

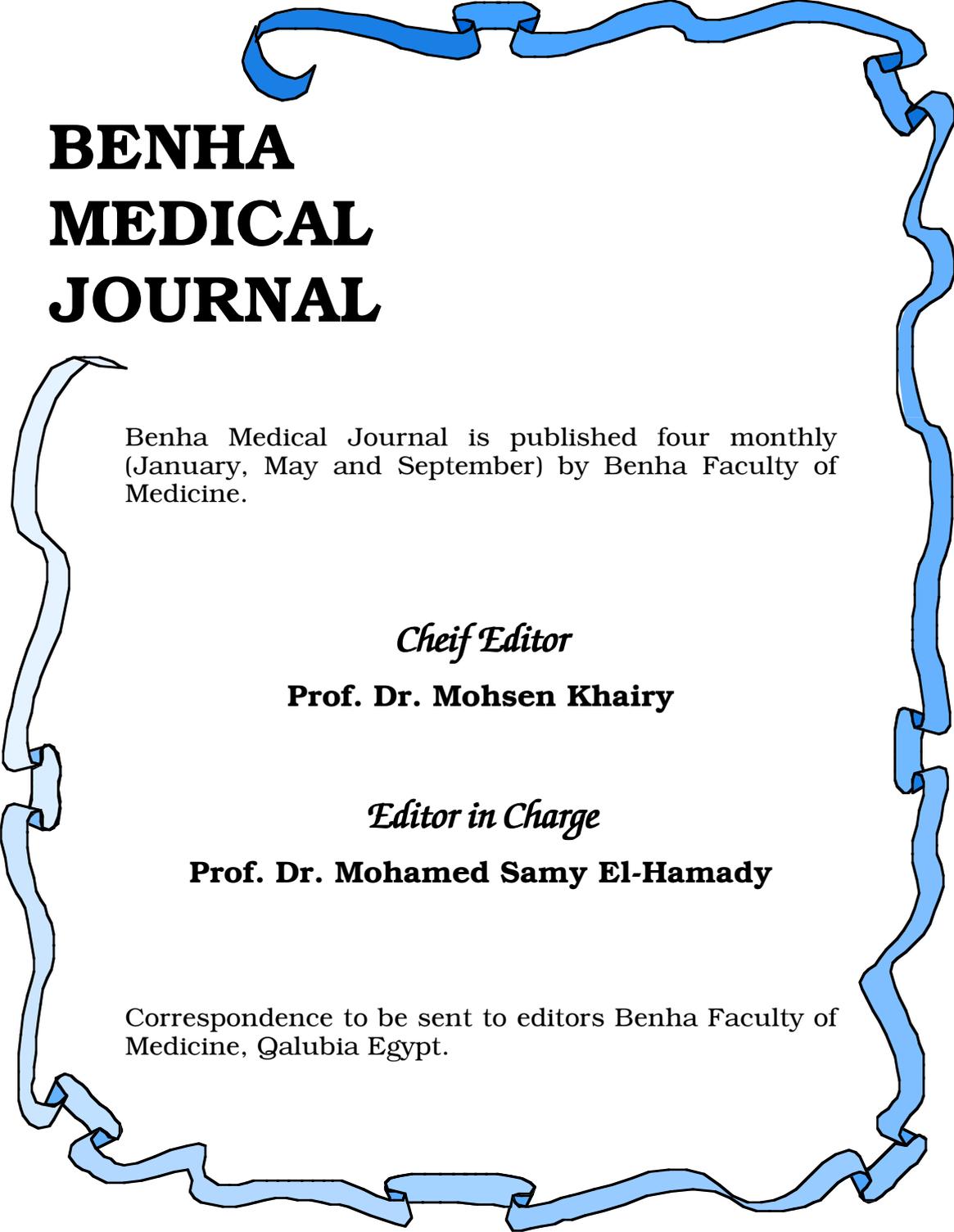
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# **BENHA MEDICAL JOURNAL**

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## **LONG TERM RESULTS OF BILIARY RECONSTRUCTION AFTER OPEN AND LAPAROSCOPIC BILE DUCT INJURIES**

**Ahmad M. Seleem MD, Mahmoud A. Amin MD,  
Ashraf M. Shouma MD, Abdel Azeem M. Ali MD,  
Saleh Elawadi MD, Yaser Ali MD,  
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### **Abstract**

*The management of bile duct injuries (BDIs ) after cholecystectomy remains a challenge for even the most skilled biliary tract surgeon. Although the management of these injuries and short term outcome have been reported, long term follow-up was limited. The aim of the study was to evaluate long term results of biliary reconstruction for post cholecystectomy BDIs for a minimum of five years. This prospective study comprised 41 patients admitted to, or seen at, Mansoura University Hospitals with the diagnosis of post cholecystectomy BDIs between January 1989 and January 1999. Their mean age was 44.3 years, and the majority were females (70.97%). On admission, all patients were subjected to detailed history, thorough clinical examination, hematological, biochemical and radiological investigations. All patients underwent operative intervention for biliary reconstruction, and followed-up regularly for a minimum of five years. The collected data were recorded in special preformed sheet for statistical analysis. Bile duct injuries followed open cholecystectomy in 22 patients (53.7%). Injury at operation detected in 6 patients (14.6%), while majority of injuries detected post-operatively with a mean interval of 34.03 days ( $\pm 5.7$ ). Preoperative measures as sonography guided drainage were done in 8 patients (22.9%). Types of repairs were: Roux en y hepaticojejunostomy in 15 patients (36.6%), Roux en y left hepaticojejunostomy in 15 patients (36.6%), Roux en y choledochojejunostomy in 6*

patients (14.6%), and axial end to end common bile duct repair on T-tube in 5 patients (12.2%). The outcome was good in 35 patients (85.4%) with a mean followup period of 9 years. Treatment failure occurred in six patients (14.6%), for whom reoperative biliary reconstruction was needed due to obstructive jaundice (5 patients), and erosion of the anastomosis by the hepatic artery (one patient). In spite of the high morbidity of biliary reconstruction after post cholecystectomy BDIs, good long term results could be achieved by early referral of the patients, use of ERCP and expert biliary tract surgeon.

*Key words:* Biliary reconstruction-Bile duct injuries-open and laparoscopic-long term results.

## **THE USE OF ULTRASOUND BY BREAST SURGEONS FOR MEASUREMENT OF TUMOR SIZE TO GUIDE CASE SELECTION FOR BREAST CANCER MANAGEMENT**

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and Pathology\* Mansoura University, Egypt.*

### **Abstract**

*Background: Accurate presurgical assessment of tumor size is important for choosing appropriate treatment especially with the increasing use of neoadjuvant and minimally invasive therapy. Breast sonography is increasingly used by breast surgeons as a part of their basic clinical evaluation. We undertook this study to compare clinical evaluation, mammography and breast sonography for evaluating breast tumor size.*

*Method: A prospective analysis of 124 consecutive patients with palpable breast cancer was performed. All women had clinical, mammographic and sonographic assessment of tumor size. Measurements were compared to the pathological tumor size of the surgical specimen.*

*Results: Both Mammographic and sonographic measurement tend to underestimate the tumor size while clinical assessment tends to overestimate it. Ultrasound was significantly more accurate at determining the size of the tumors. The maximal tumor diameter measured was within 2 mm of the pathological tumor size in 45.2% of cases measured by breast ultrasound, 28.2% of cases measured by mammography and 14.5% of cases measured clinically.*

*Conclusion: These data suggest that ultrasound is more accurate than clinical breast examination and mammography in assessing breast cancer size. Ultrasound assessment should be used by surgeons as an accurate adjunct to clinical examination in outpatient's breast clinics.*

*Keywords: Breast ultrasonography; Tumor size; Breast cancer.*

**GENESCAN AND SEQUENCING ANALYSIS OF  
IMMUNOGLOBULIN HEAVY CHAIN (IgH) AND  
T CELL RECEPTOR GAMMA (TCR- $\gamma$ ) GENE  
REARRANGEMENTS IN ACUTE LYMPHOBLASTIC  
LEUKAEMIA (IMPLICATION FOR SELECTION OF  
MOLECULAR MARKERS FOR DETECTION  
OF MINIMAL RESIDUAL DISEASE)**

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**Abstract**

**Introduction:** Residual molecular positivity of clonal immunoglobulin heavy chain (IgH) and T cell receptor gamma (TCR $\gamma$ ) rearrangement allow detection of patients at an risk of relapse . If these rearrangement are to be used for universal follow up ,it is important to determine the extent to which they are frequent in B and T-ALL. Genescan and sequencing analysis of PCR amplified junctional region of (IgH) and (TCR $\gamma$ ) are non-radioactive and sensitive approach leading to reliable detection of clonal lymphoid cell population in a polyclonal background .

**Purpose :** The purpose of this study was to determine the frequency and type of IgH and TCR $\gamma$  rearrangement in patients with acute lymphatic leukaemia (ALL) by using new sets of primers for PCR amplification , genescan and automatic sequencing and their implication for the study and detection of minimal residual disease(MRD ).

**Experimental design:** Immunophenotyping by flowcytometry and PCR amplification of IgH and TCR $\gamma$  gene rearrangement was performed for 12 patients with ALL with 2 sets of fluorescently labeled and unlabeled primers (FR2b/JH and FR3a/LJH) for IgH and multiplex of primers for TCR $\gamma$  genes rearrangement detection. PCR products were size separated by capillary electrophoresis and analyzed by automatic fluorescence quantification and size determination using genescan software.

*DNA sequences using unlabelled primers for IgH gene was done for 8 cases of B- ALL after genescan .*

**Results:** *Multiparametric flowcytometry analysis of the 12 patients with ALL showed that 8 patients were of precursor B-ALL (c-ALL) , and 4 of pre T-ALL. In precursor B-ALL clonal IgH gene rearrangement was detected in 7/8 cases (87.5 %) and this was confirmed by sequencing of 4/8 cases (50%) and also TCR $\gamma$  gene rearrangement was detected in C-ALL in 1/8 (12.5%). In pre T-ALL patients TCR $\gamma$  gene rearrangement was detected in 3/4 (75%) .*

**Conclusion:** *Clonal/ IgH and TCR- $\gamma$  gene rearrangement is common in ALL. Clonal/ IgH gene rearrangement detection and sequencing can be done by FR2b/JH and FR3a/LJH primers . TCR- $\gamma$  gene rearrangement was detected in B-ALL and this must be considered when standardizing consensus primers for study of MRD .*

**EVALUATION OF GENESCAN ANALYSIS  
OF IMMUNOGLOBULIN HEAVY CHAIN (IgH)  
AND T-CELL RECEPTOR GAMMA (TCR- $\gamma$ ) GENE  
REARRANGEMENTS IN THE DIAGNOSIS  
OF SOME LYMPHOPROLIFERATIVE DISORDERS**

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and Amal Abdkader MD**

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**Abstract**

**Introduction:** *The diagnosis of lymphoid neoplasms often required, in addition to morphologic and immunophenotypic criteria, the demonstration of the monoclonality of the lymphoid proliferation. In the last years, the detection of clonality by southern blot analysis is increasingly replaced by PCR. Additional analysis of PCR product by means of denaturing gradient gel electrophoresis, finger printing techniques, heteroduplex analysis, gene scan analysis and direct sequencing is necessary .*

**Purpose :** *The purpose of this study was to assess the value of gene scan analysis of PCR product of IgH and TCR $\gamma$  gene rearrangements in a variety of morphologically and immunologically defined human CLL, NHL and in a group of normal control in attempt to clarify its potential role in the diagnosis of lymphoproliferative disorders.*

**Experimental Design :** *A total of 15 patients enrolled in this study were analyzed by flowcytometry for immunophenotyping and by genescan analysis for IgH & TCR  $\gamma$  genes rearrangements .This concerned 10 CLL and 5 NHL patients with bone marrow infiltration. and 10 healthy donors as negative polyclonal control. PCR amplification of IgH and TCR- $\gamma$  gene rearrangement was performed with FR2b/JH and FR3a/LJH primers for IgH and mix I and 11 sets of primers for TCR $\gamma$  genes rearrangement detection. PCR products were size separated by capillary electrophoresis and analyzed by automatic florescence quantification and*

size determination using genescan software.

**Results:** Clinical and histopathological diagnosis were confirmed by flowcytometry in all patients (100%) . Genescan analysis in CLL patients showed clonal IgH gene rearrangement by FR<sub>2b</sub> and FR<sub>3a</sub> in 90% of cases and (75%) in B-cell NHL . In 2 cases with SLL and FL reactive polyclonal TCR  $\gamma$  gene rearrangement was detected with primer mix I and II respectively. T-cell NHL patient was monoclonally rearranged with primer mix I. In normal control all 10 cases revealed polyclonal rearrangement results with TCR  $\gamma$  primer mix I and II. There was statistically non significant difference in the diagnosis of monoclonality between flowcytometry and genescan( $P \leq 0.2$ ) The sensitivity and positive predictive value of genescan was 100% and the specificity and negative predictive value was 86.6 %

**Conclusion:** Analysis of IgH and TCR $\gamma$  genes rearrangement by genescan using FR<sub>2b</sub>/JH and FR<sub>3a</sub>/LJH for IgH and mix I, and II sets of primers for TCR $\gamma$  genes rearrangement provides a valuable help for flowcytometry in some cases .Genescan is superior to currently available PCR methods with respect to speed, accuracy, sensitivity and high throughput for diagnosis of some lymphoproliferative disorders .

