

**ANTIBIOTIC, GUT AND LIVER**

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**The other side of infection is antimicrobials. Our subject is antibiotics in relation to GUT and Liver. It will be discussed in the following aspects:**

**A- the injury Aspects:**

- 1-Disruption of GUT flora.**
- 2-Antibiotics induced absorptive defects.**
- 3-Antibiotics associated diarrhea.**
- 4-Antibiotics-induced Hepatotoxicity.**

**B- Treatment Aspects:**

- 1-IBS-acute infections diarrhea and Typhoid illeal perforation.**
- 2-Recent aspects of H.pylori eradication is highlighted.**
- 3-Portosystemic encephopathy, FHF ans SBP.**

**C- Other Aspects:**

- 1-Pruritis.**
- 2-About use of Aminoglycosides.**
- 3-Immunomodulationg properties of antibiotics.**
- 4-Probiotics.**

**ASSESSMENT OF CLINICAL SIGNIFICANCE OF  
SERUM ENDOTHELIN-1 AND ATRIAL NATRIURETIC PEPTIDE  
IN PATIENTS WITH HEPATORENAL SYNDROME**

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Hepatorenal syndrome is the development of renal failure in patients with advanced liver disease. The hallmark of hepatorenal syndrome is renal vasoconstriction, although the pathogenesis is not fully understood, multiple mechanisms are probably involved and include activation of vasoconstrictor system, and a reduction activity of the vasodilator system. This study aimed at studying the level of endothelin 1 and atrial natriuretic peptide in 20 patients with liver cirrhosis, 20 patients with hepatorenal syndrome and 10 healthy control subjects.

The results showed that endothelin 1 is higher in patients with hepatorenal syndrome compared with liver cirrhosis and healthy subjects.

Atrial natriuretic peptide was high in patients with liver cirrhosis compared to the control group.

In conclusion: Endothelin 1 and natriuretic peptide are increased in cirrhotic patients, the significant increase of endothelin 1 in patients with associated hepatorenal syndrome suggests its role in renal vasoconstriction and deterioration of renal function.

**CHANGE OF SEROPREVALENCE OF  
HBSAG & HCVAB AMONG EGYPTIAN YOUNG ADULTS**

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*Schistosoma mansoni* and hepatitis B virus (HBV) infections have been thought to be the principle causes of chronic liver disease in Egypt. However it is becoming clear now that hepatitis C virus (HCV) infection is hyperendemic in Egypt and in fact it may be responsible for more hepatitis morbidity than schistosomiasis and HBV (Kamel et al., 1994 and Darwish et al., 1996).

The aim of this cross-sectional study is to determine the seroprevalence of HbsAg and HCVAb among selected age groups representing young adults attending the Egyptian Police Academy at year 2004. All candidates to the Police Academy were enrolled in this study. They were 9152 young adults representing all of the 26 governorates of Egypt. According to their age and gender distribution, they were classified into two groups, group I included 8311 persons and their age ranging from 16-18 years ( mean $\pm$ SD= 17 $\pm$ 1) and all of them were males. They are students graduated at secondary school, group II included 841 of post graduates and their age ranging from 22-26 years (mean $\pm$ SD=24 $\pm$ 2). They were 786 males and 55 females. All of the studied cases were subjected to thorough clinical examination with special concern to manifestations of chronic liver and abdominal examination to evaluate the liver and spleen specifically. Also serum samples were taken from all the studied cases and examined for HBsAg and HCVAb using the ELISA technique (third generation). The results of our study showed that the seroprevalence of HBsAg was 0.3 % in group I ( n =8311 ) and 0.6 in group II ( n=8411) with no significant difference between either groups (P>0.05) as regards the seroprevalence of HBsAg. Also there were no significant difference (P>0.05) between males and females as regards that seroprevalence. The overall seroprevalence of HBsAg was 0.4% in all studied age groups (Total number = group I and group II = 8311+ 841= 9152). The seroprevalence of HCVAb was 0.6% in group I and 0.7% in group II with no significant difference (P<0.05) between either groups as regards the seroprevalence of HCVAb. Also there was no significant difference between males and females as regards that seroprevalence. The overall seroprevalence of HCVAb was 0.7% in all studied age groups.

We conclude from our study that the overall seroprevalence of HBsAg and HCVAb has been markedly decreased in Egyptian young adults to 0.4% and 0.7% respectively and this approaches from that reported from developed countries.

**CHANGES OF SERUM OXIDIZED LOW DENSITY LIPOPROTEINS, IRON AND FERRITIN IN CHRONIC LIVER DISEASE**

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We investigated the changes in and the correlations between serum oxidized low density lipoproteins (OX-LDL), iron, ferritin, uric acid and albumin in children and adolescents had autoimmune hepatitis (AIH), a chronic liver disease.

Patients group had higher activities of serum transaminases and higher level of serum total bilirubin than normal values. Also, all of them gave positive results for antismooth muscle antibody test. Also, results revealed that the concentration of oxidized low density lipoproteins antibodies (OX-LDL Ab) a marker for OX-LDL concentration in patients was significantly increased ( $P < 0.001$ ) when compared with that of healthy controls. Moreover, serum ferritin, iron, and uric acid levels showed high values in patients with different significant levels ( $P < 0.001$ , 0.025 and 0.001) respectively from those of the control subjects.

Correlation study demonstrated that patient's serum ferritin level had significant positive correlation with serum uric acid ( $r 0.406$ ,  $p < 0.05$ ). Also, a positive correlation was found between serum uric acid and albumin ( $r 0.428$ ,  $P < 0.05$ ). In healthy control group, a positive correlation ( $r 0.671$ ,  $P < 0.05$ ) was found between serum uric acid and albumin.

Patients suffered from AIH for  $< 5$  years showed significant increase in each of serum iron, ferritin, uric acid levels ( $P < 0.001$ ) and in OX-LDL-Ab concentration ( $P < 0.05$ ) as compared with those of control group. Furthermore, in other patients' group (AIH for  $> 5$  years), serum OX-LDL ab, ferritin and uric acid levels significantly increased ( $P < 0.001$ , 0.005 and 0.001 respectively) as compared with those of the controls. On the other hand, comparison of these parameters between both groups of patients showed no significant changes.

