: A descriptive case series study was conducted on 50 patients, 24 male and 26 female, with established diagnosis of hepatitis B(20 patients) and C(30 patients) who attend Baghdad Teaching hospital and Gastroenterology and Hepatology centre in Baghdad between the period of January 2009 and October 2010 with follow up over at least 3 months. A direct interview with detailed history and thorough clinical examination with some simple laboratory investigation were done to determine any of the documented side effects of alpha interferon therapy or discover new side effects not elicited in the studies done on other populations.

Results: Flu-like illness is the most common side effect (84%), followed by fatigue, anorexia, local reaction and neuropsychiatric side effects while Neutropenia, lymphopenia and thyroiditis are rare.

There is no significant difference in the incidence of side effects between age groups with the exception of constipation which occurs more in younger age group. Arthralgia, palpitation, eczema, itching and rash increase in incidence with prolonged duration of treatment.

There is no significant difference in incidence of side effects between both genders apart from hypertension (more in female) and dizziness (more in male).

There is no significant difference in incidence of side effects between patients with hepatitis B&C but anemia occurs more in patients with hepatitis C and tremor reported more in patients with hepatitis B.

Conclusion: Almost all patients on treatment with interferon-based regimen will experience adverse events that can threaten good adherence. Flu-like illness is the most common side effect (84%), followed by fatigue, anorexia, local reaction and neuropsychiatric side effects (depression, nervousness, insomnia).

The higher incidence of anemia in patients with hepatitis C is mostly due to concomitant ribavirin therapy. Age, gender, type of hepatitis and duration of treatment can affect the incidence of interferon therapy.

Keywords: hepatitis C and B, PG interferon alpha treatment.
Serum Concentration of Molybdenum in Chronic Renal Failure Patients Requiring Hemodialysis

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Mahmood S. Khudhair*              FICMS

Summary:

Background: High serum molybdenum level may contribute to dialysis related bone disease in patients requiring long term hemodialysis in fact massive molybdenum accumulation causes joint deformity and arthritis

Objective: To asses the level of molybdenum in uremic patients requiring long term hemodialysis and impact of hemodialysis on the serum level of molybdenum before and after hemodialysis

Patients and methods: Eighty patients complain from chronic renal failure on long term hemodialysis aged (16 to 65) years, serum molybdenum was measured before and after hemodialysis

Result: The mean serum molybdenum level in 80 patients requiring long term hemodialysis was elevated before dialysis (0.29 ± 0.17 nmol/mL) and even after dialysis (0.16 ± 0.05 nmol/mL) in comparison to the normal value (normal 0.02------0.13 nmol/ml).The value significantly decrease from 0.29 ± 0.17 nmol/mL before hemodialysis to 0.16 ± 0.05 nmol/mL after hemodialysis (P.value <0.001).

Conclusion: This study confirmed that in chronic renal failure patients who are on haemodialysis, serum molybdenum level are significantly higher than normal, because the main excretion route of molybdenum is the kidney. The level of serum molybdenum was significantly decrease after hemodialysis. It is necessary massively remove molybdenum in the future with new dialysis method or with new adsorptive agent in patients requiring long term hemodialysis.

Keywords: Serum Molybdenum, hemodialysis,
Hematological assessment of gasoline exposure among petrol filling workers in Baghdad

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Summary:

**Background:** Petrol station attendants are workers chronically exposed to petroleum derivatives primarily through inhalation of the volatile fraction of petrol during vehicle refueling. The adverse health effects of gasoline exposure may be primarily related to impairment of the haemopoietic system with bone marrow depression.

**Objective:** The evaluation of hematopoietic changes among petrol filling workers

**Methods:** a cross sectional survey was carried out with 292 individuals, 146 petrol filling workers who spent their working hours in the stations of petrol filling in Baghdad city - group (1) and 146 individuals from people who already work in station as overseers - group (2), were investigated for the effect of gasoline polluted air which arise from inhalation or absorption of benzene through skin

**Result:** Of examined 292 individuals, 146 petrol filling workers (all of them) were found with hematopoietic changes. out of 6 potential risk factors, only one (smoking habit) found to be significantly associated with the presence of white blood cell changes (p<0.05) as compared with petrol filling workers who had no such risk factors. Of examined 146 comparison group, 40 (27.37%) were found with hematopoietic changes (only white blood cell changes and haemoglobin level) as compared with individual who had no such risk factor (smoking habit).

