

ACCIDENTALLY DISCOVERED PATIENTS WITH ANTIBODY TO HEPATITIS C VIRUS: CLINICAL, BIOCHEMICAL, VIROLOGIC, ULTRASONIC AND HISTOLOGIC FEATURES

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Objective: To assess the clinical significance of antibody to hepatitis C virus (anti-HCV) in volunteer blood donors. **Design:** Prospective cohort study.

Setting: blood bank of Suez general hospital and Menoyifia University Hospital.

Patients: One hundred twenty four accidentally discovered positive HCV-antibody, most of them are volunteer blood donors (identified as positive for anti-HCV by first- or second-generation enzyme immunoassay (EIA-1 or EIA-2 according to availability; Ortho Diagnostics Co., Raritan, New Jersey), they were followed up for a minimum two years.

Measurements: Medical history, results of laboratory and virologic testing, and percutaneous liver biopsy findings. **Results:** Participants with normal alanine aminotransferase levels were older and more often female than those with abnormal levels. The source of infection, duration of disease, symptom score, and amount of alcohol consumed were similar in the three groups. Hepatitis C virus RNA was detectable in 85% of participants, more commonly in the groups with elevated alanine aminotransferase levels (95%) than in the group with normal levels (65%); however, titers were similar in all groups. Examination of liver biopsy specimens showed chronic hepatitis in 54 participants (90%) and cirrhosis in 1 participant. The only normal liver biopsy specimens ($n = 3$) were those from participants who were HCV RNA negative and had normal alanine aminotransferase levels. **Conclusions:** Most blood donors with anti-HCV have chronic hepatitis C regardless of their serum alanine aminotransferase levels. Donors with normal alanine aminotransferase levels and no HCV RNA in their serum generally have normal liver histologic findings or minimal changes and have probably recovered from HCV infection.

ADVANCES IN LIVER FIBROSIS IMAGING AND HEPATOCELLULAR CARCINOMA

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The usefulness of noninvasive techniques in evaluating liver fibrosis using real-time tissue elastography (RTE); which is a strain elastography in contrast to shear wave elastography in the diagnosis of liver stiffness seems to be a promising method in evaluating liver fibrosis stage. Ultrasound elastography is a new imaging technique that allows a noninvasive estimation and imaging of tissue elasticity distribution within biological tissues using conventional real-time ultrasound equipment with modified software. Elastography has been reported to be useful for differentiation and characterization of various malignant tumors, such as breast, prostate, thyroid, pancreas, lymph nodes, gastrointestinal stromal tumors, hepatocellular carcinoma and liver metastasis. Transient and, more recently, real-time elastography has been proved to be useful for noninvasive assessment of liver fibrosis in patients with diffuse liver diseases. Elasticity imaging promises to make an important contribution to ultrasound practice. Real-time Tissue Elastography (RTE) is developed for visualizing the tissue hardness/softness by using ultrasound.

AN EQUATION CALCULATED FROM PRE OPERATIVE HEPATIC CT VOLUMETRY, CAN PREDICT ACTUAL GRAFT WEIGHT IN ADULT LDLT?

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Introduction:

The volumetric analysis of the liver using CT datasets has become an important for the preoperative assessment for LDLT. CT allows determination of the graft volume required by the recipient and the volume remaining with the donor. In borderline cases, minimal deviations in liver volumetry may lead to a complications, such as SFSS or liver failure.

Objective:

To determine the relative accuracy of CT volumetry of right-lobe weight in LDLT by predicting the intraoperative findings. Materials and methods: This study conducted in National-Liver-Institute: from 2003 to 2013, 164 cases had CT-volumetric measurement of the donor liver

Results:

1. The calculated Graft volumes is significantly correlated with & higher than the actual graft weights
2. In our series there were 18 adult cases developed SFSS.
3. A-formula for accurate prediction of intraoperative GW: $W_{\text{introp}} = 216.4 + (0.6678 \times V_{\text{preop}})$

Conclusion:

1. The CT-volumetry must be accurate to assure enough residual liver volume to the donor & not only enough volume to the recipient.
2. SFSS mostly developed with cal. GRWR < 1%, so we should use grafts with cal. GRWR $\geq 1\%$.
3. A linear equation was developed for accurate prediction of a right liver lobe graft weight prior to surgery.

APPLICATIONS OF PROTEOMICS IN THE STUDY OF INFLAMMATORY BOWEL DISEASES

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Inflammatory bowel disease (IBD), including ulcerative colitis (UC) and Crohn's disease (CD), is a prevalent, chronic, inflammatory disorder of the gastrointestinal tract. With more than a million diagnosed patients in the US alone, and a prevalence of ~0.2% of the western population, IBD has caused enormous suffering and health-care costs. It has been thought that IBD pathogenesis is the consequence of an overly aggressive cell-mediated immune response to commensal enteric bacteria in a genetically susceptible host. Although major advances have enhanced the understanding of the multifactorial influence of genetic, environmental, microbial, and inflammatory determinants on IBD, the etiology of the disease remains elusive. Clinically early diagnosis may allow timely therapeutic intervention to minimize disease progression and cellular/pathologic changes that occur in many patients with IBD. Since biological and functional output of cells is governed primarily by proteins, characterization at the level of the proteome is necessary to resolve the critical changes that occur at different stages of IBD pathogenesis. Proteomic technologies also provide new tools in the identification of novel biomarkers for disease activity, diagnosis, and prognosis.

BIOMARKERS FOR SBP

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Spontaneous bacterial peritonitis (SBP) is a common and severe complication of cirrhotic patients with ascites characterized by spontaneous infection of ascitic fluid which occurs in the absence of any infection or perforation of intraabdominal organs. Most episodes of SBP are caused by gram-negative bacteria normally present in the intestinal flora, with *Escherichia coli* being the most frequent isolate, although gram-positive bacteria are isolated with an increasing frequency in recent years, particularly in hospital-acquired SBP. Anaerobic and microaerophilic organisms, although very abundant in gut flora, rarely cause SBP. Patients with cirrhosis and pleural effusion may also develop a spontaneous infection of pleural fluid that probably has the same pathogenic mechanism as SBP and should be managed similarly. We will discuss what is new in the value of biomarkers for occurrence and prognosis of SBP.

COMBINATION THERAPY FOR CHRONIC HBV INFECTION

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Research efforts to clarify the advantage of de-novo combination therapy should target populations at greatest risk of developing resistance: those with high baseline viral load and anticipated prolonged treatment duration. The interest in combination regimens for chronic hepatitis B generally refers to the use of a nucleoside + nucleotide analog. However, other combinations have been studied. Several trials have evaluated the addition of lamivudine to pegylated interferon. Although this combination strategy resulted in a more rapid decline in HBV DNA (vs pegylated interferon or lamivudine alone), there was no benefit in terms of HBeAg seroconversion or sustained response.

COMPARATIVE STUDY OF THE EFFICACY OF RIFAXIMIN IN COMPARISON WITH LACTULOSE FOR THE TREATMENT OF HEPATIC ENCEPHALOPATHY

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Aim of the work: Hepatic encephalopathy (HE) represents a broad spectrum of neuropsychological dysfunction. In cirrhotic patients, HE may be clinically overt or minimal. Overt HE (OHE) may be further divided into episodic or persistent. Both episodic and persistent HE may be induced by a precipitating event or may occur apparently spontaneously. The most widely accepted theory of the pathogenesis of HE is that nitrogenous substances derived from the gut adversely affect the cerebral function. The main substance implicated is ammonia. Rifaximin is a derivative of rifamycin, which acts by inhibiting bacterial ribonucleic acid (RNA) synthesis. Rifaximin is virtually unabsorbed after oral administration and exhibits broad spectrum antimicrobial activity against both aerobic and anaerobic gram-positive and gram-negative microorganisms within the gastrointestinal tract.

Patients and Methods: The study population included 50 patients who were diagnosed to have signs of the first to third degree HE and classified into two groups: Group I: included 25 patients who had hepatic encephalopathy and were treated with rifaximin (1200 mg daily divided into 3 doses for 7 days). Group II: included 25 patients who had hepatic encephalopathy and were treated with lactulose (90ml daily divided into 3 doses for 7 days). Results: The results showed that both rifaximin & lactulose can decrease ammonia level by different mechanisms, but the response of patients regarding improvement of symptoms of HE was more & rapid in rifaximin group than lactulose group.

Conclusion: Patients treated with rifaximin required shorter duration of hospitalization compared to lactulose, also rifaximin was better tolerated than other pharmacologic treatments. Key words: Rifaximin, Lactulose, Hepatic Encephalopathy, Encephalopathy.

CONTROL OF ACUTE VARICEAL BLEEDING USING THE MULTI-SHOOTER BAND LIGATOR COMPARED TO INJECTION SCLEROTHERAPY

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Aim: to compare the use of endoscopic band ligation (EVL) to endoscopic injection sclerotherapy (EST) in acute esophageal variceal bleeding.

Methods: this is a prospective randomized trial. Four hundred and forty four patients with acute hematemesis presenting to the hematemesis unit of the Alexandria Main University Hospital were examined. Patients with bleeding esophageal varices were randomized into two groups: group A was treated by endoscopic sclerotherapy and group B was treated by endoscopic band ligation. Technical modifications to the technique of band ligation were applied to the study patients. The endoscopic findings were recorded. Patients were observed for cessation of bleeding and for recurrent hematemesis within 48 hours. Those with recurrent bleeding were re-examined by endoscopy.