**Key wards :** Genescan - Immunoglobulin Heavy Chain - T-Cell Receptor Gamma - Gene Rearrangements - CLL - NHL

## **EVALUATION OF THE IMPACT OF PRONE POSITIONING ON ENTERALLY-FED MECHANICALLY-VENTILATED ICU PATIENTS**

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and Samir El-Sayed MD**

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### **Abstract**

*The present study was designed to evaluate the tolerance of enteral feeding in enterally-fed mechanically-ventilated patients during supine and prone positions as judged by measuring the residual gastric volume (RGV) and comprised 23 patients admitted to ICU. All patients were maintained on enteral feeding at a rate of 60 ml/ hour for 6 hours and immediately after the 6-hr period, RGV was determined and patient was turned to the other position and enteral feeding was continued for another 6 hours and at the end of which RGV was re-estimated. All patients were managed in both positions with head elevated for a maximum of 30° and the study was conducted in supine position first and then patients were turned to prone position. There was a non-significant increase in RGV in prone position compared to that estimated in supine position. Only 4 patients had RGV of >150 ml in both positions, while the other 19 patients had a mean RGV of <150 ml, with a non-significant increase in RGV in prone compared to supine position. Three patients were sedated in the prone position but not in the supine position, however, the mean RGV in sedated patients showed a non-significant increase compared to non-sedated patients with a non-significant increase in RGV in prone compared to that estimated in supine position in either sedated or non-sedated. It could be concluded that postural change of enterally-fed patient from supine to prone do not significantly alter gastric emptying as judged by RGV estimation and is recommended whenever indicated.*

**COMPARATIVE USEFULNESS OF MYOCARDIAL  
VELOCITY GRADIENT AND TISSUE DOPPLER  
IMAGING IN DETECTING ISCHEMIC  
MYOCARDIUM BY A DOBUTAMINE CHALLENGE  
IN PATIENTS WITH SINGLE VESSEL  
CORONARY ARTERY DISEASE**

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**Abstract**

*Background: Tissue Doppler imaging is a new echocardiographic method, which can provide a quantitative technique for identification of CAD; it improves the results of DSE in less expert readers. However, increased translational motion during a dobutamine challenge may affect the results of the endocardial velocities. Myocardial velocity gradient (MVG) is an indicator of regional myocardial contraction independent of the translational motion.*

*Objectives: We sought to assess the clinical significance of MVG in detection of ischemic myocardium in patients with single vessel disease in whom the sensitivity of DSE is low. Methods: we studied thirty patients with confirmed single vessel coronary artery disease in a sub-maximal dobutamine protocol; we measured the systolic & diastolic endocardial velocities at rest and at high dose dobutamine. We measured the MVG at rest, low dose (10 $\mu$ g/kg/min) and at high dose (30 $\mu$ g/kg/min) dobutamine. Results: While pulsed wave-TDI could detect statistically significant difference in the systolic velocities in the ischemic basal & mid territories at rest, it failed to detect statistically significant difference between the ischemic & non-ischemic territories in the systolic velocities at peak stress. There was no statistically significant difference in the early diastolic endo-*

*cardial velocities in the ischemic and non ischemic territories at peak stress except in the inferior and posterior wall that showed significant decrease in the ischemic segments velocity. So PW-TDI could differentiate between the ischemic and non-ischemic segments in these territories and the differences were statistically significant.*

*MVG failed to distinguish the ischemic from non-ischemic segments at the rest study. At low dose dobutamine mean MVG in the ischemic mid anteroseptal segments was ( $1.7 \pm 0.3$  S-1 ) versus (  $2.7 \pm 0.7$  S-1 ) for the corresponding non-ischemic mid anteroseptal segments, ( $P < 0.05$ ). Also, the mean MVG in the ischemic mid posterior segments at low dose was ( $2 \pm 0.5$  S-1 ) versus ( $3.2 \pm 0.7$  S-1 ) in the corresponding non-ischemic mid posterior segments. ( $P < 0.05$ ). So, MVG could differentiate the ischemic and non-ischemic segments at low dose dobutamine stress. Mean while, the response of MVG to dobutamine could differentiate the ischemic & non-ischemic territories. In this study we could create a potential cutoff value of  $\Delta$ MVG for differentiating the ischemic segments in the mid-anteroseptal segments equals 1.7 and in the mid posterior segments equals 1.95. Conclusion: Detecting the  $\Delta$ MVG with sub-maximal dobutamine protocol would be a very safe and sensitive method of detecting ischemic myocardium in patients with single vessel disease.*

## **OSSICULAR RECONSTRUCTION USING BIOACTIVE GLASS PROSTHESES**

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*Audiology Unit, ENT Department - Mansoura University\*, Egypt*

### **Abstract**

*Many different materials have been incorporated in ossiculoplasty. Lysis of some alloplastic materials, foreign body reaction or prosthesis extrusion are the major causes of failure. Recently, bioglass 45S5 have been introduced. It is an osteoconductive resorbable material which has the most potent effect of bone cell function. The aim of the study was to evaluate the efficacy and stability of bioglass in ossicular reconstruction. The study was conducted on 30 patients of both gender with conductive hearing loss with or without chronic suppurative otitis media. Incus bridging was done in 7 patients (group I). PORP was used in 10 patients (group II) and TORP in 13 patients (group III) after modified radical mastoidectomy operation. All patients were subjected to history taking, ENT examination, pure-tone and speech audiometry and CT scan of temporal bone. The patients were followed up for 12 months postoperatively. Results showed clinically and statistically significant hearing improvement in groups I and II, but no significant hearing improvement in group III. Air bone gap closure to within 20 dB was achieved in 85.7% and 60 % in groups I and II respectively. There was a significant negative correlation between middle ear risk index and hearing outcome. Follow up CT scan of temporal bone revealed increased prosthesis density from about 65% one month postoperatively to more than 90% of adjacent bone density after 6 months. Results suggested that bioglass is a promising material for ossiculoplasty.*

## **URINARY EXCRETION OF ADVANCED GLYCATION END PRODUCTS IN DIABETIC NEPHROPATHY**

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and Somaya Soloma MD\***

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### **Abstract**

**Background and Aims:** *The advanced glycation end products ( AGEs ) hypothesis proposes that accelerated chemical modification of proteins by glucose during hyperglycemia contributes to the pathogenesis of diabetic complications including nephropathy . It has been reported that the concentrations of both pyrraline and pentosidine, well characterized advanced glycation end products ,are increased in the urine of diabetic patients. Aim of the present work is to evaluate the relationship between urinary concentrations of pentosidine and pyrraline and the severity of diabetic nephropathy in a group of type 2diabetic patients .*

**Material and methods :** *Thirty patients ( 13 males and 17 females ; age range 38-65 years ; type 2 diabetes ; 13 with normoalbuminuria ,9 with microalbuminuria and 8 with macroalbuminuria) and 14 age matched healthy controls were studied. Both urinary pyrraline and pentosidine were measured with the use of high - pressure liquid chromatography . We compared pyrraline and pentosidine concentrations with glycaemic -control indices , urinary albumin excretion, serum creatinine , lipid values , systolic and diastolic blood pressure in diabetic patients .*

**Results :** *The urinary level of pentosidine was significantly higher in diabetic patients than in control subjects ( $P<0.001$ ). In contrast , urinary concentrations of pyrraline were not significantly high between both groups ( $P=0.09$ ). Urinary pentosidine concentrations were greater in diabetic patients with macroalbuminuria and microalbuminuria than in those with normoalbuminuria ( $49\pm 19.9, 40\pm 18.1$  and  $27.3\pm 3.6$  pmol /mg Cr respectively). However, urinary pyrraline concentrations were relatively lower in diabetic patients with advanced nephropathy . A significant posi-*

*tive correlation was found between urinary pyrrolaline and preceding three months HbA1c. No significant correlations were found between urinary concentrations of pentosidine and pyrrolaline and total cholesterol , HDL , LDL serum levels as well as systolic and diastolic blood pressure among diabetic patients .*

**Conclusions :** *We conclude that urinary concentrations of pentosidine were significantly higher in patients with type 2 diabetes and its concentration correlates significantly with the degree of nephropathy categorized by albuminuria .*

*Urinary pyrrolaline concentrations were not significantly high in diabetic patients and it is relatively low in patients with advanced nephropathy comparing to normoalbuminuria patients .*

*There is no significant differences in urinary pentosidine and pyrrolaline concentrations between diabetic patients with and without hypertension as well as with and without hyperlipidemia .*

## **THE ROLE OF GASTRIC MUCOSAL NITRIC OXIDE SYNTHETASE IN PEDIATRIC PATIENTS WITH LIVER CIRRHOSIS WITH AND WITHOUT GASTROPATHY**

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National Liver Institute , Menoufiya University and Pharmacology  
\*\*\*Department , Faculty of Pharmacy , Tanta University, Egypt.*

### **Abstract**

*Background: The importance of portal hypertensive gastropathy (PHG), as a potentially bleeding lesion in patients with portal hypertension, has been appreciated. There were few studies in children concerning this subject.*

*Aim: This work was carried out to (1) determine the relation of gastric mucosal nitric oxide synthetase (NOS) and PHG in children having liver cirrhosis by measuring nitric oxide in gastric mucosa and in serum, (2) clarify the pathogenesis of PHG, and (3) verify whether vasodilatation seen in PHG is a passive congestion or active process, (4) the relations between serum NOS and oesophageal varices, previous sclerotherapy and Child Pugh classifications were also investigated.*

*Material & Methods: We measured serum and gastric mucosal NOS in 45 pediatric patients with liver cirrhosis , autoimmune hepatitis in 14 cases (31%), chronic hepatitis B and/or C in 11 cases (24%), neglected biliary atresia in 8 cases (18%), Wilson disease in 7 cases (16%) and Budd-Chiari syndrome in 5 cases (11%). Gastric mucosal NOS was measured using spectrophotometric assay and serum NOS level was determined by Griess reaction.*

*Results : After doing upper endoscopy for all patients, 27 (60%) were found to have PHG that was mild in (44%) 20/45 patients (group I, mean age  $10.2 \pm 3.22$ ys) and severe in (16%) 7/45 (group II, mean age  $9.9 \pm 2.67$ ys). Eighteen patients (18/45), ( 40%) had no PHG and considered*

as group III (mean age  $10\pm 7.7$ ys). Mean level of NOS in gastric mucosal tissue were  $16.52_{-18.87}$ ,  $26.00\pm 15.07$ ,  $2.19_{-0.28}$  (nmol/mg tissue) and mean levels of NOS in serum were  $151.75\pm 18.04$ ,  $239.84\pm 18.8$ ,  $81.30\pm 60$  (mg/dl) in groups I, II & III respectively. A statistically significant correlation was found between groups I & II versus group III and between group I & II ( $p < 0.05$ ). There is significant positive correlation between NOS in gastric tissue and in serum in all groups ( $p < 0.05$ ) but no significant difference was observed between NOS in gastric tissue in relation to the presence or absence of oesophageal varices, Child Pugh score or previous sclerotherapy ( $p > 0.05$ ). Conclusions: The significantly increased mucosal NOS level in patients with PHG suggests that vasodilatation seen in PHG together with the increased susceptibility to damage and bleeding is an active process in which NOS may play an important role. Recommendation: further studies on gastric mucosal NOS in patients with PHG as well as experimental trials of therapeutic intervention modulating gastric mucosal NOS activity as aminoguanidine and vitamin E may be hopeful in the management of PHG.