In conclusion, OX-LDL and ferritin increased in all patients regardless the duration of the disease. Increase the intake of natural antioxidants and decrease the intake of iron are recommended for those patients.

**CYCLOOXYGENASE-2 (COX-2) EXPRESSION IN  
PRIMARY HEPATOCELLULAR CARCINOMA**

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Hepatocellular carcinoma (HCC) is a leading cause of cancer deaths worldwide. In HCC the exact molecular mechanism of hepatocarcinogenesis is still unclear. However, the expression pattern of Cyclooxygenase-2 (COX-2) protein may play an important role in hepatocarcinogenesis. So, the aim of this work was to investigate the expression pattern and clinical significance of COX-2 in chronic liver disease patients with HCC. Sixteen patients were studied; they were fourteen males and two females with age ranged from 45-62 years. The mean age was  $55.2 \pm 5.1$  years. All patients were subjected to thorough history taking, clinical examination, routine laboratory investigations as well as liver functions tests, tumor markers, abdominal Ultrasonography (U/S), Computerized Tomography (CT) in addition to liver biopsy. Histopathological studies were done using Hematoxylin and Eosin (H&E) as well as Immunohistochemistry for detection of COX-2 expression and apoptosis. It was found that the distribution of COX-2 positive cells was mostly extensive, and occasionally focal or scattered. No statistically significant correlation was found between COX-2 expression in the tumor cells and clinicolaboratory results when evaluated in all HCC patients. High expression of COX-2 was present in (62.5%), moderate in (25%) and low in (12.5%). Moderate and well-differentiated HCC were present in (56.2%) which had a higher expression of COX-2 values. While (43.8%) had poorly differentiated HCC and associated lower values of COX-2. There was no significant relationship between the level of COX-2 expression and  $\alpha$ -fetoprotein, tumor size and the presence of portal vein thrombosis or metastatic spread. Apoptosis was high among (18.75%) of patients, moderate in (50%) and low in (31.25%). Although well-differentiated HCC had the highest mean values of COX-2 expression and the lowest mean values of apoptosis, yet there is no statistically significant correlation between them ( $P > 0.05$ ). Also, there are no statistically significant differences between COX-2 and apoptosis versus the histopathological results. In conclusion, COX-2 expression is related to HCC whose histology is well differentiated and it may be a determinant of the differentiation grade for HCC. But it is too early to tell whether selective COX-2 inhibitors will have a role in primary and /or secondary chemoprevention of HCC. In addition more studies for primary HCC are needed to clarify whether COX-2 is a principle enzyme involved in liver carcinogenesis.

**DISSEMINATED INTRAVASCULAR COAGULATION IN  
CHRONIC LIVER DISEASE AND ITS ROLE IN ACUTE VARICEAL BLEEDING**

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**Background:** Disseminated intravascular coagulation (DIC) is an extremely complex process which is seen frequently in patients with chronic liver disease. It was believed that all patients with compensated or decompensated chronic liver disease have a different degree of DIC either overt or latent which is more pronounced with the progress of the disease and presence of esophageal or gastric varices bleeding. The aim of this work is to demonstrate the association between DIC and chronic liver disease and its impact on acute variceal bleeding. **Methods:** 71 patients with chronic liver disease and 10 subjects as a control group were enrolled in this study. They were classified into 3 groups: group I included 51 patients with liver cirrhosis and / or fibrosis, group II included 20 patients with acute esophageal bleeding and group III including 10 subjects as a control. All groups were subjected to thorough history taking, clinical examination, abdominal ultrasound then laboratory tests including haemostatic parameters: platelet count, prothrombin time, activated partial thrombin time, thrombin time, fibrinogen level, anti-thrombin III., thrombin anti-thrombin levels, D-dimer and fibrin degradation products. **Results:** There is high significant difference between group I and II in comparison with the control group ( $P < 0.001$ ) as regard the haemostatic parameters. The haemostatic parameters showed marked significant increase in levels in patients received endoscopic therapy (either band ligation or injection sclerotherapy). Latent DIC was present in 39.2% in group I in comparison to 45% in group II and 0% in group III, while overt DIC was present in 25.5% in group I in comparison to 45% in group II. D-dimer and FDPs were highly significantly present in group having DIC than those with no DIC, also the presence of DIC is highly correlated with riskness of the varices and incidence and severity of hematemesis. **Conclusion:** Chronic liver disease results in a low grade compensated DIC with secondary fibrinolysis. The D-dimer is one of the most important parameter for diagnosis of chronic compensated liver disease with DIC without overt clinical symptoms

**EARLY DETECTION OF GASTRIC FUNDAL VARICES  
BY SPIRAL CT ANGIOGRAPHY**

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**Background:** Bleeding from gastric varices is usually severe and need rapid interference. The diagnosis of submucosal gastric varices, currently occurred by endoscopy and endoscopic ultrasound. In spite of the endoscopic ultrasound is the most useful method in diagnosis of submucosal fundal varices, it is invasive and not widely available. The aim of this study was to evaluate feasibility and accuracy of CT portography in the diagnosis of submucosal fundal varices.

**Methods:** Twenty four patients with signs of portal hypertension and endoscopically suspected fundal varices were included in this study. After overnight fasting, upper endoscopy was done to evaluate esophagus and entire stomach for gastric varices. Helical post-contrast CT scan with CT portography was done to all patients and when fundal varices were assessed, they were classified into submucosal and adventitial (perigastric).

**Results:** 16 (66.7%) patients of 24 had esophageal varices with recent or previous attack of bleeding. 8 (33.3%) patients of 24 had endoscopically proved fundal varices; 6 of them were GOV1, one was GOV2 and was IGV1. In doing CT scan and portography 12 patients (50%) had submucosal fundal varices and 9 patients (37.8%) had adventitial fundal varices. Six patients of all 21 had both types submucosal fundal varices and adventitial fundal varices.