**Conclusion:** Although no cases of blood disorders were detected but blood involvement in petrol stations workers is still possible and should be given full attention in medical surveillance of workers.

**Keyword:** petrol filling workers, gasoline exposure, hematological changes.
Medico-legal Study of Shockwave Damage by High Velocity Missiles in Firearm Injuries

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Summary:

Background: Many variables determine the destructive capacity of a weapon; missile velocity is an important consideration. Wounding capability of a missile depends on the amount of kinetic energy dissipated in the tissues. A penetrating high velocity missile (usually bullets) transfers a destructive energy called shock wave to the surrounding tissues.

Objective: To detect and estimate tissues damage away from the main track of high velocity missiles in firearm rifled weapons injuries.

Methods: This cross-sectional study is performed in medico-legal institute in Baghdad for (8) month’s duration from (1-1-2010) to (1-9-2010). Full proper autopsy including external and internal examination of the body for all cases was performed, and complete medico-legal history was obtained to determine the type of the weapon used so as to include only the cases of high velocity missile injuries.

Results: The study included (30) cases; (21) men and (9) women with their ages ranged between (15 – 70) years. The total body injuries in all cases were (69) in the main track and (43) away from the main track of the missiles. Head and neck region was affected more than other body regions by primary injury, while the chest region was the most affected by distant injuries due to shock wave.

Conclusion: The shock wave damage had happened in all cases of high velocity missile firearm injuries in this study. Most of them were in the chest; the lower limbs were the least frequently affected. This should be put in consideration of forensic pathologist.

Key wards: Firearm injuries, Rifled weapon, High velocity missile, Shock wave.
Synthetic Biology: Science of the inthinkable

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(During the 3rd BBIC (Biosafety and Biosecurity international conference), in Amman, 13-15 September 2011, I witnessed the most astonishing and elegant lecture by the pioneer in this field Dr. Andrew Hessel (1). A number of definitions have been given to the science of synthetic biology. It is a new area of biological research that combines science and engineering. It encompasses a variety of different approaches, methodologies and disciplines. Many comprehensive reviews on the subject are available [e.g. Benner and Simour (2)].

The title synthetic biology first appeared in the literature in 1980 (3) where Barbra Hobom used the term to describe bacteria that had been genetically engineered using recombinant DNA technology. Elowitz (4) had a model for how gene expression should work inside living cells. Biological systems are physical systems that are made up of chemicals. Around the turn of 20th century, the science chemistry went through a transition from studying natural chemicals to trying to design and build new chemicals. This transition led to the field of synthetic chemistry. In 2000, the term synthetic biology was again introduced by Eric Kool and other speakers at the Annual Meeting of the American Chemical Society in San Francisco (5). Here, the term was used to describe the synthesis of unnatural organic molecules that function in living systems.

Engineers view biology as a technology-the systems of biotechnology or systems of biological engineering. The engineering of molecular circuits has been reviewed by Hasty et al.(6).

Synthetic biology will benefit from better models of how biological molecules bind to substrates and catalyze reactions. How DNA encodes the information needed to specify the cell and how multi-component integrated systems behave. Recently, multi-scale models of gene regulatory networks have been developed that focus on synthetic biology application.
The levels of cytokines IL-4, IL-10, IL-12p40, IFN-γ during acute toxoplasmosis

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Mohammed D. B. AL-hatemi BS (M.T.)

Summary:

Background: The different roles of cytokines IL-4, IL-10, IL-12p40, IFN-γ during acute toxoplasmosis disease in pregnant women.
Objective: Evaluate the role of cytokines IL-4, IL-10, IL-12p40, IFN-γ during the first trimester of pregnant women with acute toxoplasmosis.

Patients and Methods: Two hundred-seventy pregnant women (in the first trimester-12 gestational weeks) admitted to AL-Yar mouk teaching hospital suspected with toxoplasmosis, between (1-5-2010 and 1-12-2010), their diagnosis was made by using ELISA test for anti toxoplasma IgM antibodies and for measurements of cytokines levels IL-4, IL-10, IL-12p40 and IFN-γ.