**HELICAL CT SCAN (2D AND 3D) VERSUS  
CONVENTIONAL ENDOSCOPY IN ASSESSMENT  
OF AIR WAY DISEASE IN NEONATES,  
INFANTS AND CHILDREN**

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**Abstract**

*Introduction: Diagnosis of airway disease, airway patency, lesion length and cross-sectional area are important aspects of the management of airway disease, usually requiring invasive endoscopy, which is not without risk to the patient. Conventional endoscopy is considered the gold standard for the evaluation of stridor and airway obstruction. This study was undertaken to determine whether helical CT scan with 2-D and 3-D reconstructions could accurately represent airway anatomy and reproduce the findings obtained during conventional endoscopy of patients presenting with airway obstruction.*

*Objectives: To study the use of helical computed tomography 2-D and 3-D images in the evaluation of airway disease in neonates, infants and children and its value in lesion detection, characterization and extension. Findings are compared with conventional endoscopy, considered as standard of reference.*

*Material and Methods: 40 patients with various causes of airway obstruction were examined by helical CT scan. 2-D and 3-D reconstructions were done. The cause and level of obstruction were identified and compared with actual endoscopic findings. This included 11 cases with choanal atresia/stenosis, 11 subglottic stenosis, 1 subglottic foreign body, 11*

*tracheal stenosis, 5 bronchial stenosis and 1 case with endobronchial foreign body.*

*Results: All CT methods accurately detected airway stenosis or obstruction. Accuracy was 98% for virtual endoscopy, 96% for 3-D external rendering, 90% for multiplanar reconstructions and 86% for axial images. Correlation of 3-D internal and external volume rendering images with conventional endoscopy for detection and grading of stenosis were closer than with 2-D minimum intensity multiplanar reconstruction and axial CT slices. Even high grade stenosis could be passed with virtual endoscope that was impassable for conventional endoscope.*

*Conclusion: Virtual endoscopy [VE] enabled better assessment of stenosis as compared to reading of 3-D external rendering, 2-D multiplanar reconstruction [MPR] or axial slices. However, it should be combined with axial slices and MPR for evaluation of the surrounding structures. VE can replace the conventional endoscopy in assessment of airway disease without risk, it offers a valuable overview on extension and localization of airway stenosis.*

## **VITAMIN B<sub>12</sub>, FOLIC ACID AND HOMOCYSTEINE LEVELS IN THE ELDERLY WITH ACUTE THROMBOTIC STROKE**

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and Neuropsychatry\*\*, Faculty of Medicine. Tanta University , Egypt*

### **Abstract**

*A high plasma homocysteine (Hcy) concentration is a risk factor for atherosclerosis. Homocysteine can be metabolized by two major pathways which are mainly dependent on adequate levels of folic acid and vitamins B<sub>12</sub>. The aim of the present study is to evaluate the relationship, if present, between the level of serum vitamin B<sub>12</sub>, folic acid and homocysteine and acute thrombotic stroke in the elderly patients. fifty subjects were included in the study and classified into three groups: group I: include 20 patients suffering from ischemic cerebrovascular stroke and aged over 65 years, group II: include 20 healthy elderly subjects aged over 65 years and group III: include 10 healthy young adults. All groups were subjected to: complete blood picture, blood urea, serum creatinine, serum alanine transaminases (ALT), serum aspartate transaminase (AST), serum cholesterol, serum triglycerides, blood glucose level, bleeding time, clotting time, prothrombin activity, and estimation of serum vitamin B<sub>12</sub>, folic acid and of homocysteine levels. Computed tomography examination was performed to patients in group I only to comment on the site and size of the lesion. There was a significant difference between three groups as regard systolic and diastolic blood pressure, random blood glucose, serum cholesterol, serum triglycerides and prothrombin activity with no significant difference between them as regard blood urea level and serum creatinine. The serum folic acid level and vitamin B<sub>12</sub> were significantly lower in groups I and II as compared to group III. The serum folic acid was  $3.565 \pm 3.454$  ng/ml in group I,  $8.420 \pm 3.315$  ng/ml in group II and  $10.980 \pm 2.478$  ng/ml in group III while, the serum vitamin*

*B<sub>12</sub> was 260.67±176.37 pg/ml in group I, 516.65±241.98 pg/ml in group II, and 713.22±265.12 in group III with a significant difference between three groups. Plasma homocysteine level was significantly higher in groups I and II as compared to group III, it was 34.61±7.57 mmol/L in group I, 20.73±3.63 mmol/L in group II and 12.01±1.91 mmol/L in group III with a significant difference between three groups. There were a negative correlation between the levels of vitamin B<sub>12</sub> and folic acid and serum homocysteine level, with a positive correlation between serum homocysteine in one hand and plasma cholesterol, triglycerides, systolic blood pressure and diastolic blood pressure on the other hand. From these results we can conclude that low vitamin B<sub>12</sub> and folic acid concentrations with concomitant increased Hcy level are associated with an increased risk of thrombotic stroke and confer an increased risk of atherosclerosis in the elderly patients. Elderly subjects have a lower level of vitamin B<sub>12</sub> and folic acid and can be considered at increased risk for ischemic stroke. More detailed follow-up studies over a long period are needed to evaluate the effect of treatment with these vitamins in the primary and secondary prevention of vascular diseases.*

## **TISSUE PLASMINOGEN ACTIVATOR INHIBITOR TYPE 1 GENE POLYMORPHISM IN PATIENTS WITH REBLEEDING PEPTIC ULCER**

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### **Abstract**

*Background: Bleeding persist or recurs in a subgroup of patients with peptic ulcer which contributes to an overall mortality rate 6-10%. Tissue plasminogen activator (t-PA) and plasminogen activator inhibitor type 1 (PAI-1) may be involved in the pathogenesis of peptic ulcers through suppression of fibrinolysis. This study was designed to investigate associations of PAI-1 genes with clinical features of the patients with rebleeding peptic ulcers.*

*Patients and methods: Sixty patients with bleeding peptic ulcers of matched age and sex collected from gastrointestinal (GI) endoscopy unite, divided into two groups, Group I: include 40 patients with bleeding peptic ulcer with successful haemostasis by endoscopic management, group II: include 20 patients with bleeding peptic ulcer with rebleeding after initial haemostasis by endoscopic management by the same endoscopist in addition to 10 healthy subjects as control group. Various clinical features, including bleeding event, recurrence of ulcer, rebleeding and lesion site were assessed. Several tests for HP infection, including a rapid urease test, histological examination of an endoscopic biopsy, and serologic examination for the presence of immunoglobulin G antibody to HP were done. Polymerase chain reaction and endonuclease digestion to genotype for 4G/5G polymorphism in the promoter region of the PAI-1 gene was used.*

*Results: The genotype distributions of the PAI-1 genes did not differ*

*between the patient and control groups. When a dominant effect (i.e., 4G/4G or 4G/5G versus 5G/5G) of the 4G allele was assumed, the PAI-14G/4G genotype was independently associated with rebleeding after haemostasis.*

*Conclusion: Our results suggest that PAI-1 gene polymorphism may be considered as a risk factor leading to recurrent bleeding after initial haemostasis.*

## **EFFICACY OF CT MULTISLICE ANGIOGRAPHY AS A TOOL IN THE OPERATIVE PLANNING OF CEREBRAL ANEURYSMS**

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### **Abstract**

*Objective: To assess the efficacy of CT angiography (CTA), as a rapid non-invasive investigation, in the operative planning of cerebral aneurysms and to find out whether CTA can replace catheter cerebral angiography (CA) in those patients.*

*Methods: Sixty two patients with suspected cerebral aneurysms were studied with CTA and CA. Comparison between the two modalities included detection of aneurysm(s), assessment of the size, shape, neck size, direction, and side of filling of the aneurysm, and the study of the surrounding cerebral vessels and brain parenchyma. In addition, in 28 operated patients, operative observations were compared to the pre-operative findings of CTA and CA. MRI and MRA was also done in 8 patients.*

*RESULTS: No aneurysms were detected by both modalities in 14 patients. In 48 patients with documented aneurysms, CTA detected 46 aneurysms and CA detected 47 aneurysms. The site, size, shape, and direction of aneurysms were similar in both studies. Neck size was slightly larger (1-2mm) in CTA. The side of filling of the aneurysm could be assessed only by catheter angiography. Observations of cerebral vasculature, e.g., vasospasm, were similar in both modalities. CTA provided an excellent view for the condition of brain parenchyma e.g. hemorrhage, edema, ischemia, hydrocephalus,..etc. CT also showed the relationship*

*between the aneurysm and the anatomical bony landmarks of skull base, an important information for operative planning. In operated patients, operative observations were similar to the findings of both modalities in 28 cases. However, each of CTA and CA under-estimated the neck size of the aneurysm in one patient, and missed the detection of a small (2 mm) daughter aneurysm in another one. In addition, both modalities failed for opacify a completely thrombosed giant right vertebral artery aneurysm. In 21 (75%) operated patients, no further information was added by CA; and CTA alone was enough for operative planning. In 6 operated cases, CA was important to assess the side of filling of aneurysm. In addition, in a patient with thrombosed vertebral artery aneurysm, CA was important to demonstrate the circulation in the vertebrobasilar system.*

*CONCLUSION: Multislice CTA provides accurate and valuable information for patients with cerebral aneurysms. It can be used alone for the operative planning in the majority of those patients. However, catheter angiography is still mandatory when the side of filling of aneurysm and/or collateral circulation has to be studied and in cases with large aneurysm.*

**PREVALENCE OF HEPATITIS C AMONG  
PREGNANT FEMALES AND RATE OF  
VERTICAL TRANSMISSION  
IN BENHA**

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**Abstract**

*Objective: To assess the prevalence of HCV infection among pregnant females in Benha, Egypt, and to assess the rate of the vertical transmission of HCV from infected pregnant females to their infants.*

*Design: This two stages study, the first stage was cross sectional study to determine the prevalence of HCV infection among pregnant female presenting to Benha University Hospital & El Shorouk private hospital, and the second stage was a longitudinal study to assess the vertical transmission of HCV from infected pregnant females to their infants.*

*Patients: 929 pregnant female who attended the Obstetric emergency delivery room at Benha University Hospital and El Shorouk private hospital.*

*Main outcome measures: HCV-RNA polymerase chain reaction (PCR) results.*

*Results: The prevalence of HCV antibody among pregnant females was 8.93 % ( 83 out of 929) (95% CI 7.1%-10.76%). The prevalence of positive HCV RNA among pregnant females was 7% ( 65 out of 929) (95% CI 5.36%-8.64%). Out of 39 infants' mothers' pairs who were screened, 3 infants ((7.69%) (95% CI 0%-16.05%) had HCV RNA positive and HCV antibody positive at the first two months of life. Follow up of those three*

*infants after 6 months showed that all of them had spontaneous clearance of HCV RNA & HCV antibody from their blood.*

*Conclusions: The prevalence of HCV among pregnant women in Benha is (7%), and the rate of vertical transmission (7.69%) which is not high as reported in previous studies in Egypt. Since we still do not have therapeutic measures or obstetric procedures to reduce the risk of vertical transmission of HCV, early diagnosis and follow up of the infected infants should be emphasized.*

*Key words: Hepatitis C, prevalence, pregnancy, vertical transmission, Benha.*

**DOPPLER STUDIES OF MISOPROSTOL USE  
ON UTERINE ARTERY BLOOD FLOW  
IN WOMEN WITH FIBROIDS :  
A PROSPECTIVE CONTROLLED TRIAL**

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**Abstract**

*Objective: to investigate the effect of oral misoprostol on uterine artery blood flow changes in patients with premenopausal myoma uteri.*

*Setting: Benha university Hospital & Elshourk Hospital.*

*Participants & Intervention: thirty healthy women diagnosed to have uterine fibroid were examined by color Doppler transvaginal ultrasound. Every women was considered herself control meaning that Right and left uterine artery blood flow of all women were investigated before and 180 minutes after intake of misoprostol*

*Results: there were a statistically significant differences between the mean value uterine Resistance index (RI) before misoprostol administration and that 180 minutes after administration, ( $P < 0.05$ )*

*Conclusion: Doppler ultrasonography of myoma vascularity demonstrated significant reduction after oral misoprostol which make it a valid option before myomectomy. Properly conducted clinical studies are necessary to explore this potential.*

## **C-REACTIVE PROTEIN IN KAWASAKI DISEASE AS CARDIOVASCULAR PROGNOSTIC FACTOR RETROSPECTIVE STUDY**

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### **Abstract**

*Background: Coronary sequelae that persist after Kawasaki disease (KD) have been associated with obstructive changes of coronary blood vessels in adolescents and young adults. However, little is known about the association between sequelae late after KD and inflammatory markers, which are potential mediators and markers for atherogenesis.*

*Methods and Results: Retrospective study was performed to test the hypothesis that coronary sequelae are associated with elevated levels of inflammatory markers especially CRP in patients after KD (3 and 6 months). Levels of high-sensitivity C-reactive protein (CRP) was reviewed 53 patients diagnosed as classical KD and divided into 3 groups according to the coronary artery lesions (CALs): KD patients without CALs (n=40); KD with regressed CALs (n= 8); and KD with persistent CALs, such as persistent aneurysms, stenosis, and occlusion (n=5). CRP levels were significantly elevated in a KD group with persistent CALs compared with other KD groups. Regression analyses support the association between the coronary artery lesions and elevated level of CRP.*

*Conclusions: Results demonstrated that the persistence of coronary lesions after KD was independently associated with elevated level of CRP suggesting that inflammation may be a novel functional aspect of coronary artery diseases late after KD.*

*Key Words: Kawasaki disease, CRP, coronary disease, risk factors*

## **PARASITOLOGICAL AND IMMUNOLOGICAL STUDY IN ZINC DEFICIENT CHILDREN**

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### **Abstract**

*The pattern and intensity of parasitic infection in zinc deficient children were studied compared to children with normal serum zinc level. The present study was conducted on 143 children attending to the outpatient clinic of Mansoura University Children's Hospital. Their age ranged from 4-10 years and included 80 males and 63 females. Entamoeba histolytica was the commonest parasite among both groups. Other parasitic infections detected were Cryptosporidium parvum, Giardia lamblia, Hymenolepis nana with a prevalence of 41.4%, 58.6% and 6.9% respectively in children with low serum zinc compared to 35.7%, 50%, 7.1% in children with normal serum zinc level. The differences were statistically not significant. Zinc deficient children had heavy intensity of parasitic infections compared to children with normal serum zinc level; the differences were statistically significant. Changes in T cell subpopulation were studied by analysing the percentages of CD4 and CD8 lymphocytes in both groups. In zinc deficient group CD4 were significantly lower than the control and CD8 lymphocytes were higher in zinc deficient children than the control. These results suggested that changes in T cell subpopulations are most probably responsible for cell-mediated immunity dysfunction in zinc deficiency.*