**Conclusion:** CT portography is a new technique for diagnosis of fundal varices early and more sensitive than endoscopy. Also it is easy and a reliable to be done.

**ENDOSTATIN AS A NOVEL MARKER FOR HCC**

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The endostatin precursor collagen XVIII is expressed at high levels in human livers , the main source being hepatocytes. Endostatin, a 20-kDa proteolytic COOH-terminal fragment derived from collagen XVIII , is an endogenous inhibitor of angiogenesis and tumor growth in mice , which may be generated by proteolytic cleavage of collagen XVIII . In normal tissues , variants of the endostatin precursor , namely the SHORT and LONG forms , regulate tissue specificity . Tumor hepatocytes expressed the LONG form , whereas cholangiocarcinoma cells expressed the short form , which was deposited in tumor basement membranes. Metastatic colorectal carcinoma cells did not express collagen XVIII . The full-length LONG form is a plasma protein , and is a hepatocyte – specific variant, where as the SHORT form is a major component of the tumor extracellular matrix in primary and metastatic liver cancers .

Angiogenesis plays a vital role in the pathology of cancer , ischemic diseases and chronic inflammation, among other conditions. Endostatin is distributed in some parts of the human body , and has been demonstrated to have a strong inhibitory role in the angiogenesis . It specifically inhibits the proliferation of endothelial cells and induces their apoptosis both in vitro and in vivo.

The measurement of serum endostatin can predict tumor vascularity. Tumor angiogenesis is a strong prognostic factor in patients with hepatocellular carcinoma(HCC). However, details regarding the serum levels of proangiogenic and antiangiogenic growth factors controlling this process are not yet known . Significantly high levels of endostatin were noted in patients with trabecular-type tumors , and with hepatitis infection. The serum endostatin level was found to be higher in living patients , and at the same time , patients with high serum endostatin levels had a tendency towards long survival . Tissue endostatin expression was found to have a direct correlation with the serum endostatin level. 20 patients suffering from HCC as proven by alfa-feto protein testing and abdominal sonography .16 patients suffering from GIT malignancies mostly cancer colon , 8 patients with liver metastasis and 8 without metastasis as proven by abdominal sonography, and 10 normal persons not suffering from any malignancies . All subjects were tested for alfa-feto protein by ELISA .All were also tested for C19.9 , CEA, and Endostatin by in vivo enzyme immunoassay for ELISA  
**CONCLUSION:** Endostatin can be used as a more sensitive marker for hepatocellular metaplastic affection ( highly significant statistical analysis of the results obtained ) and also is more sensitive than sonography in determining the start of metastasis . It is also more sensitive than alfa-feto protein and CEA in determining the liver cell affection ( significant statistical result) whether primary or as the secondary metastasis . It has no significant statistical analysis level in determination of the cancer colon, in comparison to C19.9 , and though it can predict the development of metastasis from colon cancer with high specificity.

**EVALUATION OF THE INHIBITORY EFFECT OF  
ANTISENSE OLIGODEOXYNUCLEOTIDES ON THE GROWTH OF  
HEPATITIS C-ASSOCIATED HEPATOCELLULAR CARCINOMA CELLS IN VIVO**

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**Abstract:** Hepatitis C virus -RNA has been almost invariable detected in serum and tumor tissue of anti-HCV positive patients with HCC .The inflammation and cirrhosis caused by HCV could function as a promoter in the development of HCC . HCC could also be the consequence of HCV infection independent of the effect of cirrhosis. The ability of the core protein of HCV to modulate gene transcription, cell proliferation and cell death by interacting with cellular genes that regulate cell growth and differentiation, has been shown to be involved in the pathogenesis of HCC. Hepatitis CV NS3 protease is an attractive target for antiviral agent development, because it is required for viral replication. Recent studies constructed in vitro model of HCC demonstrated that antisense oligodeoxynucleotides (AS-ODN) interfered with NS3 translation in a dose dependent fashion and significantly inhibited protease activity.

**Aim of work:** We studied the in vitro effect of antisense oligodeoxynucleotide (AS – ODN) on the rate of growth of the tumor cells grown in fluid culture of HCC associated with hepatitis-C.

**Patients and methods:** Core biopsy was taken from 20 patients with HCC associated with hepatitis C. Each one was divided into two parts, group I to which antisense was added, group II no antisense was added which served as a control group. Comparison of cell viability between tubes with and without AS-ODN was done using : MTT assay, LDH assay, cell cycle analysis, trypan blue exclusion test and colony formation in soft agar.

**Results:** Colony formation in soft agar was inhibited in group I as compared to the control group and the inhibition was highly statistically significant ( $P<0.01$ ). The LDH level in culture supernatant, The trypan blue exclusion test both reflecting cellular death, was higher in group I compared to group II and the difference was highly statistically significant ( $P<0.01$ ). MTT assay showed highly statistically significant decrease in cell activation in group I (with AS-ODN) compared to group II ( $P<0.01$ ). The percentage of cells in (G0/G1) phase were higher in group I compared to group II and the difference was statistically significant ( $P=0.04$ ). There was an insignificant difference between both groups in the percentage of cells in S phase ( $P=0.378$ ). The inhibitory effect of AS-ODNs on the tumor cells in G2/M phase (Mitosis phase) of the cell cycle was statistically highly significant compared to the control group ( $P<0.01$ ).

**Conclusions:** Our in vitro study showed that AS-ODN has a significant inhibitory effect on the growth of hepatitis C-associated HCC cells grown in fluid culture, and would provide a scientific base for the possibility of use of AS-ODN in the treatment of HCC in the future.