Results: Eight hundred sixty seven patients were examined. Four hundred sixty six were eligible for the study. They were randomized into the two groups. Cessation bleeding was achieved in 95.3% of patients in group A and 96.1% of group B ($p=0.46999$). Recurrence of hematemesis occurred in 15.9% in group A and 2.6% in group B ($p=0.0008$). Child's C patients were particularly more liable to re-bleeding ($p=0.0108$). There were four mortalities: three due to liver failure and one due to torrential bleeding.

Conclusions: We conclude that endoscopic band ligation, using the proposed technique, is as effective as sclerotherapy in controlling acute esophageal variceal bleeding. Band ligation is associated with significantly less re-bleeding rate compared to sclerotherapy particularly in Child's C patients.

CORRELATION BETWEEN LIVER STIFFNESS MEASURED BY ACOUSTIC RADIATION FORCE IMPULSE IMAGING WITH ENDOSCOPIC FINDINGS AND HEPATIC CONGESTION INDEX IN HEPATITIS C LIVER CIRRHOSIS

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Key words: Acoustic radiation force impulse imaging - Hepatic congestion index - Liver stiffness - Esophageal varices

List of abbreviations:

ARFI: Acoustic Radiation Force Impulse, ARFI L: Acoustic Radiation Force Impulse of the Liver, EVs: Esophageal Varices, HCV: Hepatitis C Virus, PHG: Portal Hypertensive Gastropathy, SWV: Shear Wave Velocity, TE: Transient Elastography, Financial support: No conflict of interest was encountered among the trial team throughout the study.

Background/Aim: Esophageal varices (EVs) are serious sequel in patients with liver cirrhosis. Efforts are made to evaluate possible noninvasive markers of EVs to avoid unnecessary endoscopies in those patients. This prospective study was conducted to evaluate the usefulness of acoustic radiation force impulse elastography (ARFI) in evaluating hepatic stiffness in hepatitis C virus related liver cirrhosis patients, and to correlate the degree of liver stiffness with both endoscopic findings and hepatic congestion index. Materials/Methods: Sixty patients with HCV-related liver cirrhosis were enrolled to undergo ARFI to determine their liver stiffness in correlation to the development of EVs and congestion index. Another sixty normal subjects were recruited as a control. Results: ARFI-L showed a significant correlation with the presence of EVs and portal hypertensive gastropathy (PHG) especially in Child A group. No significant correlation was found between ARFI-L and the grade of EVs, gastric varices or congestion index. Conclusions: ARFI imaging could be used as a tool for prediction of EVs, and PHG in cirrhotic hepatitis C patients especially in Child.

CYCLOOXYGENASE-2 EXPRESSION IS ASSOCIATED WITH ELEVATED AST LEVEL IN HEPATOCELLULAR CARCINOMA

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Background: Cyclooxygenase-2, the inducible rate-limiting enzyme of prostaglandins biosynthesis, has been reported to be involved in the pathogenesis of a variety of chronic inflammation-related human malignancies including Hepatocellular Carcinoma (HCC). However, its clinical significance in HCC remains obscure. The aim of our study was to evaluate COX-2 expression in HCC and correlate its expression to the different clinicopathological parameters and to assess its impact on patient survival.

Materials and Methods: The present study was conducted on 17 HCC and 21 adjacent non-tumor liver tissues obtained from 22 HCC patients underwent curative hepatectomy at the National Cancer Institute, Cairo University, Egypt. Eight normal liver tissues taken from normal donors and HepG2 cell line were used as controls. Total RNA from tissues and cells was extracted and COX-2 mRNA was detected by RT-PCR and correlated to the clinicopathological criteria as well as to patient's survival.

Results: COX-2 mRNA was detected in 58.8% of the HCC tissues and in 28.6% of the adjacent non-tumor liver tissues. COX-2 expression was significantly associated with elevated levels of serum aspartate aminotransferase (AST) ($P= 0.007$) with high specificity for the detection of the disease. However, there was no significant correlation between COX-2 expression and any of the histopathological criteria.

Conclusions: COX-2 expression may be involved in HCC carcinogenesis with high specificity for the detection of the disease. COX-2 expression is significantly associated with elevated AST levels indicating a mechanism that may correlate both markers. However COX-2 expression seems to be an independent factor with no correlation to any of the histo-pathological data or patient's survival.

DECREASED APOPTOSIS IN ADVANCED-STAGE/HIGH-GRADE HEPATOCELLULAR CARCINOMA COMPLICATING CHRONIC HEPATITIS C IS MEDIATED THROUGH THE DOWNREGULATION OF P21 RAS

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Objective and background: Although p21 ras has been reported to be upregulated in hepatocellular carcinoma complicating chronic hepatitis C type I, p21 ras has a different role in advanced stages, as it has been found to be downregulated. The goal of this study was to investigate the status of p21 ras in early-stage/low-grade and late-stage/high-grade hepatocellular carcinoma and its possible link to apoptosis.

Material and methods: Thirty-five cases each of chronic HCV hepatitis type 4 (group I) and cirrhosis with hepatocellular carcinoma (HCC) complicating chronic HCV hepatitis (groups II and III) were immunohistochemically evaluated using a p21 ras polyclonal antibody. The apoptotic index was determined in histologic sections using the terminal deoxynucleotidyl transferase-mediated d-UTP biotin nick end labeling (TUNEL) assay. **Results:** Significant differences ($P=0.001$) were detected in p21 ras protein expression between the three groups. A near 2-fold increase in p21 ras staining was observed in the cirrhotic cases compared to the hepatitis cases, and p21 ras expression was decreased in the HCC group. p21 ras expression correlated with stage ($r=0.64$, $P=0.001$) and grade ($r=-0.65$, $P=0.001$) in the HCC group and grade in the HCV group ($r=0.44$, $P=0.008$). Both p21 ras expression and TUNEL-LI were significantly lower in large HCCs compared to small HCCs ($P=0.01$ each). The TUNEL values were negatively correlated with stage in the HCC group ($r=-0.85$, $P=0.001$). The TUNEL values were also negatively correlated with grade in both the HCV and HCC groups ($r=0.89$, $P=0.001$ and $r=-0.53$, $P=0.001$, respectively). The p21 ras scores were significantly correlated with the TUNEL-LI values in the HCC group ($r=0.63$, $P=0.001$) and HCV group ($r=0.88$, $P=0.001$).

Conclusions: p21 ras acts as an initiator in HCC complicating type 4 chronic HCV and is downregulated with HCC progression, which most likely promotes tumor cell survival because it facilitates the downregulation of apoptosis with tumor progression.

Key Words: p21 ras; terminal deoxynucleotidyl transferase-mediated d-UTP biotin nick end labeling (TUNEL); apoptosis; HCV type 4; hepatocellular carcinoma

DIFFERENCES BETWEEN CHILDREN AND ADULTS CHOLEDCOCHAL CYSTS

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Objectives: Choledocal cysts are congenital anomalies of the bile ducts. 60% of patients are diagnosed during first decade of life; about 20% go undiagnosed until adulthood. Methodology: 70 pts. with CC disease seen between 2001-2011 at the national liver institute, Menoufiya University. Differences between children and adults evaluated. Results: Pediatrics (< 2years) are 30 pts. (43%), Pediatrics (> 2 years) was 16 pts. (23%) & Adults were 24 pts. (34%). Type I was recorded in 55 cases (78.5%) ,type II in 3 cases (4%), type III in 2 cases (3%), type IV in 3 cases (4%), type V in 7 cases (10.5%). Complete excision with HJ in 82.5%. Excision with primary closure of CBD in 4%. Left hepatectomy in one case, right hepatectomy in 2 cases and 6 cases (8.5%) were managed nonoperatively. Postoperative bile leak occurred in 4%, biliary stricture in 7% with intrahepatic stones in 2.4%. The overall mortality was 8.5% and all were from the pediatric group. Conclusion: Choledocal disease requires proper diagnosis and treatment address associated symptoms, risk of malignancy, and disease progression. The majority of cases of biliary cysts (type I and IVA) can be treated effectively with cyst resection and biliary reconstruction.

DIURETIC THERAPY FOR ASCITES WHAT IS NEW

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Three lines of therapy: First: Alcohol, Na restriction, Dual diuretic, Stop NSAID Second: Stop beta blocker, Add Midodrine, Serial paracentesis, TIPS, Third: ? Peritoneo-venous shunting or Alfa pump. Baclofen use recommended for reducing craving in patients with alcoholic liver disease in dose of 5 mg orally tid for 3 days and then 10 mg tid. Vaptans (Vasopressin antagonists): No role in cirrhotic ascites per se. Possible role in management of hyponatremia. Avoid: ACE inhibitors, ARBs, NSAIDS, Beta blockers (especially in refractory ascites) Midodrine 7.5 mg TDS recommended for refractory ascites. Urinary neutrophil gelatinase associated lipocalin (NGAL) may distinguish various causes of azotemia in cirrhosis.