## **VAGINAL MISOPRISTOL ADJUVANT THERAPY IN INTRAUTERINE INSEMINATION**

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### **Abstract**

*Objective : to evaluate the effect of misopristol insertion vaginally at the time of intrauterine insemination on pregnancy rates.*

*Method : 50 couples with primary unexplained infertility attending Benha university hospital were studied in two randomly divided groups, ovarian stimulation and IUI was carried out with and without misopristol vaginal insertion after IUI.*

*Results : pregnancy was achieved in 28% of patients, 5.6% per cycle therapy in misopristol while in 3.96 % in non misopristol group.*

*Pregnancy proved to be higher during the first three cycles. Minor side effects as difficult catheter application, sperm reflux, vaginal bleeding and abdominal cramps were reported with no difference among both groups.*

*Key words : artificial insemination, misopristol, pregnancy.*

## **THE PREVALENCE OF ANTIPHOSPHOLIPID ANTIBODY IN WOMEN WITH RECURRENT PREGNANCY LOSSES AND IN INFERTILE WOMEN WITH MULTIPLE IMPLANTATION FAILURES AFTER IN-VITRO FERTILIZATION**

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### **Abstract**

*This study was designed to investigate the prevalence of anticardiolipin (aCL), antiphosphatidylserine (aPS) and  $\beta_2$ -glycoprotein I (a  $\beta_2$ -GPI) antibodies in women with repeated spontaneous abortion (RSA) and repeated in-vitro fertilization-embryo transfer failure (IVF-ET-F). The study included 45 with three or more RSA of unknown etiology with the same partner (RSA group), 40 women with IVF-ET failures after two or more IVF cycles (IVF-ET-F group) and 10 normal multiparous healthy non-pregnant women with documented uncomplicated pregnancies (Control group). After full history taking and complete general and obstetric examination all patient gave blood samples for determination of aPS, aCL and a $\beta_2$ -GPI IgG and IgM antibodies by ELISA. Anticardiolipin antibodies was detected in 12 patients with RSA (26.7%) and 11 patients (27.5%) with IVF failure, while aPS antibodies were detected in 6 (13.3%) and 14 (35%) patients in both groups respectively. There was a significant increase in the number of patients with positive aCL and aPS antibodies in both groups, compared to control group. Intergroup comparison showed increased number of IVF failure patients having antibodies that was non-significant in aCL but was significant in aPS. Anticardiolipin IgG antibodies were detected in 11.1% and IgM in 13.4% in patients with RSA, whereas in IVF-ET-F group, IgG antibodies were detected in 17.5%, IgM antibodies in 7.5%. In patients with RSA IgG-aPS antibodies were detected in 4.4%, IgM antibodies in 8.9%, while in patients with IVF failure, IgM-aPS antibodies were detected in 10% and IgG antibodies in 20% of patients with*

*an increased number of IgG positive patients in IVF-ET-F group compared to those with RSA, and the difference was significant in case of IgG-aPS. Anti- $\beta_2$ -glycoprotein I antibodies could not be detected in controls, moreover, no patient had both IgG and IgM in either group, only 4 patients in each group had IgG antibodies and only one patient in IVF-ET-F group had IgM antibodies. It could be concluded that repeated pregnancy loss or IVF embryo transfer failure may be an entity of antiphospholipid syndrome associated with high frequency of IgG anticardiolipin and anti-phosphatidylserine antibodies and such patients must be investigated for the presence and titre of these antibodies.*

## **LARYNGEAL POLYPOSIS A NEWLY INTRODUCED ENTITY**

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### **Abstract**

*Laryngeal polyposis is a newly mentioned terminology, introduced by the author, to describe collectively a picture of appearance of more than one polyp affecting either one or both vocal folds and the picture of classic reinke's edema whether accompanied or not by multiple polyps on top. The aim of this study is to clarify this new terminology and to find out the possible pathogenesis which may explain its nature. The study included 20 patients suffering primarily from long standing dysphonia and were confirmed to have multiple laryngeal polyps by videotelaryngoscopic examination. Ten cases had reinke's edema. Six cases had unilateral multiple vocal fold polyps. Four cases had bilateral vocal fold polyps. The study group consisted of twenty patients, four females and sixteen males. The mean age of the patients was 39 years with a range of 27-55 years. We introduced the term laryngeal polyposis to include: (a) reinke's edema and we found that its main etiology is smoking (b) unilateral multiple or diffuse vocal fold polyps and we found that its main etiology is abuse of voice and negligence of phonosurgery for long time (c) bilateral vocal fold polyps and we found that its main etiology is abuse of voice and negligence of phonosurgery for long time that leads to more trauma and development of more polyps.*

**NEW METHOD FOR QUANTITATIVE  
DETERMINATION OF CIRCULATING  
SCHISTOSOMA MANSONI-IGG  
IMMUNE COMPLEXES**

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**Abstract**

*Due to important roles of immune complexes (IC) in the pathogenesis and modulation of immune responses in schistosomiasis, we have optimized a new method for quantitative determination of circulating Schistosoma mansoni-IgG immune complexes that could be applied for other immunoglobulin classes and subclasses. Concentration of free (uncomplexed) IgG against Schistosoma mansoni trichloroacetic acid (TCA) fractions of soluble adult worm antigen (AWA) and soluble egg antigen (SEA) was determined in serum samples from 40 Schistosoma mansoni patients and 20 controls using ELISA. Immune complex concentration was calculated as the amount of increase in IgG against SEA-TCA and AWA-TCA after serum samples were treated for immune complex dissociation by acid buffer and IgG (most likely with other immunoglobulins) isolation by ammonium sulphate precipitation. To nullify the effect of incomplete precipitation of IgG or inevitable losses, an indicator of human IgG labeled with fluorescein (IgG-FITC) was added to serum samples in known concentration before such treatment. Concentration of total (uncomplexed and complexed) IgG against Schistosoma mansoni antigens and IgG-FITC were determined in isolated IgG solution using 3 ELISA assays and concentration of IgG against SEA and AWA was calculated as the amount of IgG present in association with the amount of IgG-FITC added to one ml serum. The SEA and AWA immune complex percentage ((complexed IgG/total IgG)x100) showed significant negative correlation with age (P=0.002) and SEA immune complex percentage showed significant positive correlation with egg output (P=0.023). Concentration of ICs was signifi-*

*cantly higher in patients with abdominal pain, diarrhea and or jaundice. As diagnostic means, immune complex determinations showed high sensitivity and specificity. Also, dissociation of immune complexes and isolation of IgG significantly improved the performance of the assay detecting IgG against AWA. Lastly, this method probably will help in future studies for effect of different complexed immunoglobulin classes and subclasses in pathogenesis of schistosomiasis*

## **FREE TRIIODOTHYRONINE RELATION TO ECHOCARDIOGRAPHIC PARAMETERS AND GENERAL METABOLIC STATUS IN PATIENTS WITH DILATED CARDIOMYOPATHY**

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### **Abstract**

*Background: Thyroid function abnormalities are frequent in patients with heart failure and are associated with increased mortality. However, the impact of these abnormalities on echocardiographic parameters and general metabolic status has not been investigated sufficiently. Aim: The study aims to investigate the thyroid hormone abnormalities in a group of patients with dilated cardiomyopathy (DCM) and correlate it to echocardiographic parameters and general metabolic status. Methods: Serum levels of free T4, free T3 and TSH were measured in 36 dilated cardiomyopathy patients (13 female and 23 male, mean age 57.1±9.05 years) and 15 age and gender matched healthy subjects as a control group. Patients and controls underwent echocardiographic examination, complete blood picture, serum creatinine and liver function tests. Results: Low free T3 levels has been the main thyroid abnormality in our patients. Free T3 has been significantly positively correlated with FT3/FT4 ratio, ejection fraction, cardiac index, serum albumin, hematocrit level and total lymphocytic count. However, it has been significantly negatively correlated with cardiac chamber diameters, mean pulmonary artery pressure, serum SGOT, serum bilirubin, serum creatinine, and inflammatory markers. Conclusion: Low free T3 levels in patients with dilated cardiomyopathy might represent a determinant factor directly implicated in the evolution and risk stratification. So, the use of triiodothyronine analogues is indicated in*

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*DCM patients with poor echocardiographic and general metabolic parameters.*

## **APOLIPOPROTEIN B AND NON HDL CHOLESTEROL IN TYPE 2 DIABETIC PATIENTS**

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### **Abstract**

*Dyslipidemia is a major risk factor for cardiovascular disease in patients with type 2 diabetes. Diabetic dyslipidemia is characterized by an increase triglyceride levels, low high density lipoprotein (HDLc) concentrations and small dense low density lipoprotein (LDLc) particles.*

*Recently, ATP III, report of the National Cholesterol Education Program, proposed non HDL cholesterol, as a secondary target of therapy after LDLc . So, non HDLc was suggested as an alternative to LDLc and a surrogate for apolipoprotein B (apoB) which measures the total atherogenic particle number in plasma.*

*There were controversies regarding whether non HDLc is a true surrogate for apoB and whether they are both equally predictive for cardiovascular risk. So the aim of this study was to determine the levels of both apoB and non HDLc in a group of type 2 diabetic patients .*

*The study included 63 patients with type 2 diabetes as well as 22 control healthy subjects of matched age and sex.. Evaluation of the patients and control included history and clinical examination for evidence of coronary artery disease, strokes and peripheral vascular disease as well as anthropometric measurements and electrocardiography. Laboratory investigations included fasting and postprandial plasma glucose , glycosylated hemoglobin and plasma lipids including triglyceride, total cholesterol , HDL c and apoB measurements.*

*LDL cholesterol was calculated using the Friedewald formula and the non HDLc was calculated by subtracting HDLc from the total cholesterol.*

*The results included significantly higher values of plasma lipids espe-*

*cially non HDLc and apoB and lower HDLc in the diabetic patients in comparison to control. Also, both apoB and non HDLc concentrations were elevated among patients having coronary heart disease and macrovascular disease versus those without vascular affection.*

*On the other hand , there were significant correlations between apoB and non HDLc in the total diabetic group and those with and without elevated serum triglycerides. It can be concluded that either apoB or non HDLc may be useful for diagnosis and management of diabetic dyslipidemia.*

## **CHANGES OF OPTICAL ABERRATIONS AFTER MYOPIC LASER IN SITU KERATOMILEUSIS USING THE NIDEK NAVEX PLATFORM**

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### **Abstract**

*PURPOSE: To retro spectively evaluate the changes in the root mean square of higher order aberration values after laser in situ keratomileusis using the Nidek NAVEX platform (Nidek Co. Ltd., Gamagori, Japan) in treatment of myopia and compound myopic astigmatism.*

*METHODS: Eighty sex eyes of 43 patients underwent laser in situ keratomileusis (Lasik) to correct myopia and myopic astigmatism using the Nidek NAVEX platform. The effect of the lasik procedure on the optical aberrations of the eyes has been analyzed. Mean age was 29.34 years  $\pm$  6.86 (SD); range 18 to 45 years. OPD-Scan model ARK-10000 (Nidek Co. Ltd., Gamagori, Japan) was used to measure the aberrations.*

*RESULTS: there was a significant change in refractive error; Mean preoperative spherical equivalent of refraction was  $-3.42 \pm 1.63$  D (range  $-0.5$  to  $-6.625$  D) (86 eyes). Mean postoperative spherical equivalent of refraction (at three months postoperatively) was  $-0.36 \pm 0.41$  D (range  $-1.5$  to  $0.75$  D) (66 eyes). Mean postoperative spherical equivalent of refraction (at 6 months postoperatively) was  $-0.16 \pm 0.36$  D (range  $-1.25$  to  $1.25$  D) (36 eyes). A statistically significant change in the root mean square of higher order aberration (RMS of HOA) was observed following lasik operation; Mean preoperative root mean square of higher order aberration (RMS of HOA) was  $0.365 \pm 0.19$   $\mu$  (range  $0.064$  to  $1.61$   $\mu$ ) (86 eyes). Mean postoperative RMS of HOA (at three months postoperatively) was  $0.503 \pm 0.22$   $\mu$  (range  $0.077$  to  $0.978$   $\mu$ ) (66 eyes). Mean postoperative RMS of HOA (at 6 months postoperatively) was  $0.521 \pm 0.18$   $\mu$  (range  $0.207$  to  $0.989$   $\mu$ ) (36 eyes).*

*CONCLUSIONS: increase in root mean square of higher order aberration has been found after lasik operation. This increased root mean square of higher order aberration was proven to be due to flap formation with the microkeratome, and / or the excimer laser ablation.*

## **INCIDENCE OF COMPLICATIONS IN LASIK WITH USING MORIA M2 MICROKERATOME DISPOSABLE HEAD**

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### **Abstract**

*Purpose: To evaluate the incidence of intraoperative flap complications in laser in situ keratomileusis (Lasik) using Moria M2 disposable microkeratome head.*