**HIGH PREVALENCE OF HEPATITIS C IN HAEMODIALYSIS PATIENTS:  
EFFECT OF ISOLATION OF NURSING STAFF?**

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**Background:** Hepatitis C virus infection is a significant health problem in haemodialysis patients, especially in the Middle East countries. Despite screening of donated blood and adoption of infection control measures, new infections still occur in HD units in some patients; the exact mechanisms of such transmission are unclear. Unresolved debate continues on whether or not HCV positive patients should be strictly isolated in dedicated space and dialysis equipments. In a previous study, we reported a high prevalence of HCV infection in the main haemodialysis unit of Taif, KSA and concluded that non-adherence to infection control measures was the likely underlying risk factor for HCV transmission in that unit.

**Aim of the work:** To evaluate the effect of dedication of the nursing staff on the transmission of HCV infection among HD patients.

**Patients and methods:** The records of 250 patients undergoing regular HD for chronic renal failure were evaluated for the prevalence of HCV antibody tests. In addition to isolation of HCV antibody positive and negative patients in separate rooms on dedicated machines, HCV antibody negative patients were followed for eight months by a dedicated nursing staff with strict implementation of universal precautions including non-sharing of multidose vials as heparin and xylocaine.

**Results:** HCV prevalence rate was 86.4% (216/250). During the follow-up period, none of the 34 HCV antibody negative patients became positive (seroconversion rate 0%). **Conclusion:** Transmission of HCV infection in HD units can be primarily prevented by isolation of "infection" rather than isolation of "patients" by rigorous application of universal precautions as recommended by the CDC, with continuous training of nursing staff.

**INCIDENT OF MENINGITIS IN ALEXANDRIA FEVER HOSPITAL 1997-2004  
COMPARATIVE STUDY**

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**Alexandria Fever Hospital**

**Background:** Meningitis is one of the chief diseases in developing countries it is a communicable disease. Its diagnosis depends on clinical data and lab investigations.

**Objectives:** To determined age group affection and outcome of the disease. Assessment of hospitalization of time loss, outcome of the disease.

**Methods:** Back ground data collection of hospitalization meningitis patient in Alexandria fever hospital from 1997-2004 Reviewed Lab & Health information system data reviewed from 1997-2004. Medical record & final diagnoses at discharge eligible for enrolment in our study.

**Results:** Over all 672 cases admitted in Alexandria Fever Hospital from Jan,1---1997 to Dec, 31---2004: Incidence of meningitis is 440 male patients (65%), 232 female patients (35%).

**Cure rate** is about 71% and death 29%.

**Conclusions:** Incidence of meningitis increase below 5 years death rate is higher.

**Early diagnoses, Early Treatment, Better Prognosis.**

**INFECTIOUS DISEASES IN ANCIENT EGYPT**

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From all the known world students converged on Egypt to learn medicine, and foreign kings and princes sent to Egypt for physicians to heal them. The origin of Egyptian superiority in this field lay in another highly developed art of those times witchcraft (سحر او شعوظه). The first medicine men were priests, and as the first skill was taken over by institutions of advanced learning, gradually a body of specialists developed to care for the sick in the community.

Fortunately, numerous papyri recording the medical knowledge of the ancient Egyptians have survived intact.

Among these is the well-preserved Ibers Papyrus. It is a virtual text bok of medicine from the old kingdom. It embraces prescription for diseases of the eyes, skin, stomach, heart, arteries and bladder as well as for gynecology disturbances.

**INSULIN RESISTANCE IN HCV**

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**Chronic HCV is associated with an increased prevalence of type 2 diabetes mellitus the present study hypothesized that CHC infection is suggested as an additional risk factor for the development of hyperinsulinmiaand insulin resistance that may be a mechanism for fibrogenesis in CHC**

**Patients and Method: 25 patients with CHCV examined for the relationship between histological finding and the BMI and biochemical data including insulin resistance (IR). WE also compare all the data with 25 healthy volunteers**

**Results: IR show statistical significance between HCV patients and healthy >0.05IR correlate with staging &grading as well as staging , BMI in HCV patients**

**Conclusion & Recommendation**

**HCV may induce IR irrespective of the severity of liver disease, it also may contribute to progress of fibrosis in CHC**

**MEDICAL ENDOSCOPIC AND SURGICAL MANAGEMENT  
OF REFLUX ESOPHAGEAL STRICTURES**

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**Benign strictures of the esophagus are serious illnesses that adversely affect the quality of life of patient with gastro-esophageal reflux disease. There are several methods of treatment including medical treatment of gastro-esophageal reflux disease as well as endoscopic dilatation using several techniques that gives variable results. Surgical treatment is considered in many patients depending on severity of the condition and the outcome of medical and endoscopic modalities of treatment.**

**In this paper, different modalities of treatment of reflux esophageal strictures will be reviewed with presentation of the outcome of treatment of out patient.**

**OBESITY AND CHRONIC HEPATITIS C: A HORMONAL AND CLINICO-PATHOLOGICAL STUDY**

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The aim of this work is to evaluate some factors associated with obesity as serum level of leptin hormone, serum insulin and insulin resistance in patients with chronic hepatitis C and to study the impact of these factors on the severity of histopathological changes of HCV-related chronic hepatitis and fibrosis. This study was carried out on twenty male patients with chronic hepatitis C (Group I), and twenty male control subjects of matched age and body built (Group II). The patients' group (group I) was further divided into two groups: Group Ia which included ten overweight and obese CHC patients with BMI more than 25, and group Ib which included ten normal-weight CHC patients with BMI equal to or less than 25. The control group (group II) was similarly divided into group IIa and group IIb according to BMI. All patients and control subjects were subjected to ; clinical examination with stress on anthropometric measurements, particularly BMI and WHR, Abdominal Ultrasonography, routine laboratory investigations included complete blood count, urine and stool analysis, blood urea, serum creatinine, liver function tests (serum albumin and bilirubin, serum transaminases, serum alkaline phosphatase, and prothrombin activity), fasting and 2 hours postprandial plasma glucose levels and plasma lipid profile. Hepatitis viral markers (HCV-antibodies, HBsAg and HCV RNA by PCR) and serum anti-schistosomal antibodies were done. Specific investigations included basal plasma insulin level measured by ELISA, from which insulin resistance index was assessed by the HOMA equation. Serum leptin level was also measured by ELISA. Percutaneous ultrasound-assisted needle liver biopsies were obtained from all patients . The results showed that steatosis is a common histological feature in chronic hepatitis C, which is significantly related to host factors as obesity, insulin resistance and leptin hormone. The severity of the