DUAL IMPACT OF CHRONIC HEPATITIS C AND SCHISTOSOMAL HEPATIC FIBROSIS ON GALL BLADDER DISEASE

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Background/Aim: Hepatitis c virus is recognized as a major threat to global public health. An estimated 200 million people worldwide are infected .Gall bladder disease represents one of the most common and costly of all digestive diseases. The aim of the work is to study gallbladder disease in chronic hepatitis c patient.

Patients & methods: This study included 180 patients and 40 healthy individuals. They were classified into five groups namely: Group 1: included 78 patients associated with chronic hepatitis C without cirrhotic changes. Group II: included 22 patients with chronic hepatitis c patients with cirrhotic changes. Group III: included 40 patients without HCV infection but associated with gallbladder disease. Group IV: included 40 patients with schistosomal infection and pure hepatic periportal fibrosis without HCV infection. Group V: included 40 healthy individuals. All patients and controls were submitted to total serum cholesterol, determination of serum estradiol (E2) and abdominal ultrasonography for estimation of gallbladder volume & periportal fibrosis. Fasting and postprandial volumes of GB and ejection fraction were measured.

Results: Chronic HCV infection is an important risk factor for gall bladder disease in Egypt. Among persons with HCV infection, the prevalence of gall bladder disease is highest among those with more severe liver disease. This study also demonstrates that obesity represents one of the most important risk factors for gallbladder stones formation in non hepatitis c patients. This study also demonstrates that schistosomiasis represents a risk factor for gallbladder stones formation.

Conclusion: Schistosomiasis represents a risk factor for gallbladder stones formation. Also, People with chronic Hepatitis C are at a greater risk for developing gallbladder disease; so those patients are strongly encouraged to practice gallstone prevention.

EFFECT OF REBAMIPIDE ON PORTAL HYPERTENSIVE GASTROPATHY AND PROLIFERATING CELL NUCLEAR ANTIGEN IN PATIENTS WITH LIVER CIRRHOSIS

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Portal hypertensive gastropathy (PHG) is a complication of advanced liver cirrhosis and portal hypertension, in the form of mucosal and submucosal vascular ectasia without significant inflammatory changes. It is a frequent cause of acute and chronic upper gastrointestinal hemorrhage. Another sequel of PHG is increased susceptibility of gastric mucosa to injury by noxious factors, with impaired mucosal healing response. Rebamipide is a gastroprotective drug used for mucosal protection and promoting healing of gastroduodenal ulcers. The proliferating cell nuclear antigen (PCNA) is an antigen expressed in the nuclei of actively dividing cells, and is considered to be a useful tool for assessing the proliferative activity of gastric mucosa during the ulcer healing process. Aim: To evaluate the effect of Rebamipide on PHG and on the gastric mucosal expression of PCNA in patients with liver cirrhosis and portal hypertension. Methods: 60 patients with liver cirrhosis and endoscopic evidence of PHG were divided into 3 groups: Group I patients with PHG and non-ulcerated gastric mucosa receiving Rebamipide for 3 months, Group II patients with PHG and gastric mucosal ulcers receiving Rebamipide for 3 months and Group III patients with PHG and intact non-ulcerated gastric mucosa receiving Placebo for 3 months. Clinical and laboratory assessment, Doppler study of the portal vein, endoscopic examination of the stomach, histopathologic and immunohistochemical assessment of mucosal biopsies for PCNA were all performed before and after drug therapy in all 3 groups. Results: Clinical and laboratory assessment and Doppler study of the portal vein showed no significant difference after drug administration in all patients. The platelet count showed a significant drop after drug administration in patients' Group II only, while in Groups I and III it showed no similar drop. Endoscopically, there was also no significant change in PHG score after drug therapy in any of the three groups. In Group II, however, the gastric ulcer score showed significant improvement after drug therapy ($p < 0.001$). There

was no significant difference in the histopathologic stomach score of PHG after drug therapy in all groups. However, there was a significant rise in PCNA score of the stomach in Groups I and II (Rebamipide groups, $p < 0.001$), while there was no similar change in Group III (Placebo group). Conclusions: Rebamipide has no effect on the grade of PHG. However, it significantly increases the healing capacity of the ulcerated as well as non-ulcerated gastric mucosa in patients with PHG, as proved by the significant rise in the gastric mucosal expression of PCNA after Rebamipide therapy. Further research is needed to clarify the effect of Rebamipide on platelet count in cirrhotic patients.

EPIDEMIOLOGY AND CURRENT MANAGEMENT OF DYSPEPSIA

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Dyspepsia is defined as “chronic or recurrent pain or discomfort centered in the upper abdomen” .and is among the most common reasons for visits to primary care providers or referrals to gastroenterology specialists. Women and older adults have a higher incidence of dyspepsia. Dyspepsia may be a sign of acute or chronic *Helicobacter pylori* infection, which was shown to be an etiology for dyspepsia since 1980. Dyspepsia is also a cause of concern for patients over the age of 50 because of the increased incidence of gastric malignancy. In studies using “upper abdominal pain” as the definition, the prevalence of uninvestigated dyspepsia (UD) has varied between 7%-34.2%. With this definition, the lowest UD prevalence of 7%-8% is seen in Singapore, South East Asia, slightly higher rates are seen amongst the Scandinavians (14.5% and 18.4%), prevalence rates of 23-25.8% are seen in the US with populations in India (30.4%) and New Zealand (34.2%) having the highest rates. The true prevalence and epidemiology of FD amongst the general population has not been evaluated as much, due to the difficulties in excluding organic disease in large numbers of people. The true prevalence of FD globally is estimated between 11.5%-29.2%.Female gender and underlying

psychological disturbances have been shown to be important factors in FD. Dyspeptic patients more than 55 yr old, or those with alarm features should undergo prompt endoscopy to rule out peptic ulcer disease, esophagogastric malignancy, and other rare upper gastrointestinal tract disease. Current guidelines for the evaluation and management of dyspepsia emphasize testing for the presence of *H. pylori* infection among persons less than the age of 55 (known as the “test and treat” approach) who do not also have “alarm symptoms” and live in a region where the prevalence of *H. pylori* is 10% or greater . Dyspepsia patients had higher utilization of medical services in the 6 months before they were diagnosed or treated for dyspepsia or *H. pylori*. Dyspepsia and *H. pylori*-related gastrointestinal diagnoses were remarkably common among adults, with an annual incidence of 13 per 1000. Dyspepsia patients had a substantially higher prevalence of chronic comorbidities as compared to their age- and gender-matched controls, especially in conditions such as COPD and alcohol abuse that are associated with cigarette smoking or other exposures that also can cause gastritis. When the definition of dyspepsia is restricted to upper abdominal pain, lifetime estimates ranged from 5 to 12% worldwide. There is a great degree of overlap between dyspepsia and GERD, making examination of the epidemiology of either complaint somewhat confounded .Regardless of its definition, the causes of dyspepsia are known to include peptic ulcer disease, gastro-esophageal reflux, and functional dyspepsia. Functional dyspepsia, otherwise known as non-ulcer dyspepsia, is clearly the commonest cause of dyspeptic symptoms in the West and increasingly in other parts of the world .The precise pathophysiology of this condition remains unclear, but it is thought to result from a combination of visceral hypersensitivity, gastric motor dysfunction and psychological factors. In patients aged 55 yr or younger with no alarm features, the clinician may consider two approximately equivalent management options: (a) test and treat for *H. pylori* using a validated noninvasive test and a trial of acid suppression if eradication is successful but symptoms do not resolve or (b) an empiric trial of acid suppression with a proton pump inhibitor (PPI) for 4–8 wk.

EXPRESION OF CD4⁺ CD25⁺ T REGULATORY CELLS IN CHRONIC HCV INFECTION AND THEIR RELATION TO DISEASE PROGRESSION

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Background: Persistence of HCV infection is associated with a rapid decline in specific T cell responses and continuous viral replication. The regulatory T-cells (Tregs), previously known as suppressor T-cells, are responsible for down regulating antigen-specific T-cell responses. Objectives: The aim of the present work is to study the expression of CD4⁺ CD25⁺ T regulatory cells in chronic HCV infection and their relation to disease progression. Methods: Thirty patients with chronic hepatitis C infection were included in this study as well as thirty apparently healthy volunteers as control group. Quantitation of the CD4⁺ and CD25⁺ markers in the peripheral blood lymphocytes was done using flow cytometry. Results: There was a significant reduction in CD4⁺ T cells % in HCV patients compared to controls (p value was 0.022) whereas CD4⁺25⁺ T cells % was significantly higher in HCV patients compared to controls (p value was < 0.001). No correlation between APRI score and CD4%, and CD4⁺ 25+% was found (p values were 0.451 and 0.855 respectively). No correlation between viral load and CD4⁺T cell %, and CD4⁺ 25⁺T cell % was found where p value was 0.826 and 0.205 respectively. Conclusion: These results suggest that CD4⁺CD25⁺ T cells may be a key player responsible for viral persistence in chronically HCV-infected patients which make these cells a possible target for immunotherapy of chronic hepatitis C.