*Methods: Two hundred thirty one eyes of 116 patients underwent laser in situ keratomileusis to correct myopia and myopic astigmatism using the Nidek NAVEX platform. The incidence of complications in using Moria M2 disposable microkeratome 130  $\mu$  head has been analyzed. OPD-Scan model ARK-10000 was used to measure the corneal power and other optical aberrations.*

*Results: No single eye had button-holes, free caps, Perforation, DLK, epithelial ingrowth, partial flap, failures of achieving intraocular pressure. Only one eye had heaped up epithelium (0.43%), and another eye had epithelial defect (0.43%).*

*The mean of the preoperative pachymetry was  $552.72 \pm 39.04$  (range from 490 to 627). The mean of intraoperative residual pachymetry was  $376.78 \pm 27.93$  (range from 329 to 447). The mean of flap thickness was  $175.93 \pm 25.29$  (range from 114 to 211).*

*Conclusions: The incidence of the complications in using the Moria M2 disposable microkeratome head was minimal. There are several factors that affect the flap thickness; 1) preoperative average keratometry, 2) the preoperative pachymetry, 3) the microkeratome ring size, and 4) the speed of the oscillation of the microkeratome blade.*

*Financial disclosure: The author has no financial interest in any product mentioned.*

## **DESMOPRESSIN IN MONOSYMPTOMATIC PRIMARY ENURETIC CHILDREN, PREDICTIVE FACTORS**

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### **Abstract**

*Aim: To study factors that would justify medical response to desmopressin in enuretic children* *Materials and Methods: The study included 80 dry and 150 enuretic children who were subdivided into desmopressin responders (62, 41.3%) and non-responders (88, 58.7%) before study. We compared bladder volume (functional bladder capacity) through 2-day voiding chart and renal concentrating ability (urine osmolarity) through overnight thirst provocation test. Results: Clinical and urodynamic studies showed a significant differences between dry and enuretic children (desmopressin responders and non-responders). Mean age was higher in dry and desmopressin responders compared to non-responders (8.5 ,9.2 versus 7.4 years respectively,  $p < 0.05$ ). Day time urine production was higher in the desmopressin responders than in dry and non-responders ( $22.2 \pm 10.2$  ml/kg. versus  $15.4 \pm 7.3$  ml/kg. and  $15.3 \pm 7.2$  ml/kg. respectively,  $p < 0.01$ ). Average bladder capacity for age was less in desmopressin non-responders than in dry children and responders ( $52.2 \pm 19.9\%$  versus  $79.2 \pm 30.4\%$  and  $69.5 \pm 25.7\%$  respectively,  $p < 0.001$ ). Urine osmolarity was lower in desmopressin responders than in non-responders and dry children ( $856 \pm 158$  mOsm/kg. versus  $962 \pm 151$  mOsm/kg. and  $939 \pm 179$  mOsm/kg. respectively,  $p < 0.05$ ).*

*Conclusion: Enuretic children who are expected to respond favorably to desmopressin are those with polyurea and decreased concentrating ability of the kidney while those with poor response showed decreased bladder capacity and detrusor hyperactivity.*

## **THE IMPACT OF C-REACTIVE PROTEIN ON CORONARY FLOW RESERVE IN YOUNG HYPERTENSIVES WITHOUT CORONARY ARTERY DISEASE**

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### **Abstract**

*Background. Hypertensive individuals occasionally experience angina-like chest pain despite having angiographically normal coronary arteries, and the etiology of this phenomenon has been suggested to be associated with depressed coronary flow reserve (CFR). C Reactive Protein (CRP) is correlated with not only hypertension (HTN) but also vascular endothelial dysfunction and atherosclerosis. Objectives. The aim of our study was to investigate the association between CFR and CRP in young patients with essential HTN free of coronary artery disease (CAD). Methods. We performed transthoracic Doppler echocardiographic (TTDE) recording of diastolic coronary flow velocity in the left anterior descending (LAD) coronary artery at baseline and after maximal vasodilation by adenosine infusion in 12 normotensive subjects and 18 young hypertensive patients without CAD. Cardiovascular risk factors, left ventricular mass index (LVMI), relative wall thickness (RWT), and hs-CRP were evaluated. Results. The CFR of hypertensive patients ( $2.55 \pm 0.52$ ) was significantly decreased compared with that of normotensive subjects ( $3.15 \pm 0.45$ ;  $p < 0.0001$ ). CFR was significantly correlated with systolic blood pressure ( $r = -0.683$ ,  $p = 0.001$ ), diastolic blood pressure ( $r = -0.585$ ,  $p = 0.01$ ), RWT ( $r = -0.618$ ,  $p = 0.01$ ), and CRP ( $r = -0.670$ ,  $p = 0.001$ ). LVMI showed a tendency to correlate with CFR ( $r = -0.454$ ,  $p = 0.06$ ). Other demographic coronary risk factors showed no significant correlation with CFR. When the analysis was limited to hypertensive individuals, body mass index (BMI), and CRP were still the factors showing a significant correlation with CFR. Stepwise*

*regression analysis revealed that, among BMI, SBP, LVMI, RWT, and CRP; only CRP was a strong and independent parameter for predicting attenuated CFR in hypertensive patients (b= 0.457, F= 32.4, R2= 0.780, P= 0.0001). Conclusions. CRP analysis seemed to be of clinical value in the screening of patients with HTN and impaired microcoronary circulation. These associations may explain the links between HTN and CAD.*

*Key Words: hypertension, coronary flow reserve, c-reactive protein*

## **CLINICAL SIGNIFICANCE OF SERUM MATRIX METALLOPROTEINASE-9 (MMP-9) IN PATIENTS WITH HCV INDUCED CIRRHOSIS AND HEPATOCELLULAR CARCINOMA**

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### **Abstract**

*Hepatitis C virus (HCV) infection commonly produces the progression of chronic active hepatitis to liver cirrhosis, and ultimately to hepatocellular carcinoma (HCC). Matrix metalloproteinases (MMPs) play an important role in extracellular matrix turn over in liver fibrosis and carcinogenesis. The aim of this study was to assess the clinical significance of MMP-9 plasma level as a useful marker of hepatic fibrosis and as diagnostic tumor marker in HCC. Forty one HCV positive patients with age ranged from (45 - 65 years), M/F = 30/11 and 20 healthy individuals with age ranged from (30 - 65 years), M/F=13/7, serving as reference control were included in this study. Patients were classified according to their diagnosis into 2 groups; Cirrhotic group (n = 21), and HCC group (n = 20). Clinical assessment and liver function tests besides serum MMP-9 levels were done for all patients and controls. Serum level of MMP-9 was highly significant lower in cirrhotic group than control group ( $p = < 0.001$ ) and showed more decrease with progression of the disease and there was highly significant positive correlation between MMP-9, s.albumin, platelet count and Hb ( $r=0.927, P=<0.001, r = 0.829, p=<0.001$  and  $r=0.534, P = < 0.005$  respectively), while there was highly significant negative correlation between MMP-9, s.bilirubin and Child-Pugh Score ( $r = -0.568, p = < 0.001$  and  $r = -0.743, p = < 0.001$  respectively). On the other hand, MMP-9 level was highly significant higher in HCC group than in control group ( $p=<0.001$ ) and showed more increase with progression of the disease and there was significant positive correlation between MMP-9, s. Biliru-*

*bin, INR, and Child-Pugh score ( $r=0.695$ ,  $p< 0.001$ ,  $r = 0.773$ ,  $p = <0.001$  and  $r=0.360$ ,  $p=< 0.05$  respectively) while there was highly significant negative correlation between MMP-9 and s. Albumin ( $r=0.825$ ,  $p = <0.001$ ). In conclusion, MMP-9 plasma assay in HCV-positive patients could be used as a marker of hepatic fibrosis and disease progression and might be a novel tumor marker for HCC.*

## **CHARACTERIZATION OF PATIENTS COINFECTED BY HEPATITIS B AND HEPATITIS C VIRUSES**

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### **Abstract**

*Background: Hepatitis C virus (HCV) and hepatitis B virus (HBV) infections are common in Egypt. Coinfection by the two viruses is not uncommon. Little and quite controversial data are known about clinical, biochemical and histological profile in these patients. Aim: To study the biochemical, virological and pathological characteristics in patients with dual infection by HBV and HCV compared to each virus alone.*

*Methods: We enrolled 404 incidentally discovered patients with chronic viral hepatitis: 72 HBsAg and anti-HCV positive (Group BC), 121 HBsAg positive and anti-HCV negative (Group B) and 211 anti-HCV positive, HBsAg/anti-HBs/ anti-HBc negative (Group C). Liver function tests, complete blood picture, serological markers for HBV and HCV and polymerase chain reaction for HBV DNA and HCV RNA were done. Histopathological examination of liver biopsies was done for 30/42/191 patients in different groups (BC, B and C respectively) and scored by modified Knodell and METAVIR scores.*

*Results: Group B patients were significantly younger than patients in group BC and C ( $P < 0.001$ ). Significantly higher liver transaminases were found in groups BC and C when compared to group B ( $P < 0.001$ ) without significant difference between groups BC and C. The prevalence of HBV wild type was not significantly different between group BC and B while anti-HBe was significantly higher in patients with pure hepatitis B. HBV-DNA was significantly suppressed in group BC compared to group B (82.3% vs 94.2%,  $P < 0.02$ ). Significantly higher histological activity index (HAI) and METAVIR scores were found in groups BC and C compared to group B ( $P < 0.001$ ), while there was no significant differences between group BC and C except for steatosis which was more frequent in patients*

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*with pure hepatitis C (P=0.05).*

*Conclusion : Dual infection by HBV and HCV are characterized by suppression of HBV replication and are associated with severe liver disease.*

**LEFT VENTRICULAR THROMBUS FORMATION  
AFTER FIRST ACUTE ANTERIOR ST ELEVATION  
MYOCARDIAL INFARCTION CLINICAL AND  
ECHOCARDIOGRAPHIC PREDICTORS**

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**Abstract**

*Aim of the work: the aim of this study is to assess the predictors of left ventricular thrombus formation after first acute myocardial infarction.*

*Patients and methods: this study comprises 50 consecutive patients, 38 males and 16 females with mean age  $64 \pm 11$  years. Echocardiography was used to detect left ventricular thrombus after first acute myocardial infarction and patients were divided into two groups according to the presence or absence of left ventricular thrombi. Clinical examination, laboratory investigations and Doppler echocardiography were done for all patients.*

*Results: the killip class  $> 1$ , C-reactive protein, end-systolic volume, end-diastolic volume, ejection fraction and mitral inflow Doppler indices were significantly different between patients with and without LV thrombosis and this difference was statistically significant.*

*Conclusion: several clinical, laboratory and echocardiographic data are considered predictors for left ventricular thrombus formation after first acute anterior myocardial infarction.*

## **IMPACT OF TYPE 2 DIABETES MELLITUS AND PLASMA GLUCOSE LEVEL ON LEFT VENTRICULAR MASS AND GEOMETRY**

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### **Abstract**

*Background: Cardiovascular complications are frequent in patients with diabetes mellitus (DM). Increased left ventricular (LV) mass is a premier risk factor for cardiovascular events. This study aimed to investigate the effects of type 2 DM on LV structure and geometry and to evaluate the influence of blood glucose on LV mass and function in patients with uncomplicated essential hypertension and type 2 DM.*

*Methods and Results: Complete echocardiographic examination of 134 patients (78 women, 56 men) with type 2 DM and hypertension and 167 patients (96 women, 67 men) with hypertension revealed that diabetic hypertensive patients had significantly higher left ventricular mass index (LVMI) and relative wall thickness (RWT) as well as increased prevalence of LV concentric hypertrophy. The mean of monthly evaluated fasting blood glucose (FBG), office blood pressure (OBD), cholesterol and fractions and triglycerides for one year for 53 diabetic hypertensive patients selected on the basis of stable body weight and OBP was calculated. Then they were subjected to complete echocardiographic examination. These findings were considered the basal one. The same group was followed up for another year by monthly measuring the previously mentioned parameters and subjected to follow-up complete echocardiographic examination. The means of the previously mentioned parameters were calculated and considered the follow up parameters. Percent changes of the previously measured parameters were calculated. There was strong correlation between FBG and LVMI percent changes ( $r=0.96$  &  $P<0.0001$ ). Reduction of LVMI  $>10\%$  was observed in 15 patients ( $138.5\pm 18$  vs  $121.1\pm 17.2$  &*

*P<0.01) with corresponding reduction in FBG (186±39 vs 159±27 & P<0.05). Increase in LVMI >10% was observed in 16 patients (128±14 vs 143±16 & P<0.01) with corresponding increase in FBG (163±36 vs 180±33 & P>0.05). No significant changes in LV systolic or diastolic functions were observed.*

*Conclusion: Type 2 DM is associated with higher LVMI and higher incidence of abnormal LV geometry in hypertensive patients. Improved glycaemic control may contribute to regression of LVMI and septal wall thickness independent of arterial blood pressure.*

## **PEDIATRIC MORBID OBESITY AND THROMBOPHILIC FACTORS**

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### **Abstract**

*Background: Obesity is a predisposing factor of thrombosis. However, the exact role of known thrombophilic factors and their association with pediatric morbid obesity are not yet determined.*