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necroinflammatory grading in CHC is strongly influenced by the presence of steatosis, insulin resistance and leptin level. Steatosis, insulin resistance and leptin hormone level have no direct fibrogenic effect on the liver, but they can mediate fibrosis indirectly through aggravation of necroinflammatory changes. Obese and non-obese CHC patients are more insulin resistant compared to their matched control subjects, suggesting a perpetuating effect of HCV-infection on insulin resistance. Hyperleptinemia is a feature of obesity, both in CHC patients and control subjects. Leptin hormone level seems not to be altered by viral factors in chronic hepatitis C. From this study we recommend weight reduction by diet control and physical exercise, which may provide a helpful therapeutic strategy in patients with chronic hepatitis C through reducing fatty changes, insulin resistance and leptin hormone level.

**PATHOGEN DISTRIBUTION AND CLINICAL CHARACTERISTICS IN A  
DIARRHEA SURVEILLANCE STUDY IN AN URBAN SLUM IN CAIRO, EGYPT**

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**Introduction:** Much of the developing world has changed from agrarian to densely, urban communities. Sanitation related diseases, such as diarrhea, are a major problem in these “slum” areas. Since 2000, we are conducting surveillance for diarrhea throughout Egypt. Data were collected from an urban slum in Cairo where 15% are below 5 years of age, 40% illiterate and mostly working in garbage collection and sorting.

**Methods:** Children under 5 years of age presenting with diarrhea were assessed by demographics, history and physical exam. Stool specimens were cultured; *Shigella* and *Campylobacter* isolates were tested for antibiotic susceptibility and EIA kits were used to identify rotavirus and *Cryptosporidium parvum*.

**Results:** From October 2002 to June 2004, approximately half of the cases (1486) were male and below one year. Isolated pathogens were ETEC, *Campylobacter*, *Shigella* and *Salmonella*. (168, 78, 56 and 4 cases respectively). 99 rotavirus and 27 *Cryptosporidium* cases were detected. Dehydration was diagnosed in 3% of cases.

**Conclusion:** Diarrhea was more common in the 6-12 months age group and in males. Rotavirus and ETEC were the most common causes of dehydration. Antibiotic resistance is increasing in Egypt that may reflect ease of access. Further research is required in different socio-demographic settings.

## Abstracts

### PREVALENCE OF AMOEBIASIS IN EL-MOREIG VILLAGE; QALYOBIYA; EGYPT SERO-EPIDEMIOLOGICAL STUDY BY THE USE OF ANTI AMOEBIC LECTIN ELISA

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WHO recommended reinforced efforts for reassessment of the epidemiology of amoebiasis, since the identification of the morphologically indistinguishable; *E. histolytica* and *E. dispar* as two separate species. The present study selected 148 humans with different age and sex, after their consent by the stratified random sample method, from el-Moreig village, el-Qalyobiya governorate; Egypt. They were clinically evaluated. Their stool and serum samples were respectively examined for *Entamoeba histolytica* / *E. dispar* complex by microscopy and for anti amoebic lectin IgG antibodies by ELISA. The results referred to a status of high faeco-oral transmission. 48 (32.4%) individuals were copropositive for the *Entamoeba* complex and 28 (18.9%) were anti lectin seropositive. Out of the copropositive, only 4 (8.4%) were presumed to be currently infected by *E. histolytica sensu stricto* as indicated by their high optical density readings in the serotesting. The seroprevalence, not the coproprevalence, correlated positively with age indicating constant and persisting exposure to infection throughout the life. The study concluded that water was the main source of infection as indicated by the high seroprevalence (35%) and coproprevalence (50%) among persons depending on treated or untreated water outdoor water sources; compared with 12.9% and 25.9% respectively among humans supplied with indoor finished piped water. Similar differences were observed among women; being 28.5% and 47.1% respectively compared to men (10.3, 19.2%). Women are more frequently getting in contact with water; being especially involved in the house activities. The clinical situation was extrapolated from the 24 patients with diarrhoea, encountered during the study. As 5 (20.8%) of them rapidly responded to metronidazole therapy, they were considered to be of an amoebic aetiology; 4 of them (80%) proved to be with high antilectin ELISA optical density (OD) readings. These 4 patients represented 28.6% of 14 individuals with high OD reading. The other ten (71.4%) were asymptomatic. These results indicated that amoebiasis is endemic in the present community and that microscopy is no longer of value in the assessment of its epidemiology.

**PREVALENCE OF SEN VIRUS IN POLYTRANSFUSED CASES**

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SENV is the latest viral agent that has been proposed as a cause of NANE hepatitis. It appears to be endemic throughout the world since it has been found in many countries, although with different prevalences. Eight subtypes of SENV are known, but only genotypes D and H seem to be clinically relevant for developing a transfusion associated hepatitis. This acute hepatitis is self limited. There is no indication that SENV can cause chronic hepatitis, end-stage cirrhosis or is a risk factor for the development of HCC.

The aim of the present work was to detect the prevalence of SENV-D and SENV-H in polytransfused cases such as acute leukaemias and thalassaemias that are transfusion dependent diseases.

This study was conducted on 75 subjects; 50 polytransfused cases and 25 healthy controls. The 50 cases were divided into a thalassaemia major group (25 cases) and a leukaemia group (25 cases). Blood samples were collected and sera were separated and stored at -20°C until investigated. PCR was performed for detection of SENV-D and SENV-H.

The results of the present study revealed only one SENV-H positive patient in the leukaemia group. he was a 60 years old male suffering from resistant ALL with extramedullary infiltration. He received more than 50 units of blood, his haematological and biochemical data were normal. He was HCV positive but the other viral markers were negative.