FECAL CALPROTECTIN AS SCREENING PARAMETER FOR HEPATIC ENCEPHALOPATHY AND SPONTANEOUS BACTERIAL PERITONITIS IN HCV RELATED HEPATIC CIRRHOSIS

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Cirrhotic patients are prone to develop bacterial infections, mainly spontaneous bacterial peritonitis (SBP), and hepatic encephalopathy (HE), SBP is present in approximately 15% of patients with cirrhosis and ascites. The prevalence of HE in cirrhosis is presumably high and can be diagnosed in up to 80% of all cirrhotic patients. The gut flora and bacterial translocation (BT) play an important role in the pathogenesis of both SBP and HE in cirrhotic patients. The mechanisms promoting the translocation of the gut flora in cirrhosis are not totally understood. The disruption of the gut flora equilibrium is related to the development of BT. Intestinal bacterial overgrowth has been reported in cirrhotic patients and related to the development of SBP. Calprotectin represents more than 60% of the cytosolic proteins in neutrophils. The presence of calprotectin in feces quantitatively relates to neutrophil migration into the gastrointestinal tract. Therefore, it is considered as a valid marker of intestinal inflammation. Calprotectin might be a promising diagnostic parameter to diagnose the onset and course of HE and SBP.

FREQUENCY AND CLINICAL PRESENTATION OF CRYPTOSPORIDIOSIS IN IMMUNOCOMPETENT ADULT PATIENTS PRESENTING WITH ACUTE DIARRHEA

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Introduction:

Human cryptosporidiosis is caused by infection with the Apicomplexa protozoans of the genus *Cryptosporidium*. The objectives of this study are to document the frequency and clinical presentation of cryptosporidiosis in immunocompetent patients presenting with acute diarrhea.

Study Design

A prospective study was conducted at the Sindh Institute of Urology and Transplantation (SIUT) in Karachi from 1st of February till 30th of September 2012. All immunocompetent adult patients that presented with acute diarrhea to the gastroenterology clinic at SIUT were included.

Results:

There were a total of 105 patients of which 53 (50.4%) were males. The mean age was 34 years. Of 105, 58(55%) patients had cryptosporidium isolated in stool studies. Patients with cryptosporidiosis had statistically significant greater stool frequency per day (P value)

Conclusion

Physicians in Pakistan must consider cryptosporidiosis in immunocompetent patients that present with acute, watery diarrhea and request a modified acid fast stain for cryptosporidiosis. Nitazoxanide is the recommended antimicrobial with good initial resolution of diarrhea. However the recurrence rate of diarrhea is high. Further studies are required regarding optimal management of cryptosporidiosis. Boiling of water is most effective and practical method of prevention

Key Words: Diarrhea, Cryptosporidiosis, Giardia, Entamoeba H and Nitazoxanide.

GASTRIC AND PANCREATIC LYMPHOMA CASE REPORT

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We present a rare case of pancreatic MALT lymphoma affacecting the stomach and pancreas. Endoscopic, CT and hsitoapthologic dayta will be presented. The unique upper endoscopic findings will be presented. Mangaement will be discussed as well as histopathology staining and immunochistological diagnosis.

GASTRIC OUTLET OBSTRUCTION (GOO)

Author: Yousry Taher

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Is a clinical condition due to an obstruction at the level of the pyloroduodenal junction. Individuals with gastric outlet obstruction present with recurrent attacks of vomiting with or without upper abdominal pain. Usually distension of the upper abdomen is noticed as stomach dilate to accommodate ingested food. Causes of gastric outlet obstruction include both benign causes Benign causes such as cicatrized peptic ulcer, as well as malignant causes, such as gastric cancer. Treatment of the condition depends upon the underlying cause; it starts with endoscopic dilatation with balloons or stenting using flexible expandable metallic stents in some situations when patients are not candidisate for surgery. The incidence of gastric outlet obstruction is difficult to define exactly. Because we are in the era of PPIs and endoscopy that was reflected on the incidence of complications form peprtic ulcer disease. Realky PPIs midified the natural course of peptic ulcer diasease. not known precisely. Benign disease was reported to be main cause in the majority of cases of GOO in adults, while malignancy accounted for only 10 to 39 percent of cases [2-4]. By contrast, in recent decades, 50 to 80 percent cases have been attributable to malignancy [2,4-6 Updated estimates are not available but the need for surgery is thought to have declined because of advancements in endoscopic methods to treat GOO such as dilation and stenting.

GOO in infancy and childhood is due to congenital causes i.e antral diaphragm, pyloric atresia, and infantile hypertrophic pyloric stenosis (IHPS)], or acquired causes including peptic ulcer, caustic ingestion, tumor, chronic granulomatous disease, and eosinophilic gastroenteritis [3, 4 .]

IHPS is the frequent cause with an incidence of up to 1.5–3 per 1,000 live births. When IHPS is excluded, however, the other causes of GOO in children are relatively rarely encountered [2].

GREMLIN IN THE PATHOGENESIS OF HEPATOCELLULAR CARCINOMA COMPLICATING CHRONIC HEPATITIS C: AN IMMUNOHISTOCHEMICAL AND PCR STUDY OF HUMAN LIVER BIOPSIES

Authors: Maha Guimei, Nahed Baddour, Dalal ElKaffash, Laila Abdou and Yousry Taher

Affiliation: Alexandria University

The possible role of secretory products of fibrous tissue in the development of hepatocellular carcinoma (HCC) complicating chronic hepatitis C was investigated. Our hypothesis was that gremlin, secreted by fibroblasts, inhibited bone morphogenic protein (BMP), which mediates stem cell maturation into adult functioning hepatocytes, and thus, arrest stem cell maturation and promoted their proliferation in an immature state possibly culminating into development of HCCs.

Results: Protein expression of cytokeratin 19 (CK19) and fibroblast growth factor 2 (FGF-2), and mRNA expression of gremlin and BMP-7 were studied in 35 cases of chronic hepatitis, cirrhosis and HCC complicating chronic hepatitis C. CK19 expression was higher in cases of cirrhosis (0.004), which correlated with the grade ($r = 0.64$, $p = 0.009$) and stage ($r = 0.71$, $p = 0.001$). All HCCs were negative for CK19. Stem cell niche activation (as indicated as a ductular reaction) was highest in cases of cirrhosis ($p = 0.001$) and correlated with CK19 expression ($r = 0.42$, $p = 0.012$), the grade ($r = 0.56$, $p = 0.024$) and stage (0.66, $p = 0.006$). FGF-2 expression was highest in HCCs and correlated with the grade ($r = 0.6$, $p = 0.013$), stage (0.72, $p = 0.002$), CK19 expression ($r = 0.71$, $p = 0.002$) and ductular reaction (0.68, $p = 0.004$) in hepatitis cases. Higher numbers of cirrhosis cases and HCCs ($p = 0.009$) showed gremlin expression, which correlated with the stage ($r = 0.7$, $p = 0.002$). Gremlin expression correlated with that of CK19 ($r = 0.699$, $p = 0.003$) and FGF2 ($r = 0.75$, $p = 0.001$) in hepatitis cases. Conclusions: Fibrosis promotes carcinogenesis by fibroblast-secreted gremlin that blocks BMP function and promotes stem cell activation and proliferation as well as possibly HCC development.

HCC RISK FACTORS SYNERGISM, EARLY DETECTION AND HOW TO PREVENT?

Author: Ehab Abdel-Atty

Affiliation: Assistant professor

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Hepatocellular carcinoma (HCC) is one of the most common cancers worldwide. The burden of HCC has been increasing in Egypt with a doubling in the incidence rate in the past 10 years. There is a geographic correlation between the incidence of HCC and the prevalence of chronic hepatitis B and C, suggesting that these two viral infections are the most important risk factors of HCC worldwide. Several other risk factors for the development of HCC have been reported such as aging, gender, alcohol intake and NASH. Visceral fat accumulation reportedly increases the risk of HCC development in patients with chronic liver disease. Co-infection with HBV and HCV is associated with a higher risk for developing HCC than either infection alone. The more risk factors the patients have, the higher occurrence of HCC was shown. A synergistic interaction between cigarette smoking and HCV and between cigarette smoking and alcohol consumption was observed for men and women, respectively.

Proper prophylaxis, early detection and treatment of HCV and HBV will reduce cases of HCC. Public awareness and health education of controllable risk factors such as smoking and DM will also reduce cases of HCC.