*Aim: The aim of this study is to identify the possible relation between obesity and levels of some thrombophilic factors.*

*Patients and Methods: Twenty-four obese children attending Endocrinology unit of Mansoura University Children's Hospital; 10 females and 14 males, with mean age=  $7.38 \pm 4.5$  yr, all suffering from morbid obesity (wt % to ideal wt for ht=  $170.8 \pm 24.6\%$ ) were included in this study, whereas 15 healthy (wt % to ideal wt for ht=  $102.9 \pm 1.6\%$ ) children of matched age (mean age=  $10.1 \pm 2.8$  yr) and sex (6 females and 9 males) were included as control. The prothrombine time (PT), partial thromboplastine time (PTT), plasma fibrinogen concentration (FIB), anti-phospholipid antibodies (APA: IgG and IgM), anti-thrombin III activity (ATIII), protein C activity (PC), free protein S antigen (FPS), and activated protein C-resistance (APC-SR) were measured for both groups, and the results were compared using the parametric T-test method and one sample KS test. We used clotting assay for PT, APTT, FIB, PC and APC-SR, chromogenic assay for AT III, and ELISA for APA-IgG and APA-IgM and FPS.*

*Results : the group of obesity had significantly lowered values for FPS and n-APC-SR, and higher values for FIB and ATIII than the healthy group, yet insignificant.*

*Summary/Conclusion: Statistically significant differences ( $p < 0.05$ ) were found only in FPS and APC-SR. In conclusion, we assume that the significant reduction of n-APC-SR might be responsible for the thrombophilic tendency of obese children.*

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*Recommendation: We recommend long term follow-up of these group of patients with both laboratory and clinical tests to prevent the possibility of preterm venous thromboembolism.*

*Keywords: pediatric obesity, thrombophilic factors.*

**STUDY OF COLONIC MUCOSAL  
SUBSTANCE-P AND MAST CELLS IN  
RELATION TO THE NERVE ENDINGS  
IN PATIENTS WITH IBS**

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**Abstract**

*IBS is the commonest and perhaps the least understood of all diseases of the gut*

**Aim of the work:** *The aim of this study is to evaluate the role of colonic mucosal mast cells in relation to the nerve endings and substance - P in patients with IBS.*

**Patients and Methods:** *This study was conducted on 60 patients with IBS divided into three groups 20 patients for each; Group I (diarrhea predominant group), group II (constipation predominant group) and group III (Alternating diarrhea and constipation group) and 10 healthy subjects as a control group (IV). All patients and control groups were subjected to; full history taking and clinical examination ; complete colonoscopic examination with multiple biopsies from different colonic segments. Endoscopic biopsies were examined by 1- Haematoxylin and Eosin stain 2) Geimsa stain 3) Electron microscope for mast cells activation and its relation to the nerve endings 4) Immunohistochemistry for substance-P positivity.*

**Results :** *Our results revealed that, the highest number of mast cells/ 10 HPF was in group I, followed by group II then group III. Also highest number of mast cells activation (degranulation) by electron microscope was found in group I in 80% followed by 60% in group II then in group III in 55% only . As regard substance-P immunostaining 85% of patients of group I showed marked positivity and 15% were moderately stained for substance-P. In group II 15% showed marked substance-P positivity and*

85% showed moderate positivity. In group III 10% showed marked substance-P immunostaining, 80% showed Moderate positivity and 10% showed mild stain. All biopsies from controls were negative for substance-P.

Electron microscopic examination showed in most of cases that the mast cells were closely related to nerve endings.

**Conclusion;** we concluded that, colonic mucosal mast cells number and activation with substance-P positivity may play an important role in the pathogenesis of IBS, also they can be considered as a important marker for the IBS diagnosis and can open a new lines of IBS treatment.

**DIRECT IMMUNOFLOUORESCENT STAINING  
VERSUS CELL CULTURE METHOD IN  
DIAGNOSIS OF ADENOVIRUS  
KERATOCONJUNCTIVITIS**

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**Abstract**

*This study was designed to evaluate the incidence of adenovirus keratoconjunctivitis among patients complaining of keratoconjunctivitis and control group without conjunctivitis by using immunofluorescent staining of specimens prepared from conjunctival swabs and immunofluorescent staining after cell culture and compare between results. This study was carried out on two groups: group (I) 50 patients suffering from conjunctivitis, and group (II) 20 individuals with ophthalmologic complaint rather than conjunctivitis. Adenovirus antigen was detected in 45 cases (90%) out of 50 cases having viral conjunctivitis by using immunofluorescent staining of samples taken by swabs and 30 cases (60%) of them were positive for the presence of adenovirus antigen in their specimens by using cell culture technique, while adenovirus antigen was detected also in 33 cases (66%) by using immunofluorescence after cell culture. In conclusion: immunofluorescent staining of swabs can be used as rapid screening test in diagnosis of adenovirus infection in large number of patients as it can be done within 30 minutes, but we can't depend on it as a definitive method of diagnosis because its specificity is very low and must be confirmed by cell culture which is considered to be the gold standard method for identification of adenovirus infection.*

## **CORNEAL TOPOGRAPHIC CHANGES AFTER TRABECULECTOMY AND MICROTRABECULECTOMY**

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### **Abstract**

**Aim of the work :** *To evaluate corneal topographic changes after trabeculectomy and microtrabeculectomy .*

**Methods:** *This study included 24 glaucomatous eyes of 24 patients with primary glaucoma. They were subjected to either microtrabeculectomy or trabeculectomy operations . They were followed up for 3 months after the operation. Orbscan corneal topography was done preoperatively and postoperatively for 3 months .*

**Results:** *Patients included in trabeculectomy group or microtrab group showed non significant difference ( $P > 0.05$ ) in the power of astigmatism both in steep and flat meridian compared to the pre operative value.*

**Conclusions:** *Whichever the mechanism involved in glaucoma filtering surgery, it would appear that the microtrabeculectomy and trabeculectomy have the capacity of inducing acceptable low degree of central corneal astigmatism in most eyes.*

## **CORNEAL TOPOGRAPHIC CHANGES AFTER HORIZONTAL STRABISMUS SURGERY**

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### **Abstract**

**Aim of the work:** *To evaluate corneal topographic changes after horizontal strabismus surgery.*

**Patients and methods:** *Twenty three eyes of twenty three patients with horizontal strabismus were selected. Corneal topography was performed to all eyes using Orbscan corneal topography system (OCT) before surgery and after by one week, one and two months.*

**Results:** *There was central corneal steepening as well as in peripheral cornea opposite (related to) the resected muscle and flattening opposite (related to) the recessed muscle. These changes tend to regress after two months to near preoperative state.*

**Conclusion:** *Horizontal strabismus surgery is associated with corneal topographic changes. These changes were marked after surgery but tend to regress to near preoperative state at the end of follow up period.*

**CANALPLASTY WITH LONG-TERM VENTILATION  
TUBE VERSUS CARTILAGE-TYMPANOPLASTY  
FOR CHRONIC TYMPANIC MEMBRANE  
ATELECTASIS**

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**Abstract**

*This study was carried on sixty eight patients (seventy eight ears), suffering from tympanic membrane atelectasis (stage III & stage IV). They subjected to surgical treatment, either canalplasty with T-tube or cartilage-tympanoplasty.*

*After 15 months follow-up we studied the effectiveness of each treatment modality regarding the two rationales of surgery for atelectatic ears i.e. prevention of cholesteatoma transformation and closure of the air/ bone gap. Both types of surgical modalities had successful results. Canalplasty is easier and less invasive whereas tympanoplasty needs experienced hands in this difficult problem. For atelectatic ears, whether generalized or localized type, we recommended canal plasty with T-tube for stage III and cartilage- tympanoplasty for stage IV.*

## **STUDY OF ADRENOMEDULLIN LEVELS IN CHILDREN AT HIGH RISK FOR PULMONARY HYPERTENSION**

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### **Abstract**

*Congenital heart disease is the most common cause of secondary pulmonary hypertension (PH). It is a serious condition with significant morbidity and mortality. Adrenomedullin (ADM) appeared to have a potent long acting hypotensive action and cause decrease in pulmonary arterial pressure. Its level is elevated in pulmonary hypertension. So our aim of this work was to study the levels of adrenomedullin in patients with congenital heart disease with or without pulmonary hypertension and to show if there is a relation between its level and the degree of pulmonary hypertension. This study included 40 patients with congenital acyanotic heart disease. They were divided into two groups. Group I which included 20 patients of them, they associated with pulmonary hypertension, and group II which included the other 20 patients without pulmonary hypertension. They were 23 males and 17 females and their ages ranged from one to 36 months. Also twenty healthy children of ages and sex matched to patients groups were taken as control (group III). All patients were subjected to full medical history taken, thorough clinical examination, chest and heart x-ray, 12 leads ECG, echocardiographic examination and measuring plasma adrenomedullin levels in all children. We found that the mean level of systolic pulmonary artery pressure (PAP) was  $71.77 \pm 21.73$ mmHg in group I, was  $21.02 \pm 3.42$ mmHg in group II and was  $17.54 \pm 4.04$ mmHg in group III. Also we found statistical significant*

*difference of the mean level of adrenomedullin (ADM) among the studied groups with the highest level in group I which was  $193.32 \pm 21.15$ pg/ml, was  $16.53 \pm 3.20$ pg/ml in group II and was  $3.77 \pm 0.8$ pg/ml in group III. There was statistical significant positive correlation between the mean systolic (PAP) and ADM mean plasma level in all studied groups.*

*So we conclude that ADM mean level was significantly elevated in patients with congenital acyanotic heart disease associated with pulmonary hypertension and we recommend its measurement for early detection of pulmonary hypertension.*

## **SOLUBLE TRANSFERRIN RECEPTOR : A USEFUL MARKER FOR ASSESSMENT OF BODY IRON STATUS**

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and Clinical Pathology\*\*, Faculty Of Medicine, Mansoura, Egypt.*

### **Abstract**

*Erythrocyte microcytosis and hypochromia constitute a hematological problem associating many disorders such as true iron deficiency anemia and anemia complicating chronic diseases. Therefore, the present study has been planed to assess the value of soluble transferrin receptor (sTfR) as an index of tissue iron status, and to discriminate between patients with iron deficiency anemia (IDA), and hypoproliferative anemia, in the presence of adequate iron stores, associating chronic diseases (ACD). The study included 40 patients with hypochromic microcytic anaemia who were classified as a true iron deficiency anemia (IDA) group, and a group of anemia of chronic disease (ACD), in addition to a control group of matched age and sex. Serum TfR and conventional iron parameters were evaluated in all the studied individuals. Soluble TfR was found to be significantly higher in patients with IDA, while in ACD patients, its level showed a non-significant change. Moreover, TfR/Log ferritin ratio (TfR-F index) was shown to be significantly elevated in IDA than either ACD or healthy controls. This ratio was also found to be more convenient, than serum ferritin, in differentiating ACD from that of IDA. In addition, a non-significant difference was observed among both anemic groups as regards other parameters of iron status. On the other hand, sTfR was negatively correlated with serum iron, serum ferritin, and haemoglobin (Hb) in both anemic groups. It could be concluded that; sTfR may be considered as a possible important parameter for evaluation of body iron status and the differentiation of true iron deficiency anemia from that of chronic disease.*

## **NORMAL ANORECTAL MANOMETRY PATTERN IN HEALTHY EGYPTIAN VOLUNTEERS**

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### **Abstract**

*The aim of the present study is to outline normal anorectal manometric pattern of healthy Egyptian volunteers in different age, sex group in our laboratories in order to properly assess, and therefore manage patients with anorectal dysfunction.*

*One hundred and fifty healthy volunteers 100 males with age range (18-50 years) and 50 females with age range (18-48 years) were involved after their consent to participate in this study, all volunteers were subjected to thorough history taking with special stress on questionnaire to exclude gastrointestinal troubles, thorough medical and complete local anorectal examination, abdominal ultrasonography and full laboratory investigations, then the following anorectal manometric parameters were studied, anal canal length, maximum average resting and squeeze pressures, presence of recto-anal inhibitory reflex, first rectal sensation, first sensation of defecation and maximum rectal tolerance.*

*Our results success to optimize our own standard normal range of anorectal manometric figures in healthy Egyptian volunteers after approximation of these results; the mean  $\pm$  the standard deviation as follow: normal anal canal length (3-5 cm), maximum resting pressure (45-75 mmHg) maximum anorectal squeezing pressure (90-125 mmHg) recto-anal inhibitory reflex was present at (15-35 cc), first rectal sensation at (20-40 cc), sensation of defecation at (90-130 cc), maximum rectal tolerance at (170-245 cc). These results could allow us to proper assess and manage patients with anorectal dysfunction in our laboratories.*