**ROLE OF WATER IN THE TRANSMISSION OF CYCLOSPORIARISIS IN SHARKEYA GOVERNORATE, EGYPT**

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Water samples were collected from five sources related to five residential areas in El-Ekhewa Village where the human populations use them either in the daily life activity or for drinking. The first was Bahr El-Baker drain, the second was low running irrigation canal, the third was underground water at shallow depth (3-8 M), the fourth was finished piped water and the fifth was underground water > 35M deep. The specimens were concentrated by flocculation method and the concentrated pellets were examined by ultraviolet (UV) epifluorescence microscopy for Cyclospora oocysts. The densities of water contamination by 8-10 µm oocysts / liter in the five sources were respectively: 2400, 1900, 700, 200 and nil. This indicates that finished water is faecally contaminated in the area of the study. Stool samples from 109 diarrheal patients and 213 non-diarrheal individuals from these areas were examined by the acid fast-trichrome stain, Saline Haemo De single slide trichrome stain and by standard bacteriologic techniques. Only those with Cyclospora as single pathogen were considered. 5.6 % of the diarrheal and 2.3% of the non-diarrheal individuals were shedding Cyclospora oocysts in their stool. The correlation between the density of water contamination and the prevalence of cyclosporiasis among the individuals of each area was significant. The study concluded that water was the main vehicle of transmission in the present community. Soil contact and poultry were significant risk factors.

**SERUM THROMBOPOIETIN LEVELS IN PATIENTS WITH LIVER CIRRHOSIS;  
RELATION TO SEVERITY OF THE DISEASE, SPLEEN SIZE AND PLATELET  
COUNT**

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**Background:** Thrombopoietin (TPO) is an important regulator of megakaryocyte maturation and platelet production. The role of TPO (which is mainly produced by the liver) in thrombocytopenic cirrhotic patients is still under investigation. The aim of this study was to measure the serum TPO levels in cirrhotic patients and examine its relationship with circulating platelet count, splenic size and clinical stage of liver cirrhosis. Study design and methods: This study was conducted on 88 subjects, divided into 2 groups, group I (patient group) included 72 patients with liver cirrhosis (diagnosed by combination of clinical, laboratory, ultrasound and histopathological data), they were further divided into 2 subgroups, group IA: included cirrhotic patients with thrombocytopenia (36 patients, 28 males and 8 females with age  $50.3 \pm 8.5$  years), and group IB: included cirrhotic patients with normal platelet count (36 patients, 26 males and 10 females, with age  $50.64 \pm 6.8$  years). Group II comprised 16 healthy persons with matched age and sex, used as a control group. All included persons were subjected to: thorough history taking, full clinical examination, beside the following investigations: complete blood picture, kidney and liver function tests, Hepatitis B and C markers, serum TPO level (by sensitive sandwich ELISA) and abdominal Doppler ultrasound. The following invasive investigations were done for group I (patients) only: bone marrow aspiration, upper gastrointestinal endoscopy, sigmoidoscopy and liver biopsy (the latter was done for 21 patients only). Patients with pure schistosomal fibrosis were excluded from the study. Patients were classified according to the Child-Pugh score into 3 classes of clinical severity : A, B and C.

**Results:** Cirrhotic patients were thrombocytopenic in comparison to control ( $P < 0.0001$ ). Hypocellular bone marrow in 3 patients (4.1%), normocellular bone marrow in 63 patients (87.5%) and hypercellular bone marrow in 6 patients (8.3%) with no statistical difference between subgroup IA, and IB. Serum TPO levels were lower in cirrhotic patients ( $130.6 \pm 79$  Pg/ml) than

## Abstracts

control group ( $225.5 \pm 36$  pg/ml) ( $P < 0.0001$ ) and also in patients with thrombocytopenia ( $101 \pm 77.5$  pg/ml) than in patients with normal platelet count ( $160.2 \pm 70.3$  pg/ml) ( $P < 0.001$ ). TPO had a significant positive correlation with platelet count ( $P = 0.0001$  for subgroup IA &  $P = 0.04$  for subgroup IB). However serum TPO did not correlate with spleen size. Splenic size had a significant negative correlation with platelet count in cirrhotic patients ( $P = 0.03$  for subgroup IA &  $P = 0.004$  for subgroup IB). In cirrhotic patients, serum TPO levels were found to be decreased as the disease progressed [in subgroup IA,  $188.25 \pm 73.05$  pg/ml in patients of Child-Pugh class A,  $63.8 \pm 23.28$  pg/ml in class B and  $51 \pm 26$  pg/ml in class C, while in group IB,  $247.3 \pm 40.49$  pg/ml in class A,  $121.3 \pm 29.6$  pg/ml in class B and  $112 \pm 27$  pg/ml in class C]. Child-Pugh score has a significant negative correlation with TPO level in both subgroups IA & IB ( $P = 0.0001$ ) and with platelet count ( $P = 0.0001$  for subgroup IA and  $0.01$  for subgroup IB), but no significant correlation with spleen size. In comparing class A, B and C in both subgroups (IA & IB), spleen size was significantly larger in Child class A of subgroup IA when compared to same class of subgroup IB ( $P = 0.0001$ ) with slight significant decrease in TPO in class A of subgroup I than class A of subgroup B ( $p = 0.02$ ). Platelet count and TPO levels have no relation to aetiology of liver cirrhosis.

**Conclusion:** we concluded that low TPO production may play a role, along with hypersplenism, in the development of thrombocytopenia in patients with liver cirrhosis. In early stage of cirrhosis (Child-Pugh class A), splenomegaly and hypersplenism may be the main pathomechanism of thrombocytopenia. While advanced liver cirrhosis (Child-Pugh class B & C), causing more reduction in TPO production, plays a central role in the pathogenesis of thrombocytopenia.