INTERFERON- Γ INDUCIBLE PROTEIN-10 / CXC CHEMOKINE LIGAND 10 (IP-10/CXCL10) AS A RAPID AND AN EARLY RESPONSE PREDICTOR TO COMBINATION THERAPY IN CHRONIC HEPATITIS C PATIENTS

Authors: Mohamed Yousry Taher*, El Said Hassan Ibrahim*, FathAlla Sidkey Mohamed*, Dalia Abd El Moety Ebrahim El Neely**, Marwa Mohamed Reda Abd El Moneam*

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Background and aim of the work: A sustained virologic response (SVR) is achieved only in approximately 40-50 % of patients on the current standard of care (SoC). Side effects of the current SoC often make adherence to therapy difficult, further reducing the chance for SVR. Identification of factors predictive of SVR, including host-, virus- and treatment-related elements, provides relevant insights about the mechanisms of action of IFN α and RBV therapy can be tailored to individual needs. Liver gene expression has been used to determine response to the treatment. Many of the genes found to be up-regulated between non-responders and responders encode molecules secreted in the serum (cytokines). Thus, they could be used in the development of serum markers as predictors of response to HCV treatment. The aim of the present work was to study the serum level of CXCL10/IP-10 as a rapid and an early virological response predictor to combination therapy (PEG-IFN plus ribavirin) in chronic hepatitis C. Patients and methods: This prospective study was carried out on 30 chronic hepatitis C patients who underwent clinical, biochemical and virological assessments before treatment with pegylated interferon and ribavirin. All patients were subjected to measurement of serum levels of CXCL10/IP-10 three times during the study: Before start of combination therapy, after 4 and 12 weeks of therapy. All patients were subjected to pretreatment liver biopsy to evaluate degree of grading and staging according to modified histological activity index. Also, 15 age and sex matched healthy subjects with no evidence of liver disease were included in the study as control group. Results: The mean serum levels of IP-10/ CXCL10 showed significant increase in patients compared with controls either pretreatment or at the 4th or the 12th week ($P = <0.001$, <0.001 and 0.008 respectively). While, the mean serum levels of CXCL10 showed significant decrease in RVR, EVR and total responders compared with non responders, either pretreatment or

at the 4th week or at the 12th week ($P = <0.001$). The sensitivity and specificity of pretreatment serum CXCL10 in discriminating responders and non responders were found to be 90.91% and 94.74% respectively at a cut-off value of 460 pg/ml. while the sensitivity and specificity of pretreatment serum CXCL10 in discriminating RVR and EVR were found to be 100% and 90% respectively at a cut-off value of 180 pg/ml. conclusions: Serum IP-10 levels may predict virologic response before and during pegylated interferon and ribavirin therapy in HCV infected patients. IP-10 values found in HCV infected patients may also indicate a change in the IFN network.

INTRAVENOUS PPIs IN UPPER GIT BLEEDING

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Affiliation: Alexandria University

High-dose, IV PPI therapy is beneficial and cost-effective in patients who have a high-risk lesion at endoscopy and it should be preceded by effective endoscopic hemostasis if possible. IV PPIs, preoperatively and in the intensive care setting, effectively reduce gastric acidity, but there are no convincing data that this confers any significant clinical benefit compared with other therapeutic strategies. As far as their cost effectiveness is concerned, PPIs might be expected to offer potential cost savings compared with no treatment or treatment with traditional agents, through reducing the incidence of stress related bleeding, costs associated with red cell transfusions and avoiding the consequent extension of ICU stay.

INTRAVENOUS SILIBININ: A POSSIBLE NEW RESCUE THERAPY FOR HCV PATIENTS

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Silymarin is a mixture of flavonolignans with silibinin, constituting approximately 50% of total silymarin. It has antioxidant properties mediated in part by scavenging of reactive oxygen species. Furthermore, silymarin has been demonstrated to have anti-inflammatory and immunomodulatory properties via inhibition of NF- κ B, as demonstrated in vitro. Studies of silymarin in the HCV replicon system also suggest an effect on HCV core and NS5A expression. Silibinin, given intravenously daily alone or in combination with SoC (peg-interferon and ribavirin) has been found to significantly reduce HCV viral load within 10-14 days. When followed with SoC, silibinin has been found to improve SVR. In certain situations (e.g. in HCV infected cases undergoing liver transplantation) when given alone it has been curative without any other therapy. When given in short two-day bursts to patients on SoC, it has been found to significantly suppress viral loads, even to undetectable levels with subsequent SVR even in cases with average response to SoC. Responses of patients with chronic HCV to intravenous silibinin have been more favorable in younger individuals, those with genotype 4, and those undergoing liver transplantation. It is plausible that younger patients with low grades of cirrhosis and genotype 4 may respond more favorably to silibinin.

IRRITABLE BOWEL SYNDROME: AN UPDATE

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Presenting Author: Tarek E. Korah

Irritable bowel syndrome (IBS) remains a symptom-based diagnosis that usually based on clinical history without testing in the absence of alarm features.

IBS may result from various pathogenic mechanisms which include IBS as a serotonergic disorder; IBS as an inflammatory state and the potential role of mast cells; IBS as a result of bacterial overgrowth and altered gastrointestinal microbiome.

Novel and emerging therapies that are based upon the evolving understanding of the pathophysiology of IBS hold significant promise and for the first time there are potential therapies that may alter the natural history of this disorder.

These therapies for IBS include new generation 5-hydroxytryptamine (5-HT)-4 agonists; novel 5-HT₃ antagonists; secretagogues; anti-inflammatory agents; peripheral visceral analgesics; and a centrally acting benzodiazepine receptor modulator. Perhaps one of the most exciting areas in promising and emerging IBS therapies is the possible role of antibiotics. Rifaximin, a gut-selective nonabsorbable antibiotic, has demonstrated the most promise.

JAUNDICE OF PREGNANCY

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Jaundice in pregnancy, whilst relatively rare, has potentially serious consequences for maternal and fetal health. It can be caused by pregnancy or occur intercurrently. Causes of jaundice specific to pregnancy include: Preeclampsia associated with HELLP syndrome (= haemolysis, elevated liver enzymes and low platelet count). Acute fatty liver of pregnancy. Hyperemesis gravidarum, and intrahepatic cholestasis of pregnancy. Approximately 3-5% of pregnant women may have abnormal liver function tests.

MANAGEMENT OF A CASE OF OBSCURE LOWER GI BLEEDING BY TRANSJUGULAR INTRAHEPATIC PORTOSYSTEMIC SHUNT (TIPS): A CASE REPORT

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Background: Bleeding ectopic varices due to portal hypertension are uncommon and can be difficult to manage. Transjugular intrahepatic portosystemic shunt (TIPS) has a role in managing patients with refractory gastric variceal bleeding in the presence of a patent portal vein.

Material & Methods: We report herein a case of 67-year old woman who presented in December 2010 with obscure lower GI bleeding. The patient had a history of HCV induced cirrhosis and history of bleeding from oesophageal varices 3 years prior to this December 2010 who underwent repeated sessions of endoscopic esophageal variceal ligation and the varices were completely eradicated on date__The patient had no history of overt hepatic encephalopathy. Colonoscopy was performed twice during two bleeding episodes and the colon was completely free of any lesion that could explain bleeding. Baseline laboratory findings were: total serum bilirubin 1.2 mg/dl, direct serum bilirubin 0.4 mg/dl, blood urea 39 mg/dl, serum creatinine 1.2 mg/dl, fasting blood sugar 98mg/dl, serum albumin 2.4 g/dl, ALT 13 U/L, AST 28 U/L, alkaline phosphatase 50, serum sodium 128 mg/dL, serum potassium 3.9 mg/dL. Haematological findings were as follows: Hgb 5.1 g/dl, WBC 10,800/cmm, platelets 162,000/cmm, prothrombin concentration 73.5 % (INR 1.17). Abdominal ultrasound revealed a cirrhotic liver, splenomegaly with no ascites; a CT with mesenteric angiography was completed (Fig.1, left hand side) which was highly suggestive of ileal varices. Echocardiography was normal. Transjugular intrahepatic portosystemic shunt was completed one week after admission.

MASSIVE GIT BLEEDING AFTER BARIATRIC SURGERY

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Presenting Author: Wael Nabil

It is very rare to have massive UGIT bleeding after bariatric surgery. We present an interesting case of massive bleeding that was perplexing and unexpected. Despite that the patient responded to conservative management it is important to discuss the case.

MULTIPLE MOLECULAR MARKERS SPECIFIC CIRCULATING HEPATOMA CELLS: ENHANCED DETECTION OF HCC

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Presenting Author: Salwa H. Teama

The carcinogenesis of hepatocellular carcinoma (HCC) is a multifactorial, multistep and complex process. Its prognosis is poor and early diagnosis and monitoring of metastasis of HCC is of the utmost importance. Circulating AlphaFetoProtien (AFP) mRNA has been proposed as a marker of HCC cells disseminated into the circulation. The specificity of this molecular marker and its correlation with the main HCC clinico-pathological parameters remains controversial. In recent year; several different multimarkers assays have been developed for the detection of hepatoma cells in the peripheral blood of patients with HCC. In this study; we examined the expression of combined molecular multimarker assay of cancer specific markers Melanoma Antigen Gene MAGE 1 and MAGE 3 mRNAs and liver specific marker AFP mRNA in blood specimens obtained from patients with primary HCC and also from non HCC patients and control group by nested reverse transcriptase polymerase chain reaction (RT PCR) to offer simple method with high specificity and sensitivity for detection of the circulating hepatoma cells. Our results indicate that a multimarker nested RT-PCR assay with cancer-specific markers such as

MAGE-1 and MAGE-3 in combination with a hepatocyte-specific AFP marker may be a promising diagnostic tool for monitoring hepatocellular carcinoma patients. Since nested PCR utilizes a couple of internal primers to reamplify the specific PCR product, it exhibit higher sensitivity, stronger specificity and lower false positive occurrence as compared to single RT.

NON INVASIVE METHOD FOR DIAGNOSIS OF ATROPHIC GASTRITIS

Author: Mohamed El-Sawi

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Presenting Author: Mohamed El-Sawi

Gastric atrophy is considered the first step towards development of Gastric Cancer (GC). The gold standard for diagnosis of GC is the histopatological study. Gastric atrophy can be detected by analyzing serum levels of gastrin-17, Pepsinogen I, Pepsinogen II and IgG anti-H. pylori. Serological diagnosis was limited however it can be used as screening in patients who undergo endoscopy due to its high yield.