Results: Based on the serum level of IgM antibodies against Toxoplasma gondii 60 patients showed a significant increase of IgM antibodies level from total pregnant women suspected with toxoplasmosis. Most infections between age groups (20-24) years and (30-34) years. The mean serum level of IL-4 and IL-10 showed significantly decreased level in patients with acute toxoplasmosis, while the other two cytokines IL-12p40 and IFN-γ showed significantly increased mean serum level in the same patients.

Conclusions: The study of the immune response to acute infection with Toxoplasma gondii has consistently provided new insights into the importance of both the humoral immune response as antibody production, which includes IgM, and IgG in addition to cell-mediated immunity and the role of cytokines in the control of this intracellular pathogen, such effects can be explain in this study by decreased serum levels of Th2 cytokines production such as IL-4, IL-10 and increased serum level of IL-12p40 and IFN-γ could contribute to spontaneous abortion during the first trimester of pregnant women with acute toxoplasmosis.

Keywords: Toxoplasma gondii, IgM, IL-4, IL-10, IL-12p40, IFN-γ.
The Association between HLA class II and Iraqi Leukemic Patients

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Summary:

Background: Leukemia is a type of cancer of the blood or bone marrow that is characterized by an abnormal increase of white blood cells.

Objective: Determine frequencies of HLA class II alleles (DRB1& DQB1) in Iraqi leukemic patients and roll out the association between HLA class II and leukemia types.

Patients: Ninety patients with leukemia were included in this study, fifty three cases were males and thirty seven were females. Patients were attending the National Center of Hematology / Almustansiriya University in Baghdad. 120 healthy individuals represented the control group collected from donors of kidney and bone marrow transplant.

Methods: low resolution PCR-SSO (Sequence Specific Oligonucleotide) technique was used for HLA typing.

Results: Males were predominant in all 4 types of leukemia with a ratio of 1.4:1 and with an age mean of 39.9 (±16) years. The most frequent HLA DRB1 was DRB1*3 in all leukemia patients but showed no statistical significance when compared with control group. HLA DRB1*5, HLA DRB1*5 and DRB1*6 were found significantly in association with CLL, CML and ALL respectively with a P-value < 0.05. Regarding to HLA DQB1 typing, only HLA DQB1*3 was significantly associated with CML patients.

Conclusion: The positive association of DRB1*5, DRB1*6 and DQB1*3 with leukemia may have the possibility that these antigens, or the genes encoding them, are closely linked with other possible susceptibility genes that could initiate oncogenesis process in leukemia patients.

Keywords: Acute leukemia, PCR-SSO, HLA class II, chronic leukemia.
Expression of D2-40 and CD34 in patient with colorectal carcinoma

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Summary:

Background: Colorectal is a worldwide health problem. Tumors stimulate the growth of host blood vessels, a process called angiogenesis, which is essential for supplying nutrients of the tumor, also stimulate the lymphatic vessels for metastasis.

Objective: This study design to investigate the distribution pattern of lymphatic vessels and blood vessels in patients with colorectal carcinoma and their relationship to metastasis and prognosis.

Materials and methods: A total of 40 cases of colorectal carcinomas were retrieved from the archives of the pathology department of teaching laboratories in Baghdad medical city, were included in this study. In addition 12 apparently normal colorectal autopsies use as control group. The lymphatic vessel and blood vessel in tumor tissue obtained from 40 patients with colorectal carcinoma, including 20 with metastases and 20 without metastases, were evaluated by immunohistochemistry using monoclonal antibodies directed against D2-40 and CD34.

Results: Significant correlation in the expression of D2-40 and CD34 showed in patients with colorectal carcinoma.

Conclusion: D2-40 is a new specific antibody for lymphatic endothelial cells and CD43 for blood vessels. Lymphogenesis and angiogenesis are commonly seen in patients with colorectal carcinoma.

Keywords: Lymphangiogenesis, Angiogenesis, Colorectal carcinoma, Metastasis.
Metallo-β- lactamase production by *Pseudomonas aeruginosa* of septicemic patients

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**Amera k. Al-Absali*** BSc, PhD

**Summary:**

**Background:** *P. aeruginosa* remains an important cause of life threatening bloodstream infection in immunocompromised patients, particularly those with hematologic malignancies complicated by neutropenia. Metallo-β-lactamase (MBL) belongs to β-lactamases, which requires divalent cations of zinc as cofactors for enzyme activity. They have potent hydrolyzing activity not only against carbapenem but also against other β-lactam antibiotics. MBL determinants are encoded by transferable plasmids and can rapidly spread to other bacteria. Thus, MBL-producing *P. aeruginosa* strains have been reported to be important causes of nosocomial infections associated with clonal spread.