## **ANTI-LACTOFERIN ANTIBODIES IN JUVENILE RHEUMATOID ARTHRITIS**

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and Sozan Farouk MD\*\***

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### **Abstract**

*Background: Lactoferrin (L.F) is a multifunctional iron binding protein in several mucosal secretion as well as in secondary granules of polymorphnuclear leukocytes (PMN). Anti-LF antibodies, which belong to anti-neutrophil cytoplasmic antibodies (ANCA, have been described in several immunomediated diseases. The aim of this study was to evaluate serum anti-LF antibodies level in patients with juvenile rheumatoid arthritis (JRA) and correlating it with the disease activity parameters. Patients and methods: Serum samples from twenty two patients with JRA (8 with systemic onset, 8 polyarticular and 8 pauciarticular) and from 6 healthy controls were tested with ELISA for anti-LF antibodies and serum ferritin. All patients and control were subjected to clinical assessment and laboratory investigations. Including serum ferritin, anti-LF antibodies, TIBC, Hb, CRP, ESR, RF and ANA. Results: The result of our study shirred that patients with JRA had higher level of anti-LF as compared to healthy control with higher in systemic onset type. Also serum ferritin was high in all groups of JRA comparing control group with significantly higher level in systemic onset type. Serum ati-LF level significantly correlated with the clinical and laboratory parameters of disease activity of JRA. Conclusion: Anti-LF antibodies can be used as one of the laboratory indicators for the disease activity. Serum ferritin level have a diagnostic value for systemic onset JRA and useful in finding the cause of anemia in JRA.*

## **KETAMINE VERSUS TRAMADOL FOR PROPHYLAXIS AGAINST OCCURRENCE OF POSTOPERATIVE SHIVERING IN GERIATRICS**

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### **Abstract**

*Background: Shivering is a frequent complication in the postoperative period. The relatively most efficient one among the used drugs is still not well known. Nowadays tramadol and ketamine are frequently used for treatment of postoperative shivering. The aim of this study was to compare the efficacy of the prophylactic usage of each ketamine and tramadol in preventing postoperative shivering in geriatrics to find out which one is the best. Methods: A prospective randomized study involved 90 ASA II physical status patient of both sex. They were above 60 years old and prepared for surgery under general anaesthesia. Patients were randomly allocated to receive saline (S-group n=30), ketamine.  $0.5\text{mg}/\text{kg}^{-1}$  (K-group n=30) or tramadol  $0.5\text{mg}/\text{kg}^{-1}$  (T -group n=30) intravenously 20min before completion of surgery. Anaesthesia was induced with thiopental  $5\text{mg}\cdot\text{kg}^{-1}$ , fentanyl  $1\mu\text{g}\cdot\text{kg}^{-1}$  and atracurium  $0.5\text{mg}\cdot\text{kg}^{-1}$  to facilitate endotracheal intubation. It was maintained with 60%  $\text{N}_2\text{O}$  in oxygen and halothane. Mechanical ventilation was adjusted to maintain end-tidal  $\text{CO}_2$  at 30-35mm Hg. Repeated doses of atracurium were given if required. Core temperature were recorded before and during surgery. The postoperative shivering was graded using a five-point scale and postoperative pain intensity was assessed using a visual analogue scale (VAS) ranging between 0 and 10. Results: The three studied groups show no significant difference regarding patient demographic data, duration of surgery and anaesthesia. The number of shivering patients on arrival the recovery room and at 10 and 20 minutes postoperatively were significantly less in K-group and T- group than in S-group. The time to first analgesic requirement in S-group was shorter than in either K-group or T -group. Also tram-*

*adol was associated with high incidence of postoperative nausea and vomiting. Concolusion: Prophylactic ketamine (0.5mg/kg<sup>-1</sup> IV) could be considered a safe and effective alternative to Tramadol in preventing postoperative shivering .*

*Key words: Ketamine, Tramadol, shivering, postanaesthetic complication*

## **OPERATIVE TREATMENT OF DISPLACED TYPE III SUPRACONDYLAR FRACTURE OF THE HUMERUS IN CHILDREN**

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### **Abstract**

*Thirty-six patients with severely displaced supracondylar fractures extension type. According to Gartland's classification, all are type III. All patients were treated by ORIF using bilaterotricipital approach with fixation by crossed K-wires. Surgery was done after an average time, 1.6 days [range 1-4 days]. Left side was injured in 24 children while the right side was injured in 12 patients. All were closed injuries. Closed manipulation was attempted in all cases. The average period of follow up was 8.9 months, [range 3.5-18 months]. All patients regained good function with no cosmetic disability. The functional and cosmetic results suggest that open reduction using bilaterotricipital approach and internal fixation using crossed K-wires of acute displaced type III supracondylar fractures is a good method which helps to restore good elbow function with no cosmetic unsatisfactory results.*

## **THE PREDICTIVE VALUES OF FETAL FIBRONECTIN AND THE LENGTH OF THE CERVIX AS MARKERS FOR PREDICTION OF SPONTANEOUS PRETERM BIRTH**

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### **Abstract**

*Objective :* To assess the diagnostic value of fetal fibronectin testing and transvaginal ultrasonographic cervical length measurement in patients who are at high risk of preterm birth in order to determine whether performing both tests improves their separate predictive values for prediction of preterm labor than either test alone.

*Study design :* Prospective observational study.

*Subjects Methods :* This study was performed on 94 patients were identified at high risk for preterm delivery. Cases were followed prospectively from 24 weeks gestation. Subsequent visits were scheduled 2 weeks apart up to 36weeks then weekly after. Fetal fibronectin was estimated and transvaginal ultrasonography for cervical length measurement was performed. The outcome measures were deliveries before 37 weeks' gestation.

*Results :* The rate of preterm birth was 21.3% (20/94). The predictive values of positive fetal fibronectin test and cervical length <25mm, considered separately, were calculated. The negative predictive values of each were excellent (93% and 87.9% respectively). While the positive predictive values although less helpful, were still useful (43.2% and 42.9% respectively). Combination of both indicators noticeably improves positive predictive value, 60.7%. Also there was an improvement in the negative predictive value, 95.5%.

*Conclusion :* In women at high risk for preterm labor, fetal fibronectin testing and cervical length measurement between 24-37 weeks' gesta-

*tion are approximately equivalent in prediction of preterm labor. Combination of both indicators was associated with improvement in predictive values. So combined tests are useful in prediction of preterm birth.*

*Key words : Fetal fibronectin, cervical length, preterm birth*

## **OSTEOPROTEGRIN "A NOVEL CYTOKINE" AND ITS PREDICTIVE VALUE IN DIAGNOSIS OF RENAL OSTEODYSTROPHY IN CHRONIC RENAL FAILURE PATIENTS**

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### **Abstract**

*Chronic renal failure (CRF) has a repercussion effect on bone, known as renal osteodystrophy (ROD). Skeletal resistance to parathyroid hormone (PTH) is one of the major abnormalities underlying bone disease in uremia. The golden standard for diagnosis of ROD still remain histomorphomeric. Because bone biopsy is invasive, alternative methods have been evaluated to determine various biochemical blood parameters, which reflect bone turnover directly or indirectly. So the aim of this work is to assess osteoprotegerin in patients with (CRF). This study included 30 patients with (CRF) and 10 apparently healthy individuals of matched age and sex as a control group. The patients were selected from the Internal Medicine department and the dialysis unit of Tanta University Hospital. They were classified into 3 groups. Group I: 15 patients (10 males and 5 females) with CRF of different causes and degrees before dialysis. None of the patients had clinical symptoms or overt bone disease. Group II: 15 patients (10 males and 5 females) with CRF maintained on regular hemodialysis. Group III: 10 apparently healthy subject (5 males and 5 females) as a control group. All of them were subjected to: urine analysis, CBC, creatinine clearance, calcium, alkaline phosphatase, serum phosphorus, serum sodium and serum osteoprotegerin. The present study revealed significant increase in serum (OPG) in patients groups compared to control and also increase in serum (OPG) in predialysis (CRF) patients compared to those under hemodialysis. There is positive correlation between serum OPG and age, serum creatinine and alkaline phosphatase in*

*control group. Also there is increase in serum OPG in females than males. There is also increase in serum OPG in diabetic patients with micro vascular complications. There is insignificant increase in serum alkaline phosphatase, calcium and significant increase in serum phosphorous in patient groups compared to control. In addition there was significant decrease in Hb, number of RBCs and insignificant decrease in platelets and leucocytes count of the patient group compared to the control group. In conclusion, the increase in OPG might protect bone against intensive bone loss in hemodialysis patients, but this increase is probably not mediated by the increased bone formation; rather, it seems to be the consequence of the imbalance of bone kinetics in renal disease.*

**STUDY OF POST-TRANSPLANT DIABETES  
MELLITUS IN LIVE - DONOR KIDNEY  
TRANSPLANT RECIPIENTS**

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**Abstract**

*Posttransplantation diabetes mellitus (PTDM) is a major medical problem that adversely affect the recipient and the graft after renal transplantation. Its exact incidence has been difficult to determine among previous studies. This study was done on 1558 patients received live donor renal allograft. 286 patients (18.2%) developed PTDM and they constitute the patient group that was studied against a control group of 316 non-diabetic recipient. The study showed that the incidence of PTDM was highest during the first 6 months posttransplantation. The main risk factors were : older recipient age, positive family history of diabetes mellitus, obesity, the use of calcineurin inhibitors, the total steroid dose and HCV infection. It adversely affect the patient survival and the graft function and is responsible for many medical complications that affect the recipient.*

## **THE ROLE OF INSULIN RESISTANCE IN HYPERTENSIVE PATIENTS WITH FATTY LIVER AND NORMAL LIVER FUNCTIONS**

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### **Abstract**

*BACKGROUND: The conditions associated with fatty liver disease presenting with normal liver enzymes and the mechanism in its development remain to be fully investigated.*

*AIMS: The aim of this work was to test the hypothesis that fatty liver with normal liver enzymes occurs most frequently in arterial hypertensive patients and to establish whether this is associated with insulin resistance.*

*PATIENTS: Fifty five non-obese, non-diabetic, non-alcoholic patients with arterial hypertensive and normal liver enzymes and 55 sex and age matched healthy subjects (control group) were enrolled into the study.*

*METHODS: Plasma metabolic parameters, body mass index, and the presence of fatty liver were investigated. Insulin resistance was estimated from plasma insulin and glucose. Stepwise logistic regression and multivariate regression analysis were used on the combined sample to identify variables independently associated with fatty liver and insulin resistance.*

*RESULTS: Hypertensive patients had a significantly higher prevalence of fatty liver (30.9% v 12.7%;  $p > 0.041$ ), higher insulin resistance (mean  $2.27 \{SD 1.81\}$  v  $1.56 \{0.70\}$ ;  $p = 0.022$ ), and slightly higher body mass index ( $24.9 \{3.0\}$  v  $24.0 \{2.2\}$ ;  $p = 0.043$ ) than controls. Multivariate logistic regression identified insulin resistance (odds ratio 1.66 (95% confidence interval {CI} 1.03-2.52)) and body mass index (OR 1.22 {95% CI 1.00-1.49}) as factors independently associated with fatty liver. Multivariate*

*regression analysis showed insulin resistance to be predicted by alanine transaminase ( $p=0.002$ ), presence of arterial hypertension ( $p=0.029$ ), and body mass index ( $p=0.048$ ).*

*CONCLUSION: The higher prevalence of non-alcoholic fatty liver in non-obese hypertensive patients with normal liver enzymes appears to be related to increases in insulin resistance and body weight.*

## **LIGHTS' CRITERIA REVIEWED FOR MORE BETTER DIFFERENTIATION-USING LDH AND CHOLESTEROL**

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### **Abstract**

*Pleural effusion is one of the most important diagnostic problems encountered by physicians, a correct diagnosis of the underlying disease is essential to rationale management. This study is planned to verify the value of pleural fluid cholesterol in differentiating exudates from transudates. Fifty patients with pleural effusions of different aetiology were included in the study. The pleural cholesterol level was  $25.86 \pm 11.5$  mg/dl in transudates,  $108.92 \pm 25.15$  mg/dl in malignant exudates,  $73.67 \pm 23.83$  mg/dl in tuberculous exudates and  $71.8 \pm 25.66$  mg/dl in parapneumonic effusions. The differences between the transudes group and the other groups were statistically significant ( $P < 0.001$ ). All transudates and 5 out of 35 exudates had pleural cholesterol values below 60 mg/dl, with such a threshold level, the pleural fluid cholesterol had a sensitivity of 87.5% and a specificity of 100% for diagnosis of exudates. With a threshold of 0.3, the pleural/serum cholesterol ratio had a sensitivity of 88.6% and a specificity of 100%. The number of cases misclassified with the use of the pleural/serum cholesterol ratio was less than any other of the parameters studied. Pleural fluid cholesterol is a simple and cost effective test to differentiate exudates from transudates. Both pleural cholesterol and the pleural/serum cholesterol ratio perform better than the parameters proposed by Light and et al (1972) for differentiating transudates, perform less for differentiating inflammatory exudates and perform similar for differentiating malignant exudates. Thus for perfect differentiation of exudates and transudates we recommend the use of the pleural / serum cholesterol and pleural / serum lactic dehydrogenase ratios together.*

*er because combined use of the two parameters resulted in accurate classification of all cases studied (100%).*