OCCULT HEPATITIS B VIRUS INFECTION IN EGYPTIAN HEPATITIS C VIRUS POSITIVE PATIENTS: PREVALENCE AND IMPACT ON HEPATOCELLULAR CARCINOMA DEVELOPMENT

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Occult Hepatitis B Virus infection (OBI) is characterized by positivity for HBV DNA in HBsAg-negative patients with or without serological markers of previous HBV infection. The prevalence of OBI in different studies has been reported between zero and 52.3% among patients with diverse liver disease due to Hepatitis C Virus (HCV) infection. The aim of the present work is to study the prevalence of OBI among HCV-positive Egyptian patients and its impact on hepatocellular carcinoma (HCC) development. Patients and methods: The study included 100 chronic HCV positive patients. There were 57 male and 43 females ranged between 41-77 years old. Full history taking and complete clinical examination were done for all patients. A blood sample was withdrawn for CBC, AST, ALT, albumin, bilirubin, prothrombin activity (PT%) and alpha fetoprotein. Diagnosis was done clinically, by abdominal ultrasonography and by assessing viral markers (HBsAg, HBsAb, HbCAb and qualitative PCR for HBV-DNA). HCC lesions were further confirmed by triphasic CT of the liver and AFP. Results: Out of the 100 examined chronic HCV patients, only 16 patients (16%) had OBI. Dually infected patients (OBI/HCV) had significantly lower platelet count and PT% than HCV monoinfected patients ($P=0.001$ and 0.03 respectively). HCC were significantly more common in OBI/HCV dually infected (31%) than HCV monoinfected patients (7%) ($P=0.01$). Dually infected patients (OBI/HCV) had significantly higher serum transaminases (AST, ALT) than HCV monoinfected patients ($P=0.01$ and 0.03 respectively). The mean value of AST/platelet ratio is significantly higher among OBI/HCV dual infection than HCV mono infection ($P=0.03$). Out of the 100 examined chronic HCV patients, only 11 patients (11%) had HCC. Presence of OBI was significantly more common in HCV patients with HCC (45%) than in HCV patients without HCC (12%) ($P=0.01$). All chronic HCV patients with HCC had shrunken liver (100%) which was significantly more common than in HCV patients without HCC (58%) ($P=0.0001$). On doing multiple logistic regression analysis of risk factors of HCC in our patients, we found that OBI and presence of shrunken liver are

independent risk factors of HCC (P=0.04 and 0.03 respectively) Conclusion, occult HBV infection may influence the outcome of HCV infection leading to more hepatic fibrosis and development of HCC. The persistent HBV infection may have a critical role in the development of HCC in HBsAg-negative patients. So, occult HBV should be considered and evaluated by more sensitive PCR among HCV-infected patients.

OPEN SPLENECTOMY FOR HYPERSPLENISM-INDUCED THROMBOCYTOPENIA IN EGYPTIAN PATIENTS WITH HCV-RELATED LIVER CIRRHOSIS

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Egypt has the highest prevalence of antibodies to hepatitis C virus (HCV) in the world, estimated nationally at 14.7%. An estimated 9.8% are chronically infected. Although, Pegylated-interferon (IFN) plus ribavirin remains the most effective therapeutic regimen for patients with chronic hepatitis C infection, there are several limitations of this treatment because of its side effects. Thrombocytopenia is a frequent side effect of antiviral therapy, and unfortunately many patients with HCV related liver cirrhosis have a base line thrombocytopenia due to hypersplenism making them a poor candidate for interferon therapy. A number of surgical procedures are available to manage the hypersplenism related thrombocytopenia. Splenectomy is one of the oldest procedures used for this purpose however; the procedure may be hazardous in patients with poor liver function. The Aim of this work is to evaluate the safety and efficacy of open splenectomy in the management of hypersplenism induced thrombocytopenia in selected patients with HCV- liver cirrhosis (patients of Child-Pugh score A), so that they can receive Pegylated Interferon & ribavirin therapy. Methods: 20 patients with HCV-related liver cirrhosis (Child-Pugh A) & hypersplenism-induced thrombocytopenia were subjected to open splenectomy with follow-up for 6 months to determine its safety and efficacy in treating the hypersplenism induced thrombocytopenia. Results: 20 patients

with HCV related liver cirrhosis of Child Pugh score A, all had hypersplenism induced thrombocytopenia were subjected to elective open splenectomy. All patients included in the study had a significant improvement in platelets counts from a mean value of $62.8(10)^3 \pm 19.16/\text{mm}^3$ preoperatively to $215(10)^3 \pm 41.73 /\text{mm}^3$ after three months ($P=0.003$) and to $293(10)^3 \pm 47.01/\text{mm}^3$ after six months ($P=0.007$) there were no deaths, the mean hospital stay was 5.3 ± 1.05 days, the blood loss was accepted, the mean loss was $250 \pm 67.2\text{ml}$ (range: 100-850ml) and the complications were in the form of subphrenic collection (one patient), basal atelectasis (two patients), high fever (three patients), and one patient had portal vein thrombosis

Conclusion: open splenectomy is a safe and effective procedure for management of hypersplenism induced thrombocytopenia in patients with HCV related liver cirrhosis especially those with good liver functions (Child Pugh).

PANTOPERAZOLE AND MUCOSA HEALING ENHANCERS IN PORTAL HYPERTENSIVE BLEEDING

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Because Pantoperazole exhibits dose linearity and does not accumulate in the body after repeat administration, pantoprazole can be used without dose adjustment in elderly patients and in those with renal impairment or failure, or moderate hepatic impairment. In patients treated according to the guidelines, clinical indications for IV pantoprazole were documented as active UGIB or erosive GERD (76%), or were prescribed the pantoprazole under the guidance of GI, CCM, or Pulmonary intensivist or attending physicians for continuation of oral therapy when patients would be NPO for greater than 24 hours. Pantoperazole 40 mg oral tab enhance clean healing of postsclerotherapy ulcers. Decrease ulcer related complications especially bleeding and stricture formation.

POSTCHOLECYSTECTOMY BILE DUCT INJURY (BDI) : OUTCOME OF DELAYED SURGERY

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Post-cholecystectomy BDI is associated with significant morbidity and even mortality. Management and outcome of post-cholecystectomy BDI depends on the clinical presentation and whether the injury is partial or complete. The short term and long term outcome of the acute BDI in terms of fistula closure and development of biliary stricture could be predicted based on presence of adverse factors. The outcome of delayed surgery is of great interest for the treating surgeon. Many difficulties and problems will be defined.

PREDICTION OF HCV RELAPERS

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It is recommended that patients with chronic hepatitis C virus (HCV) genotype 4 receive 48 weeks of treatment. A rapid virologic response (RVR; at week 4) predicts a sustained virologic response (SVR), although not all patients with an RVR achieve an SVR. We explored the relationships among hepatic steatosis, level of HCV RNA, relapse, and RVR and other factors that can predict HCV relapse.

PREVALENCE OF NON-ORGAN-SPECIFIC AUTOANTIBODIES AND ITS EFFECT ON RESPONSE TO ANTIVIRAL THERAPY IN PATIENTS WITH CHRONIC HEPATITIS C VIRUS GENOTYPE 4

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Background: Immunological disorders have been frequently described in the course of hepatitis C virus (HCV)–related chronic hepatitis. Our aim was to determine the prevalence of non-organ-specific autoantibodies (NOSAs) and to evaluate its impact on the response to combined antiviral therapy in patients with chronic HCV genotype-4. Methods: A total of 134 adult patients with chronic HCV genotype-4 were studied. Serum Antinuclear antibody (ANA), anti-smooth muscle antibody (SMA), and anti liver/kidney microsomal antibody type 1 (LKM1) were detected by ELISA (Anova, Germany). 109 patients were treated naive and received combined antiviral therapy (pegylated interferon–ribavirin). The presence of these autoantibodies was related to patient’s characteristics and to the outcome of antiviral therapy. Result: Thirty-six (26.9%) patients were positive for at least one autoantibody. Various autoantibodies were presented as follows: ANA in 29 (21.6%) patients, SMA in 9 (6.7%) and anti-LKM-1 in 2 (1.5%). In two patients, both ANA and anti-SMA were positive, and in other two cases both ANA anti-LKM-1 were positive. Female patients had a higher prevalence of positive autoantibodies ($P=0.005$). Chronic hepatitis C (CHC) patients with positive autoantibodies had higher serum ALT, AST and GGT levels. The rate of sustained virological response to combined antiviral therapy was similar between autoantibody-positive and -negative groups (46.9% vs. 53.2%). Conclusion: Autoantibodies can be induced in the course of CHC. Autoantibody-positive CHC patients are older and have higher disease activity and severity. However, the presence of these autoantibodies did not influence the response to combined antiviral therapy.

PREVENTION OF HCC

Author: Yousry Taher

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Hepatocellular carcinoma (HCC) is considered to be one of the major malignant diseases in the world today. Among the reasons for this are two that are especially relevant in considering the need to prevent this tumor. The first is the high incidence of HCC, and the second its grave prognosis.

HCC is now the fifth most common global cancer (fifth in males and eighth in females) if colon and rectal cancers and mouth and pharyngeal cancers are grouped together 1, 2. Moreover, it is either the most common tumor or among the three most common tumors in many of the most populous regions of the world Cancer prevention can be attempted at three levels 5.