**Objective:** this study was designed to detect the production of MBL by *p. aeruginosa* in septicemic patients and show the plasmid profile of such bacteria.

**Patients and methods:** This study included 53 *Pseudomonas aeruginosa* isolated from blood of patients their ages ranging from two days to 73 years, 28 males and 25 females. Some of the isolates were isolated from acute, 15(28.3%), and chronic, seven (13.2%), leukemic patients, five (9.4%) from each lymphoma and gastrointestinal neoplasms patients. Nine (17%), three (5.7%), six (11.3%) and three (5.7%) from urogenital neoplasms, breast cancer patients, septicemic patients due to burn infections and neonatal septicemia respectively. Disc diffusion method, disc potentiation method and rapid boiling procedure were used for detection of antibiotic susceptibility, MBL production and plasmid profiling.

**Results:** 98.1% of *p.aeruginosa* were resistant to cefixime, 90.6% were resistant to carbenicillin, but all of them were susceptible to impenem. 68% of the isolates were MBL producers, 32% were non producers. Plasmid profile reveals that all of the tested isolates harbor plasmids with different molecular weight.

**Conclusion:** *P.aeruginosa* can cause septicemia in cancer patients and other immunocompromised patients, like patients suffering from extensive burns and neonatal infants. All of SPA isolates were susceptible to impenem, and can be used as a drug of choice in treatment of such infections. 90.6% of these isolates were resistant to carbenicillin, and all except one were resistant to cefixime. About two-third on them were MBL producers suggesting the role of such enzyme in their resistance.

**Keyword:** septicemic *P. aeruginosa*, metallo-β-lactamase.
Estimation of the seminal fluid of subfertile patients of different age groups

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Summary: Background: Among different lifestyle factors, aging process can adversely affect male semen parameters and hence male fertility in this study, semen parameters and reproductive hormonal profiles of subfertile young men were compared with subfertile middle and old age men
Objective: The Objective of the current study is to find the relationship of age on fertility in Iraqi sub fertile patients.
Patients and Methods: At the male infertility clinic of Al-yarmuk teaching hospital, Almustanseria medical college, Baghdad, Iraq from the 1st of October 2010 to the end of August 2011, 100 men [81 young with mean ages (31.36 ± 5.18) and 19 middle or old age with mean ages (43.40 ± 6.08)] with history of subfertility for at least 1 year were evaluated by medical history, physical examination, semen analyses and reproductive hormonal profile namely serum FSH, LH, E2, Test. And PRL.
Results: there was a significant impairment of semen parameters namely sperm count and sperm motility in subfertile middle or old age men (means ± SD were 16.94 ± 19.25, and 9.88 ± 15.21 respectively as compared to subfertile young men in which means ± SD were 50.01 ± 25.69 and 26.53 ± 18.93 p value < 0.005 for both and with a non significant changes in sperm morphology and reproductive hormonal profile between the 2 groups.
Conclusion: Qualitative analysis of semen indicates that as men age, they produce fewer motile sperm, These findings may have fertility implications for men who choose to delay fatherhood.
Key words: male subfertility, age, semen, reproductive hormones
The correlation between FEV$_1$ / FVC with Arm span to height or chest to waist ratio as an index of Pulmonary function in healthy subject.

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Summary:

Background: The interpretation of pulmonary function tests relies on reference values corrected for age, sex and height. Height may be difficult to measure in patients with deformities of the thoracic cage or those who are unable to stand up properly. Current practice is to substitute arm span to height and chest to waist circumferences, once corrected either by a fixed factor or by an age – and gender-dependent regression equation.

Objectives: This study is aimed to look for the parallel correlation between FEV1/FVC and arm span/height ratio, or chest circumference/waist circumferences in healthy subject of both gender is related with pulmonary function.

Method: This study was derived from (407) healthy subjects, they were 189(46%) females and 218(54%) males with age range from 20 to 80 year, weight (41-112 Kg), height(148-188 Cm) and measured arm span(60-95 Cm),chest circumference(69-124 Cm) and waist circumference(63-129 Cm).