**SPONTANEOUS BACTERIAL PERITONITIS (SBP)**

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Patients with liver cirrhosis and ascites are more susceptible to spontaneous bacterial peritonitis(SBP).Spontaneous bacterial peritonitis is the prototypical ascitic fluid infection occurring in patients with advanced liver disease and ascites(Hillebrand 2002). The diagnosis of SBP depends on clinical picture, ascitic fluid analysis and culture which is accurate but pending.Recently it has been suggested that plasma and ascitic fluid nitrate levels are implicated in early diagnosis of SBP(Coskun et al.,2001).SBP doubled the mortality risk of patients with liver cirrhosis(Jepsen et al.,2003). Nitric oxide (NO)is a messenger molecule involved in pathogen suppression. Cirrhosis is charecterized by an increased risk of infections including spontaneous bacterial peritonitis (SBP) (Garcia et al.,1998). Bories et al.,1997 stated that SBP in cirrhotic patients lead to a long-lasting increased local production of NO. This oveproduction may contribute to maintaining splanchnic vasodilaion and thus worsen the hyperkinetic state in these patients.

**Aim of the work:** The aim of this study is to evaluate the role of plasma and ascitic fluid nitrate level in early diagnosis of SBP in comparison with other SBP diagnostic parameters.

The study showed that Patients of SBP had turbid ascitic fluid and high LDH, total protein,WBCs and PNL count. Serum levels of nitrate and nitrites were elevated in patients with ascites and markedly elevated in the patients of SBP. Ascitic fluid nitrates and nitrites were markedly elevated among patients of SBP. So, the plasma and ascitic fluid nitrate levels may be helpful in early diagnosis of SBP.

**STUDY OF CYTOGENETIC BIOMARKERS IN HUMAN FASCIOLIASIS  
AND TRICLABENDAZOLE TREATMENT**

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Human fascioliasis is becoming a public health problem of an increasing importance in Egypt. Many drugs have been used for treatment. Triclabendazole has a high fasciocide efficiency against both acute and chronic fascioliasis.

The cytogenetic effect of triclabendazole was evaluated in peripheral blood lymphocytes of 30 patients with fascioliasis before and after treatment with the drug. The number of cells with chromosomal aberrations and sister chromatid exchanges did not show any statistically significant differences in the patients either before treatment when compared to the control or after triclabendazole therapy ( $P \geq 0.05$ ). Based on the results of the present study, our data indicate that infection with *fasciola hepatica* does not increase chromosomal aberrations or sister chromatid exchanges, and that the genotoxic effect of triclabendazole indicate that the drug is not a mutagenic agent and could be used safely in therapeutic doses for the treatment of human fascioliasis.

**THE OCCURRENCE AND DISTRIBUTION OF SCHISTOSOME INTERMEDIATE HOSTS IN RELATION TO THE PREVALENCE OF SCHISTOSOME INFECTIONS IN HUMANS IN A HIGHLY ENDEMIC AREA IN THE LIMPOPO PROVINCE, SOUTH AFRICA**

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The occurrence and distribution of schistosome intermediate hosts in relation to the prevalence of schistosome infections in humans living in a highly endemic area in the Limpopo Province were studied. An aerial survey was done to identify all the habitats in the Nwanedzi River catchment area that may have the potential to act as reservoirs for schistosome intermediate host snails for this river. Thirty five habitats were subsequently surveyed during June 2001 (cold dry season), October 2001 (hot dry season and September 2002 (hot dry season) for the presence of both *Bulinus globosus* the intermediate host snail of *Schistoama haematobium* and *Biomphalaria pfeifferi* the intermediate host snail of *S. mansoni*. *B. globosus* were found during these surveys in 23 and *B. pfeifferi* in 10 of the investigated habitats. Studies regarding the prevalence of infection of *S. haematobium* and *S. mansoni* were done by collecting stool and urine samples from 699 school children from selected schools. From this it is clear that 62% of the males were infected with both parasites, 8% with only *S. haematobium*, and 9% with only *S. mansoni*. In the case of the females 73 % were infected with both parasites, 15% with only *S. haematobium* and 19% with only *S. mansoni*. No significant differences could be found between males or females infected with *S. haematobium* and *S. mansoni*.

**THE ROLE OF HYPOADIPONECTINEMIA IN  
HEPATIC STEATOSIS ASSOCIATED WITH CHRONIC HCV INFECTION****Sahar S. Bessa****Internal Medicine, Tanta Faculty of Medicine, Tanta. Egypt**

The mechanisms underlying hepatic steatosis during HCV infection are multifactorial and poorly understood. The endocrine function of adipose tissue could be in part responsible for HCV – related steatosis. The aim of this study was to evaluate the clinical significance of serum adiponectin; an adipose – specific protein in hepatic steatosis associated with chronic hepatitis C virus infection. The study was conducted on 41 untreated chronic hepatitis C patients and 10 control subjects. Body mass index was calculated and serum levels of adiponectin and insulin were measured. Hepatic steatosis and fibrosis were determined in liver biopsy tissue. Our results revealed that hepatic steatosis was present in 23 patients with chronic hepatitis C (56.1%) and patients with hepatic steatosis had a significantly lower adiponectin serum level as compared to those without steatosis and control group. However, there was no significant difference in adiponectin serum levels between patients without steatosis and control. Adiponectin serum levels were negatively correlated with steatosis as graded by percentage of cells with fatty changes. In conclusion, hypoadiponectinemia significantly predicted the presence of hepatic steatosis in chronic hepatitis C patients and may be a novel prognostic biomarker for hepatic steatosis progression and liver injury. The important clinical implication from this study is that therapy to increase adiponectin concentration, such as thiazolidinediones, provides the potential to improve steatosis in chronic hepatitis C infection.