Primary prevention is preventing an etiological agent from initiating the carcinogenic process. This is the premier strategy and is achieved by eliminating, avoiding, or neutralizing the carcinogen, or by stopping the in vivo conversion of a precarcinogen into a carcinogen. Secondary prevention is interfering with the metabolism of a carcinogen, or preventing it from reaching its target or interacting with tissue nucleophiles, especially DNA. Tertiary prevention is preventing precancerous lesions from progressing to cancer.

Attempts to prevent HCC are of relatively recent origin, but there is every prospect that it will eventually be possible to prevent most cases of this common and devastating tumor. For the immediate future the emphasis should be on practical and economical interventions in countries with high incidences of HCC, especially low-income countries.

PROTON PUMP INHIBITORS-INDUCED HYPOMAGNEAEMIA

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Proton pump inhibitors (PPIs) such as omeprazole, lansoprazole, pantoprazole, esomeprazole and rabeprazole are heavily prescribed worldwide. They are the mainstay therapy in gastroesophageal reflux disease, gastritis and duodenal or gastric ulcers.

However, PPIs have a number of side effects. Their use can be associated with an increased risk for pneumonia, enteric microbial overgrowth, sepsis, and higher risk of bone fracture.

Recently, PPI use was found to be associated with lower serum magnesium levels. PPI-induced hypomagnesaemia (PPIH) can lead to severe symptoms such as tetany, seizures, cardiac arrhythmia and puts patients at risk for concomitant secondary electrolyte disturbances such as hypocalcaemia. However, the molecular and physiological factors that may be involved in PPIH are not known.

Proper identification and treatment of PPIH mainly rests on three pillars: First, serum magnesium monitoring on a regular basis. In event of existing hypomagnesaemia discontinuation of PPIs should result in a rapid normalization, which may be supported by additional magnesium and calcium supplementation. Second, regular determination of serum magnesium (and concomitant other electrolytes) should be done to monitor the course of recovery. Third, patients with PPIH have the chance to escape hypomagnesaemia by alternative acid suppressants. Therefore, switching to histamine-2 receptor antagonist should be attempted.

RECURRENT DISEASE AFTER LIVING DONOR LIVER TRANSPLANTATION: RISK FACTORS, MANAGEMENT AND OUTCOME

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Presenting Author: Emad Hamdy Salem

Background and Aim: Analysis of factors responsible for disease recurrence after LDLT. And the effect of disease recurrence on the outcome of LT.

Subjects and Methods: After exclusion of (6 months mortality), 45 alive transplanted patients were enrolled in the current analysis in the follow up duration from 6 months to 60 months. (The demographic, preoperative, intraoperative, and postoperative data) were studied. Univariate analysis and then multiple analysis were done to detect the relationship between the previous data and overall recurrence, and between recurrence variables, and total survival after LDLT.

Results: The forty five patients were classified according to age into pediatrics 18 years. The pediatric group were fourteen patients (31.1%), and the incidence of recurrence of primary disease was 1/14 (7.1%), this case was Budd Chiari syndrome. The all pediatric mortality was 4/14 (28.6%). The adult group were thirty one patients (68.8%), and the incidence of recurrence was 15/31 (48.4%) of patients. On univariate analysis, there was no statistically significant predictors of recurrence regarding mentioned data. The survival of all, non recurrent, and recurrent adults was (83.9%), (93.7%), and (73.3%) respectively.

Conclusion: Recurrence of primary disease after LDLT is confirmed in our study with the least incidence in children and the highest in adult HCV patients. Similarly, it was higher in the following (males, with CMV infections, with co-morbidity, with postoperative complications, and patients with acute rejection). Recurrence of primary disease decreases post transplantation Survival. However the effective management of recurrence improves survival.

RELATION OF PRETREATMENT SERUM B12 LEVEL AND RESPONSE TO TREATMENT WITH INTERFERON AND RIBAVIRIN IN PATIENTS WITH CHRONIC HCV INFECTION

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Background: Given the poor prognosis and high cost of effective treatments for HCV, it appears important to determine factors that may predict favorable response to interferon based treatment and examine complementary medicine treatment possibilities. Objective: to evaluate the relation of pretreatment serum level of vitamin B12 and the end of treatment response. Methods: This study included fifty treatment naïve HCV patients who were legible to be treated with pegylated interferon and ribavirin in patients with chronic HCV infection. Serum B12 was analyzed in samples collected before treatment start. Pretreatment serum B12 levels were correlated to the response of treatment. Results: Pretreatment vitamin B12 measurement showed a significant difference between those who respond to treatment and those who failed to respond to interferon based treatment. The mean value of serum B12 vitamin in non responders was (267.286+ 29.69) which was significantly less than those who respond to treatment (332.167+ 49.05) ($P < 0.00001$). There was no significant difference regarding pretreatment viral load in both responders and non-responders. Conclusion: Pretreatment serum B12 level measurement can be used as a predictor of response to treatment in HCV patients.

ROLE OF RADIOLOGIST IN MANAGEMENT OF GIT BLEEDING

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Affiliation: Alexandria University

Presenting Author: Omar Aasser

Upper gastrointestinal (GI) bleeding (or hemorrhage) is that originating proximal to the ligament of Treitz, in practice from the esophagus, stomach and duodenum. Lower gastrointestinal bleeding is that originating from the small bowel and colon. In selected cases of severe bleeding angioembolisation can be used as a lifesaving technique, especially in patients with coagulopathy after ineffective surgical interventions or after failure of repeated endotherapy.

SERUM APOPTOTIC MARKERS IN EGYPTIAN PATIENTS WITH CHRONIC HEPATITIS C: SFAS, CASP8 AND CASP9 AS BIOMARKERS OF NONINVASIVE ASSESSMENT OF LIVER FIBROSIS

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Presenting Author: Gamal Kassem

Background/Aim: Hepatitis C virus (HCV) infection is an important cause of chronic liver diseases, including chronic hepatitis, liver cirrhosis and hepatocellular carcinoma. Liver biopsy represents the gold standard for evaluating presence, type and stage of liver pathology. The aim of this work was to evaluate some apoptosis markers in Egyptian patients with chronic hepatitis C and to correlate these markers with stage of fibrosis obtained from liver biopsy.

Patients & Methods: This study was conducted on 61 consecutive “naïve” unselected patients with chronic hepatitis C. All patients had had liver biopsy were included in the study. Staging of the disease (the degree of fibrosis) was done according to the METAVIR classification. Soluble FAS (sFAS) and caspase activity (CASP8, and CASP9) were measured as apoptosis markers.

Results: We observed significantly increased serum level of FAS in chronic hepatitis C patients than control. Also, we found a positive association between sFAS levels in chronic hepatitis C patients with fibrosis severity. Serum level of FAS was significantly increased in serum samples of patients with advanced fibrosis, than those with mild fibrosis than controls ($p < 0.001$). We observed a significant increase in serum level of CASPs 8&9 in chronic hepatitis C patients compared to control group. However, we did not observe any significant difference in serum level of CASPs 8&9 when comparing patients with chronic hepatitis C grouped as regard hepatic fibrosis severity.

Conclusion: Our data suggest that serum sFAS could be considered a possible marker of fibrosis severity in chronic hepatitis C patients as well as CASPs 8&9 could be good predictors of fibrosis activity.

Key words: Egypt, Hepatitis C, genotype 4, apoptosis, noninvasive assessment of liver fibrosis.

Abbreviations: HCV, hepatitis C virus; CASP, caspase.

SERUM INTERFERON GAMMA INDUCIBLE PROTEIN 10 AND HEPATITIS C CORE ANTIGEN AS PREDICTIVE MARKERS OF RESPONSE TO THERAPY IN CHRONIC HEPATITIS C INFECTION

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Pegylated interferon (IFN) plus ribavirin has become the standard therapy for chronic hepatitis C (CHC), it has been shown that hepatitis C core antigen (HCV core Ag) level correlates to viral RNA concentration and can be used as a marker of viral replication during and after therapy. Interferon (IFN) gamma-inducible protein 10 (IP-10) is secreted by monocytes, endothelial cells, and fibroblasts in response to IFN gamma, serum levels of IP10 are elevated in CHC patients especially those without a sustained viral response (SVR) after completion of antiviral therapy, therefore, the aim of this work was to study the predictive value of hepatitis C interferon gamma inducible protein (IP-10) level and core antigen assay during and after combination therapy for chronic hepatitis C infection (HCV). This study included thirty patients with chronic HCV who were candidates to receive combination therapy with interferon /ribavirin, they were subjected to all investigations needed before IFN therapy; then received combination therapy with estimation of serum level of IP10 and HCV core Ag before, at week 12, and 6 months after therapy, ten healthy subjects were taken as a control group. It was found that serum HCV core Ag and IP-10 levels were significantly higher in patients than in control; moreover pretreatment HCV core Ag was significantly lower in SVR than in non responders and relapsers, where pretreatment serum IP-10 was significantly higher in non responders than the other two groups (SVR-relapsers). A positive correlation was found between pretreatment HCV core Ag and (BMI-pretreatment HCV PCR-IP10), also pretreatment HCV core Ag correlated positively with pretreatment HCV PCR and negatively with serum ALT. Cut off points of serum IP10 and HCV core Ag equal to 985.8pg/ml/ 29ng/ml respectively were enough to predict SVR with a Sensitivity of 95.5%/100%, specificity of 75%/62%, positive predictive value (PPV) of 96%/95%, and negative predictive value (NPV) of 60%/62% respectively. So it is concluded that serum IP10 level is elevated in chronic HCV patients and it could be used as a pretreatment predictive marker of response to combination therapy, also HCV core Ag assay is an alternative tool to HCV RNA PCR quantification in monitoring response to therapy in HCV.