All the subjects were non-smoker with no history or symptoms of cardiovascular or respiratory diseases. The study was carried out in ALyarmouke – teaching hospital during the period (beginning of February 2009 till May 2010. The arm span (cm)/height (cm) ratio and waist circumference (cm)/chest circumference(cm) ratio were calculated. The forced expiratory volume in first second (FEV1) and Forced vital capacity (FVC) were measured using Wright's spirometer. The actual (measured) FEV1/FVC% was calculated

Results: The results were significant positive correlation between measured FEV1/FVC% with arm span/height ratio and does not correlate between measured FEV1/FVC% with chest/waist circumferences ratio for both gender.

Conclusion: Gender factor should be taken in to an account in the assessment of the ratio of FEV1/FVC% with arm span/height ratio.

Keywords:-FEV1,FVC,Arm span/height ,chest/waist and healthy subject
Evaluation of myocardial repolarization in patients with chronic renal failure

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Ammar A. Thamer** MBChB., MSc

Summary:

Background: Patients with chronic renal failure (CRF) are at increased risk of cardiovascular diseases and 60% of cardiovascular mortality in CRF is attributed to sudden death. Various abnormalities in myocardial repolarization assessed by QT variability index (QTVI) are associated with high risk of ventricular arrhythmia.

Objectives: The aim of the present study was to estimate and evaluate an index of myocardial repolarization instability (QTVI) of patients with CRF on haemodialysis, continuous ambulatory peritoneal dialysis (CAPD) or conservative treatment in comparison with healthy individuals.

Patients and Methods: The study was conducted on middle-aged; sixty eight (68) patients with chronic renal failure (CRF) of either sex in addition to age-matched healthy subjects (32) served as control, during the period between October 2009 to November 2010 in Al-Kadhimya Hospital. 36 patients were on haemodialysis, 21 were on continuous ambulatory peritoneal dialysis, and 11 on conservative treatment. Holter monitoring for 30 minutes was performed for each subject, and QTVI was calculated as the logarithm of the ratio between the variances of the normalized QT and RR intervals.

Results: QTVI was significantly increased in patients with CRF as compared with the control healthy subjects (−0.82± 0.56, −1.54± 0.27 respectively; P<0.01). However, QTVI did not differ significantly among patients on dialysis or conservative treatment.

Conclusion: the present study concludes an elevated QTVI in patients with chronic renal failure when compared with that of control.

Key words: QT variability index, chronic renal failure, ventricular arrhythmia.
Echocardiographic assessment of left ventricular diastolic dysfunction in ischemic heart disease

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Summary:
Background: The most common underlying cause of Left Ventricular (LV) diastolic dysfunction is myocardial ischemia. Diastolic dysfunction has been reported in up to 90% of patients with coronary artery disease. Transient and sustained ischemia causes profound alterations in LV diastolic function that may result in severe heart failure symptoms in patients who have otherwise well-preserved LV systolic function. For patients with chronic ischemic heart disease, echocardiography is supported as a valuable test for assessing global left ventricular function.

Subjects &Methods: One hundred sixty five (165) subjects with a history of ischemic heart disease (85 males, and 80 females; patient group) with a mean age of 57±10 years, in addition to sixty (60) healthy subjects of either sex served as controls (28 males, and 32 females) with a mean age 56±10 years were studied. This study was performed during the period from December 2006 until February 2008, at the echo unit of the Iraqi centre for heart diseases and the echo unit of the cardiac care unit at Baghdad / medical city teaching hospital. The plan of the study consisted of the following steps; Case history, Clinical & physical examination, Electrocardiography (ECG), Chest x-ray and Echocardiographic examination.

Results: Higher percent of IHD patients involved in this study developed Diastolic dysfunction (73%), while (27%) discovered to have neither systolic nor diastolic dysfunction by echocardiography. Patients who found to have diastolic dysfunction were those with nonSTEMI (36%), while (31%) were those with chronic stable angina as compared to STEMI (19%) and unstable angina (14%).

Conclusion: the results of this study, offer evidence that; higher percent of patients with IHD involved in this study developed diastolic dysfunction and they were assessed using echocardiographic parameters (M-mode and doppler).