**THE ROLE OF INTERLEUKIN 6 AND INTERLEUKIN 8 IN PATIENTS WITH NON ALCOHOLIC FATTY LIVER**

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Non alcoholic fatty liver (NAFL) has an extensive clinical spectrum ranging from asymptomatic fatty liver to non alcoholic steatohepatitis (NASH) and cirrhosis. In contrast to the benign course of NAFL. NASH may progress to cirrhosis and result in liver related deaths. The pathogenesis of NAFL is multifactorial, oxidative stress, lipid peroxidation, hyperglycemia and cytokine up-regulation are proposed factors in the pathogenesis of the disease.

We studied serum levels of IL-6, IL-8 and TNF $\alpha$  in 20 patients with NAFL with no history of alcohol intake.

The results show that in contrast to IL-6, we found IL-8 and TNF $\alpha$  significantly elevated in patients with NAFL.

IL-8 and TNF $\alpha$  may play an important role in the pathogenesis of hepatic steatosis compared to IL-6. Therapeutic modalities involving inhibition of these cytokines may be of great help in the management of such disorder.

**TITLE EVALUATION OF CANCER ANTIGEN 125, ADENOSINE DEAMINASE AND PURIFIED PROTEIN DERIVATIVES SPECIFIC IMMUNOGLOBULINS IN PATIENTS WITH TUBERCULOUS PERITONITIS**

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**Text Background and Aim:** The diagnosis of tuberculous ascites is often difficult because of the subtle clinical clues, poorly discriminative biochemical assays, and delayed results of bacteriological studies and hazards of laparoscopy. Therefore, the aim of the study is to evaluate levels of cancer antigen 125 (CA 125), adenosine deaminase (AD) and percent of positivity to purified protein derivatives (PPD) immunoglobulins IgG and IgM in both serum and peritoneal fluid of patients with tuberculous peritonitis, malignant and cirrhotic ascites. **Patients:** Fifteen patients with tuberculous peritonitis, equal number with malignant ascites and cirrhotic ascites were included. Fifteen healthy volunteers, age and sex matched were added as controls. Levels of CA 125, AD as well as percent of positivity to PPD immunoglobulins IgG and IgM in sera of controls and in both serum and ascitic fluid of patients were estimated. **Results:** Mean serum levels of CA125 were significantly increased in all studied groups than in control group. Significant higher levels of serum and ascitic fluid CA125 were observed in tuberculous peritonitis group in comparison to malignant and cirrhotic groups. Mean serum adenosine deaminase levels were significantly increased in tuberculous peritonitis and malignant ascites in comparison to controls. Patients with tuberculous peritonitis showed significant higher levels of serum and ascitic fluid AD in comparison to malignant and cirrhotic ascites. Patients with moderate degree of ascites had significant higher levels of ascitic fluid CA 125 and AD in comparison to those with mild degree of ascites. Significant positive correlations were found between serum and ascitic fluid CA 125, serum CA 125 and ascetic fluid AD and between ascetic fluid CA 125 and ascitic fluid AD. Percent of positivity to PPD IgG and IgM were higher in serum and ascitic fluid of tuberculous peritonitis group, with higher percent of positivity to PPD IgG than that to PPD IgM. **Conclusions:** The study suggests that CA 125 serves as a useful marker for the early diagnosis of peritoneal tuberculosis. Assay of adenosine deaminase has proved to be a simple, cheap, reliable, and least invasive method for routine use in the early diagnosis of tuberculous ascites. Also the present study recommends ELISA assay of specific IgG and IgM antibodies as a rapid and low cost technique for the diagnosis of tuberculosis to be used as an adjunct to other diagnostic procedures.

**VASCULAR ENDOTHELIAL GROWTH FACTOR IN HEPATOCELLULAR CARCINOMA: ITS CLINICAL, PATHOLOGICAL AND PROGNOSTIC SIGNIFICANCE**

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**Background and Aim:** Tumor angiogenesis is believed to derive from the balance between angiogenic stimulators and inhibitors. Hepatocellular carcinoma (HCC) is a hypervascular tumor and vascular endothelial growth factor (VEGF) – an angiogenic stimulator – has been reported to have a pivotal role during hepatocellular carcinogenesis. This study was designed to investigate the correlation between serum VEGF levels and the clinicopathological parameters in patients undergoing resection for HCC and whether VEGF can be of prognostic significance.

**Patients and Methods:** Twenty-seven patients with an age range of 36-71 years were included in this study. Serum VEGF levels were measured by ELISA kit. Immunohistochemical staining was done to study tumor VEGF expression in the resected specimens. A histologic grade of tumor differentiation was also performed. Prognostic information was obtained by a close follow-up every 2-3 months.

**Results:** Serum VEGF levels in patients with HCC was significantly elevated as compared with those in normal controls. There was no significant association between serum VEGF levels and the various clinical and laboratory variants. Patients with tumors > 3 cm had a significantly higher serum VEGF levels in comparison to those with tumors ≤3 cm. Histopathologically, cases with tumors showing capsular infiltration, venous invasion and microsatellite nodules showed significant elevated serum VEGF levels when compared to cases lacking these characteristics. Tumors > 3cm showed a more degree of VEGF expression compared to tumors ≤ 3cm. Twelve cases had intrahepatic tumor recurrence between 6-28 months.

**Conclusion:** Serum VEGF levels in HCC patients appears to reflect the disease's potential activity for an aggressive behavior and can be used as a predictor of tumor recurrence.

**WHY DOES HCV PERSIST FOLLOWING ACUTE INFECTION?  
THE IMMUNE EVASION MECHANISMS**

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**A striking feature of infection with HCV is the very high rate of chronicity with 80-90% of cases developing persistent viraemia. In these patients viraemia persists despite the presence of a humoral immune response with HCV specific antibody production and in some cases despite the additional presence of a virus specific cellular immune response from CD4 T helper (T<sub>H</sub>) lymphocytes and CD8 cytotoxic T lymphocytes. Details of the immune mechanisms involved in the minority of patients who are able to resolve HCV infection without developing chronic viraemia are not yet clear, although a better understanding of these immune responses may well provide important insights for the development of new treatment strategies and vaccines.**

**In this concise presentation, the different amazing mechanisms of the immune evasion by the HCV would be illustrated.**