SINGLE-STEP TREATMENT OF GALL BLADDER AND BILE DUCT STONES: A COMBINED ENDOSCOPIC–LAPAROSCOPIC TECHNIQUE

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Introduction: The advent of endoscopic techniques changed surgery in many regards. In the management of cholelithiasis; laparoscopic cholecystectomy (LC) is today the treatment of choice. This has created a dilemma in the management of choledocholithiasis. Today a number of options exist, including endoscopic sphincterotomy (ES) before LC in patients with suspected common bile duct (CBD) stones, laparoscopic common bile duct exploration (LCBDE) by the transcystic approach or laparoscopic choledocotomy, open CBD exploration and postoperative ERCP. A major concern regarding both pre- and postoperative extraction of CBD stones (CBDS) by the ERCP is the risk of development of pancreatitis, also more than 10% of the preoperative ERCP is normal. More recently the alternative technique of combined LC with intraoperative ERCP and ES is emerging in an attempt to manage cholecysto-choledocholithiasis in a single-step procedure. **Objectives:** The aim of this work was to assess the treatment of common bile duct stones (CBDS) in a onestage operation by laparoscopic cholecystectomy (LC) and intraoperative endoscopic retrograde cholangiopancreatography (LC+IO-ERCP) and endoscopic sphincterotomy (ES). **Patients and methods:** This study was carried out on 45 patients with gall bladder stones and with suspected or confirmed CBDS at the Gastrointestinal Surgery Unit in the Main Alexandria University Hospital. They were treated by a single-step procedure combining LC and IO-ERCP. Laparoscopic intraoperative cholangiography (IOC) was carried out to confirm the presence of CBDS. A soft-tipped guidewire was passed through the cystic duct and papilla into the duodenum. A papillotome was inserted endoscopically over the guide-wire. Endoscopic sphincterotomy was performed and the stones were extracted with a retrieval balloon or with a Dormia basket. The surgical operating time, surgical success rate, postoperative complications, retained CBDS, and postoperative length of hospital stay were assessed. **Results:** There were 30 females and 15 males. Their mean age was 45.07 ± 11.3 years (ranging from 27 to 65 years). Twenty-seven patients had confirmed CBDS by preoperative ultrasound (US) and/or MRCP. Eighteen

patients were suspected for CBDS on clinical, laboratory and/or US basis. Conversion to open cholecystectomy occurred in one case due to severe adhesions at the Calot's triangle. IOC revealed the presence of CBDS in 36 patients. IO-ERCP with ES was performed successfully in 33 patients and stones were extracted endoscopically. Passage of the guide-wire through the papilla failed in three patients. Cholecystectomy was completed laparoscopically in 44 patients. The mean operative time was 119 ± 14.4 min (ranging from 100 to 150 min). Minor postoperative complications occurred in 15 patients. No postoperative complications related to the procedure, i.e., pancreatitis, bleeding, perforation, were encountered. Patients regained their bowel motion on the next day and were discharged after a mean hospital stay of 2.55 ± 0.89 days. None of the patients presented on the postoperative follow-up with symptoms, signs, laboratory or radiological evidence of retained CBDS. The mean duration of the postoperative follow-up was 9 ± 4.07 months (ranging from 3 to 14 months).

STEM CELL THERAPY IN LIVER DISEASE FACTS AND MYTHS

Author: Fathalla Sedki

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There are a lot of myths about stem cell research, the origin of the stem cells themselves, and the type of work that takes place. Experts agree that research on all types of stem cells is critical. In September 2008, a panel of experts convened by the U.S. National Academy of Sciences agreed that the use of human embryonic stem cells is still necessary. As the expert panel, chaired by Richard Hynes of the Massachusetts Institute of Technology stated "It is far from clear at this point which types of cell types will prove to be the most useful for regenerative medicine, and it is likely that each will have some utility."

TOWARDS RELIABLE AND RAPID BED-SIDE DIAGNOSIS OF SPONTANEOUS BACTERIAL PERITONITIS IN CIRRHOTIC PATIENTS: MULTICENTER STUDY

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Presenting Author: Gamal Kassem

Background/Aim: Spontaneous bacterial peritonitis is defined as an ascitic fluid infection without an evident intraabdominal surgically-treatable source. Spontaneous bacterial peritonitis is a common and potentially life-threatening complication in patients with cirrhosis. This prospective study was undertaken to evaluate the usefulness of leukocyte esterase reagent strips and ascitic fluid lactoferrin in the diagnosis of spontaneous bacterial peritonitis in cirrhotic patients with ascites.

Patients & Methods: A total of 168 patients with cirrhotic ascites were enrolled. Patients with spontaneous bacterial peritonitis and culture-negative neutrocytic ascites variant are considered positive as spontaneous bacterial peritonitis. Full history was taken, complete medical examination was done. All participants were subjected to full Laboratory investigations to assess spontaneous bacterial peritonitis. Paracentesis was done, and immediately after, fresh ascitic fluid specimen was collected and tested using a dipstick for granulocyte esterase designed for urine analysis. Quantitative measurements of ascitic fluid lactoferrin concentration were determined using a polyclonal antibody-based enzyme-linked immunosorbent assay specific for human lactoferrin.

Results: The addition of ascitic fluid lactoferrin levels to leukocyte esterase reagent strips yielded statistically significant effects upon the diagnostic accuracy compared to each test alone. Thus the combination of both tests yielded (considering ascitic fluid lactoferrin concentration ≥ 200 ng/mL and/or dipstick test $\geq 2+$) sensitivity, specificity, PPV and NPV of 91.84 %, 94.96 %, 88.24 %, and 96.58 %, respectively.

Conclusion: Combining both of ascitic fluid lactoferrin and leukocyte esterase reagent test strips were found to facilitate very rapid identification of patients with SBP. Specifically, these tests can be performed efficiently in order to speed up the bedside diagnostics of this clinical entity.

Key words: Spontaneous bacterial peritonitis, Leukocyte esterase reagent strips, Lactoferrin. **Abbreviations:** SBP, Spontaneous bacterial peritonitis

TRANSFUSION STRATEGIES FOR ACUTE UPPER GASTROINTESTINAL BLEEDING

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Presenting Author: Ahmed Aglan

The hemoglobin threshold for transfusion of red cells in patients with acute gastrointestinal bleeding is controversial. We compared the efficacy and safety of a restrictive transfusion strategy with those of a liberal transfusion strategy. As compared with a liberal transfusion strategy, a restrictive strategy significantly improved outcomes in patients with acute upper gastrointestinal bleeding.

UNUSUAL COMPLICATION OF METALLIC BILIARY STENTING

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Affiliation: Alexandria University

We report two cases of complicated percutaneous biliary stenting for malignant biliary obstruction. The first case was a case of pancreatic head cancer in a male patient aged 65 yr. in whom first trial for endoscopic stenting failed. The patient was referred with deep jaundice due to acute kink of the proximal end of the stent. The second case was a case of hilar bile duct obstruction by Klatskin tumor and 6 metallic stents were inserted for this patient. The radiologist was enthusiastic to stent all branches of hepatic ducts at the hilar region and the common duct, and despite these stents were not working.

USE OF ANTICYCLIC CITRULLINATED PEPTIDE ANTIBODIES TO DISTINGUISH HEPATITIS C VIRUS (HCV) – ASSOCIATED ARTHROPATHY FROM CONCOMITANT RHEUMATOID ARTHRITIS IN PATIENTS WITH CHRONIC HCV INFECTION

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Differentiating those patients whose symptoms are an extrahepatic manifestation of HCV from patients who have concomitant Rheumatoid arthritis (RA) is essential for appropriate management. *Objectives:* To investigate that Cyclic Citrullinated Peptide Antibodies (CCP antibodies), in contrast to Rheumatoid factor (RF), might be a candidate biomarker for concurrent Rheumatoid arthritis in chronic HCV patients. *Methods:* Fifty non arthritic patients with chronic viral hepatitis C were included. Testing for autoantibodies was performed using ELISA kits for IgG anti-CCP, IgG-RF and IgM-RF. *Results:* CCP antibodies were positive in only two patients (4%), whereas, RF was elevated in the serum of 60% of the patients. IgG-RF was detected more frequently (56%), followed by IgM-RF (30%). There was no statistically significant correlation between CCP antibody level and serum IgG-RF ($R^2 = 0.030$), or IgM-RF ($R^2 = 0.016$). *Conclusion:* Anti-CCP may be more useful than RF for the diagnosis or literally the exclusion of Rheumatoid arthritis in patients with chronic HCV infection.

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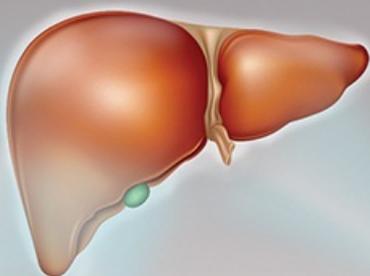
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Echinaceae 100 mg

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