## **SURGICAL TREATMENT OF HIP SUBLUXATION AND DISLOCATION IN CEREBRAL PALSY PATIENTS**

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### **Abstract**

*The aim of this study is to evaluate the results of surgical treatment in a group of cerebral palsy patients with hip joint instability. This study includes 37 hips (16 dislocations and 21 subluxations) in 29 patients (8 bilateral and 21 unilateral) were treated by combined open reduction, acetabular, and femoral osteotomies; all in one stage. After a mean follow up of 4 years; 4 patients were able to discard using walking support; all the hips (except 2) were painless, most of the wheel chair confined patients were able to sit comfortably for a longer time with less sitting support but non of them were able to ambulate. Complications; 1 hip redislocation, 6 hips resubluxation, and 2 avascular necrosis. Conclusion: in cerebral palsy patients with hip subluxation or dislocation, combined open reduction, femoral osteotomy, and acetabular osteotomy is useful and justifiable method of management.*

## **THE EFFECT OF EXPOSURE TO CHEMICAL POLLUTION ON THE PSYCHIATRIC STATE OF WORKERS IN AN INDUSTRIAL AREA**

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### **Abstract**

*Environmental toxins are becoming an increasingly serious threat to physical and mental health in contemporary society. Objective: Is to study the relation between exposure to heavy elements pollutants and the psychiatric state of exposed workers. Methods: Samples of industrial dust were collected, using the scientific geological rules applicable to the sampling of indoor dust. The significant components of the basic elements and the rare elements were analyzed by the rules of geochemistry. Four heavy elements [Cr, Fe, Mn, Ni] were analyzed in the blood plasma of forty workers exposed to pollution. A designed questionnaire (which proofed statistically significantly valid and reliable) to assess the psychiatric state was applied to a sample of workers exposed to industrial dust pollution for a minimum period of five consecutive years, and another sample of workers not exposed to pollution as a control group. The number of workers of each sample was one hundred. Results and conclusion: It was found that the heavy elements of the industrial dusts are above the maximum limits specified in the world standard of heavy elements pollution. The lab tests of blood plasma of the workers exposed to industrial dust indicated that their blood is contaminated with Cr, Fe, Mn and Ni. It was also found that the exposed workers were significantly showing decline in their psychiatric state. They significantly showed disorders of attention, disorders of memory, emotional instability, depression and psycho-somatic disorders.*

**CLINICO-EPIDEMIOLOGICAL PROFILE OF  
JUVENILE RHEUMATOID ARTERITIS IN  
SCHOOL CHILDREN OF DAKAHLIA  
GOVERNORATE**

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**Abstract**

*Juvenile rheumatoid arthritis (JRA) is one of the most common forms of childhood arthritis that not only affect the daily activities and the psychological status of the children and their families but also has a financial impact on the society. The objective of this study was to assess the magnitude of the problem among school students in Dakahlia governorates as well as its clinical and immunological profiles. The study used community based, case control approach along one school year. A sample of 8178 students from rural and urban areas was included. All students were subjected to specifically designed questionnaire, medical history and preliminary clinical examination. Plain radiography for the affected joint(s) or region(s) was done. Laboratory investigations included; urine examination, erythrocyte sedimentation rate (ESR), complete blood count (CBC), rheumatoid factor (RF), antinuclear antibody (ANA), anti ds DNA, anti-stryptolysin-O- (ASO), C-reactive protein (CRP), creatine phosphokinase, lactic dehydrogenase (LDH) and liver function tests. Fundus examination was done for the patients fulfilling the diagnostic criteria* CONCLUSION: *Juvenile rheumatoid arthritis is not an uncommon disease among school students in Dakahlia with a prevalence of 2.1 per thousand. There is a significant risk among rural residence, female sex specially those aging from 6-<12 years. The most common subset is the polyarticular JRA. In the present study, the joints involvement in order of frequency were the wrist, metacarpophalangeal joints (MCPs), and proximal interphalangeal (PIPs) followed by the knee joints.*

**PREVALENCE OF DEPRESSION AMONG  
PATIENTS ATTENDING BENHA  
UNIVERSITY HOSPITAL**

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**Abstract**

*Objective: To determine the prevalence of depression among patients attending Benha hospital clinic and some of its determinants.*

*Subject and methods: A cross-sectional study of consecutive patients who attended the clinic for physical medical problems, aged between 21 and 64 years during November and December 2003. One thousand two hundred and fifty patients were interviewed in detail about their socio-demographic characteristics, and the mental status examination was done by using the items of the American Diagnostic and Statistical Manual for Mental Disorders (DSM-IV criteria) to elicit symptoms of depression. Diagnosis of depression was based on DSM-IV criteria.*

*Result: The study group consisted of 450 (36%) males and 800 (64%) females; 46.4% were employees, 83.2% were married and 76% belonged to the medium socio-economic level. Based on the clinical interview, 29.6% of subjects fulfilled DSM-IV criteria for depression. Out of these, 78.4% were females, 70.3% were married and 64.9% were of intermediate socio-economic level. Significantly, more female patients had depression. Depression was significantly commoner among patients who were married and from the low socio-economic group. None of the subjects had suicidal thoughts.*

*Conclusion: It is recommended that doctors in primary care settings should be aware of psychiatric morbidity in general and depression in particular, with a view to offering appropriate treatment*

## **ROLE OF INSULIN RESISTANCE AND CORONARY HEART DISEASE IN TYPE II DM**

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### **Abstract**

*Aim: to study the role of insulin resistance, hyperinsulinemia and coronary heart disease in patients with type II DM.*

*Materials and methods: Twenty patients with type II DM and chronic stable angina (group A) were compared to matched twenty patients with DM and there is no ischemic heart disease (group B) using lab. Evaluation of insulin resistance by HOMA equation, lipid profile, plasma fibrinogen between two groups and coronary angio (to group A only). There were 16 patients with insulin resistant in group A while it were 4 patients in group B, as regard, lipid profile there were significant difference between two groups except to T.G. and also significant difference as regards fibrinogen. We did coronary angio. to group A and then we reclassified as regard insulin resistance subgroup and insulin sensitive subgroup. We found single vessel disease in 3 patients, two vessels diseases in 4 patients and three vessel disease in 4 patients out of 16 patients in insulin resistance subgroup while it were 4 patient with single vessel disease in insulin sensitive subgroup out of 4 patients.*

*Conclusion: Insulin resistance in DM needs clinical and biochemical investigation and there is high association between insulin resistance and CAD also there is strong positive correlation between severity of CAD and degree of insulin resistance.*

**SYNTHETIC MATERIAL SLING EFFECTS ON  
URINARY BLADDER WALL  
(Experimental study)**

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**Abstract**

*Objective: To assess the safety of use of synthetic materials sling in contact with urinary bladder wall of dogs.*

*Material & Methods: Fifteen Mongorel dogs were included in this study. Patch of Mertheline mesh 1cm width and 2cm length fixed to the anterior bladder wall. After 3 month the bladder is taken and examined macroscopically and histopathologically.*

*Results: Erosion of the bladder wall was found in 10 cases (66.6%), with inflammatory reaction and fibrosis of the bladder wall in all cases (15/15), and squamous metaplasia of the epithelium was developed in (3) cases (3/15/20%).*

*Conclusion: Synthetic materials acts as foreign body which resulted in fibrosis and erosion of the wall even without tension on short period, however further study is needed for long term follow up.*

## STUDY OF PARASITIC INFESTATIONS AMONG FOOD HANDLERS

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### Abstract

**Background:** Parasites are organisms that live inside humans or other organisms who act as hosts. They are dependent on their hosts because they are unable to produce food for themselves. Parasites are harmful to humans because they consume needed food, eat away body tissues and cells, and produce toxic waste, which makes people sick. They kill and disable millions of people every year. People can become infested through eating foods prepared by infected food handlers.

**Aim of the work:** This study aimed at determining the prevalence of intestinal parasites among food handlers in Shebin El-Kom District, Menoufiya governorate.

**Subjects and Methods:** A cross sectional study was done for 210 food handlers during seeking for Health Clearance Certificate at southern Shebin El-Kom 1ry health care unit where a stool analysis was done for each.

**Results:** The prevalence of parasitic infestations among the studied sample was 16.19%. The frequency of parasitic infestations in this study was *Blastocystis hominis* (38.23%), followed by *Entamoeba histolytica* (29.41%), then *Giardia lamblia* (14.70%) and *H. nana* (8.82%). The study revealed that low socio-economic status and less years of work were significantly associated with parasitic infestations.

**Recommendations:** it is recommended that health education should be increased to raise the awareness of food handlers about methods of transmission of parasitic infestations and the importance of complete treatment course.

## **EFFECTS OF AN INTENSIVE DYNAMIC EXERCISE PROGRAM ON THE OUTCOME OF PATIENTS WITH RHEUMATOID ARTHRITIS**

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### **Abstract**

**Objective:** *The aim of this work is to study the effects of an intensive strengthening exercises on the functional ability, fatigue, psychological status as well as disease activity in patients with RA.*

**Methods:** *This study comprised 30 female patients with RA who were selected from the outpatient-clinics and in-patients of the departments of Rheumatology and Rehabilitation, Benha University Hospitals and Benha Teaching Hospital. These patients were randomly divided into 2 groups, each group consisted of 15 patients, where group (I) was allocated to an intensive exercise program twice weekly for 12 week. Group (II) patients were on a usual care program of range motion exercises. Both groups were matched as regard age ( $P = 0.23$ ), duration of the disease ( $P = 0.15$ ), weight ( $P = 0.3$ ) and height ( $P = 0.9$ ). All patients were almost on the same treatment regimen were subjected to a full history taking, thorough clinical examination, laboratory investigations and other clinical data (including: Multidimensional Assessment of Fatigue (MAF), Health Assessment Questionnaire (HAQ) and Disease Activity Score of 28 Joint Count (DAS28), walk test time, stair test time, depression and anxiety scores), that were obtained at presentation and after 12 weeks.*

**Results:** *By comparison between the two groups after 12 week, clinical evaluation data and laboratory data showed statistically significant differences as regard morning stiffness ( $P = 0.001$ ), MAF ( $P = 0.001$ ) and ESR ( $P = 0.002$ ), and highly statistically significant differences as regard, HAQ, walk and stair tests, depression and anxiety scores ( $P < 0.001$ ) in favor of group (I). However, there were no statistically significant differenc-*

es in DAS ( $P = 0.07$ ) parameter between the two groups.

**Conclusion:** Twelve weeks intensive strengthening exercise program is effective in improving morning stiffness, fatigue, functional disability, depression and anxiety that occur in patients with RA. This program also has no deleterious effect on disease activity.

## **EVALUATION OF sFAS AND TNF- $\alpha$ AS MARKERS OF APOPTOSIS IN PATIENTS WITH ISCHEMIC HEART DISEASE**

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### **Abstract**

*Background: apoptosis has been observed in the vasculature and myocardium, intense interest has been focused on the role of apoptosis in normal cardiac development and in pathology of cardiovascular disease including chronic heart failure and various manifestations of ischemic heart disease. Variety of extra and intracellular signals that regulate apoptosis have been identified. Fas is type I transmembrane receptor glycoprotein of TNF/NGF receptor superfamily. sFas (the soluble form) blocks cell death by inhibiting the interaction between Fas and Fas-L on the cell surface and thereby serving as apoptosis regulating protein, TNF- $\alpha$  is cytokine with pro-inflammatory properties has important signaling activity such as cytotoxicity, apoptosis and negative inotropism. Aim of the work: is to detect and compare the serum levels of soluble Fas/apo 1 receptor (sFas) an inhibitor of apoptosis and inflammatory cytokine (TNF- $\alpha$ ) an inducer of apoptosis in ischemic heart disease patients with and without congestive heart failure. Patients and methods: 31 patients with ischemic heart disease without HF including 20 patients with AMI and 11 patients with unstable angina and 15 ischemic patients with chronic heart failure together with 15 age and sex comparable healthy control subjects were included in this study. After detailed history taking, through clinical examination, 12 leads ECG, chest xray, transthoracic echo, laboratory investigations including serum cardiac enzymes CPK and LDH, serum sFas and serum TNF- $\alpha$  were measured. Results: group I of ischemic patients without HF have significantly higher level of CPK, LDH, TNF- $\alpha$  and sFas compared to control subjects, also group II of ischemic patients with HF have significantly higher level of TNF- $\alpha$  and sFas compared to controls ( $P < 0.05$ ) but no significant difference between both groups regarding the level of CPK and LDH. Group I have significantly higher level of serum es*

CPK, LDH, TNF- $\alpha$  compared to group II ( $P < 0.05$ ) but both groups did not differ significantly regarding the level of sFas. NYHA functional class IV have very highly significant higher level of sFas compared to class III and II ( $P < 0.0001$ ) while significant statistical increase in the TNF- $\alpha$  found in class IV than class III and class II patients. Significant positive correlation was detected between TNF- $\alpha$  and sFas in ischemic patients without HF (group I) but this correlation was not detected in patients with HF (group II).

*Conclusion:* apoptosis plays major role in myocardial disease such as ischemic heart disease. Blocking this mechanism will have to be considered as therapeutic strategy so identification of factors regulating this process may be a useful advance.

**KEY WORDS:** Apoptosis, soluble Fas (sFas), Tumor necrosis factor- (TNF- $\alpha$ )