Key words: Diastolic dysfunction, echocardiography, ischemic heart disease.
Evaluation of lung ventilation in relation to the waist/hip ratio among healthy adults

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Abstract

Background: lung function is closely related to anthropometric variables. A negative relationship between different adiposity markers and lung function has been well established, however, differences in their predictive power are still debated.

Objective: To evaluate the association between waist/hip ratio (WHR) and lung ventilation in both sexes among different weight categories in comparison with the other abdominal adiposity markers waist circumference and body mass index (BMI).

Patients and Methods: This study was conducted during May and June 2011. Ninety six healthy adults from both sexes volunteers in this cross-sectional study (55 males aged 18-65 years and 41 females aged 18-60 years) among health staff workers and patient relatives. After collecting personal and health information necessary for the study, all subjects underwent anthropometric measurements (height, weight, waist circumference, and hip circumference) before spirometry test using computerized spirometer. Descriptive data analysis was used to describe different variables in addition to Pearson correlation test of association between variables using the SPSS statistical package (windows version 17.0) was used to analyze the data.

Results: all spirometric data were within 80-120% of the normal predicted values, thus excluding the possibility of any asymptomatic airway disease. Data revealed a consistent negative correlation between BMI, waist circumference, and WHR with FVC and FEV1 in both sexes. The relationship was significant and stronger with the waist circumference compared to BMI and WHR. Unlike BMI and waist/hip ratio, the waist circumference revealed a stronger and significant negative relation with lung function when subjects were re-grouped according to gender especially in males. Furthermore, both BMI and waist circumference continued to show negative correlation with FVC and FEV1, however, the WHR revealed weaker and non-significant correlation than BMI and WHR among all body weight groups.

Conclusions: Present results revealed that waist circumference, as abdominal adiposity marker, is a better predictor of pulmonary function than BMI or waist/hip ratio, and investigators should consider it when investigating the determinants of pulmonary function.

Key words: waist circumference, hip circumference, WHR, body fat distribution, lung function tests.
Effect of Fibromyalgia Syndrome (FMS) on disease activity (DAS28) Score in patients with Rheumatoid Arthritis (RA)

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Summary:

Background: Rheumatoid arthritis (RA) is a systemic autoimmune disease with prevalence of 1% worldwide. It is characterized by chronic inflammation of synovial joints, which commonly leads to progressive joint destruction and consequent disability with reduction in quality of life. In some cases it is associated with fibromyalgia syndrome (FMS), a common systemic disease. It is a very common cause of a multiple regional musculoskeletal (MSK) pain and disability. It commonly associates with medically unexplained symptoms as chronic, widespread pain, asthenia, and sleep disorders. When a patient has both RA and FMS, determining the degree of RA activity may be difficult, because these patients typically have higher scores for pain and disability. This study aimed at evaluating whether there were differences in disease activity (DAS28) Score between patients with RA with and without FMS.

Subjects & Methods: Ninety subjects were included in this study, (30) of them were RA only, (30) were RA+FMS and (30) were healthy controls. The patients met the criteria of the American College of Rheumatology (ACR) for the diagnosis of the diseases. The following assessment was made in all patients participating in the study: a clinical history, evaluation of disease activity using the (DAS28) Score and Visual Analogue Scale (VAS), conventional laboratory measurements, and evaluation of the rheumatoid factor.

Results: The study shows that there is no statistical difference in age values. Moreover, it reveals that the majority of RA patients are females with a male ratio of 5:1. It appears that there is no significant difference between the groups regarding disease duration. The fatigue state depending on visual analogue scale (VAS) ranged from mild to severe, and most severe state was found in the RA-FM group. Rheumatoid factor were more common in the RA group, although differences were not significant. BMI (Body Mass Index) was as follows: both RA ONLY group and Control group within overweight state, while RA-FM group is in the obese class I category. The DAS28 score was significantly higher in RA+FMS than RA only (p=0.001).

Conclusion: The patients with RA who also have FMS have higher DAS28 scores, and the presence of WM may constitute a marker of a worse prognosis for subjective functional disability.

Keywords: Rheumatoid Arthritis, Disease Activity, Fibromyalgia.
Disease modifying effects of Simvastatin &/or Telmisartan on pulmonary function in patients with mild to moderate chronic obstructive pulmonary disease (COPD)

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Summary:

Background: Chronic obstructive pulmonary disease (COPD) is characterized by chronic airflow limitation and a range of pathological changes in the lung, some significant extra-pulmonary effects, and important comorbidities which may contribute to the severity of the disease in individual patients. Many immune, inflammatory and oxidative stress markers were found to be involved in the pathogenesis of COPD and inhibition of which was related to improved pulmonary function in these patients.

Objective: The aim of this study is to evaluate the anti-inflammatory, antioxidant and immunomodulatory effects of simvastatin, telmisartan or their combination on pulmonary function in patients with COPD.

Subjects and methods: Eighty patients with mild to moderate COPD according to GOLD standards criteria were participated in this study. They were recruited into four groups where the first group includes 20 patients on an inhaled $\beta_2$- agonist only (control), the second group includes 20 patients on an inhaled $\beta_2$- agonist plus 20mg/d simvastatin, the third group includes 20 patients on an inhaled $\beta_2$- agonist plus 40mg/d telmisartan and the fourth group includes 20 patients on an inhaled $\beta_2$- agonist plus combination of both simvastatin and telmisartan. Twenty apparently healthy subjects were selected to be a normal group for comparison. Baseline, 3 and 6 months periods were used to monitor patients. Pulmonary function tests were measured by a spirometer (spirolab ш) as forced expiratory volume in the first second (FEV1), forced expiatory flow at 25-75% of the forced vital capacity (FEF25-75%), peak expiratory flow (PEF) and forced expiratory volume in the third second (FEV3). In addition, assessing the plasma levels of tumor necrosis factor alpha (TNF-$\alpha$), malonyl dialdehyde (MDA) as markers of inflammation and oxidative stress was performed. ANOVA method for statistics was used to compare the results.

Results: The results showed that treatment with simvastatin, telmisartan and combination of both was associated with improved pulmonary outcomes by affecting the inflammatory and oxidative stress processes and this indicated by improvement in FEV1, FEF25-75%, PEF and FEV3, and reduction of TNF-$\alpha$ and MDA. However, the most effective therapy was with the combination of both simvastatin and telmisartan.

Conclusion: The anti-inflammatory, antioxidant effects of simvastatin and telmisartan were associated with improved pulmonary function and there may be a potentiation effect between statins and angiotensin receptor blockers (ARBs) that require further approval.

Key words: Statins, Angiotensin receptor blockers, COPD,
The effects of wild cherry & cumin on erythromycin-induced hepatic inflammation in diabetic rats. Biochemical, histological & histochemical study

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Summary:

Background: Complications of diabetes have become more common as the rate of diabetes increased. This complication includes liver and diabetic autonomic neuropathy. Erythromycin is generally well tolerated, but the high dose causes side effects (liver dysfunction). Herbs have been used as food and for medicinal purposes for centuries; there are many herbal remedies suggested for diabetes and diabetic complications, for example cumin, wild cherry and berries. This study was carried out to investigate the most effective extracted from approved selected antidiabetic plants on control blood glucose, lipid profile level and protective effect against oxidative stress in diabetic rats treated with erythromycin.

Objective: The aim of the present investigations is to examine histological, histochemical and biochemical studies the effect of wild cherry & cumin on the liver & kidney tissues.

Materials and methods: Fifty six Wister male rats were used and divided into four groups: Group I animal controls (N), Group II diabetic group treated with alloxan (D) which divided into 6 subgroups: I (DW) treated with wild cherry, II (DC) treated with cumin, III (DE) diabetic animals treated with erythromycin, IV (DEW) animals treated with wild cherry oil, and V (DEC) animals treated with cumin.

Results: Liver tissue of diabetes group revealed necrotic and vacuolated cells, dilated and congested portal vessels as well as areas of inflammatory cell infiltration in D&DE groups, while in DEW&DEC groups hepatocyte architecture appears more or less like control. Kidney tissue of D&DE animals obvious mesangial expansion and basement membrane thickening. While DEW&DEC groups showed no significant differences than D&DE groups.

Conclusions: Wild cherry and cumin can be recommended as a support for the prevention of diabetic complications for liver tissue, but not for kidney tissue.

Key words: Liver & Kidney tissues, Diabetes mellitus, erythromycin, wild cherry, cumin.