1- Association of human leukocyte antigen class-I (HLA-A and HLA-B) with chronic hepatitis C virus infection in Egyptian patients

Abstract
Objective: To investigate the association between the frequencies of Human leukocyte antigen (HLA)-Class I (HLA-A, and HLA-B) and chronic hepatitis C virus infection in Egyptian patients and to find out whether there is a relation between certain HLA-Class I antigens and HCV viral load, Degree of fibrosis, activity and ALT level. Subject and Methods: A case control study was conducted on 100 chronic HCV patients and 150 healthy controls. HLA-A, and HLA-B typing by complement-dependent micro-lymphocytotoxicity assay was done for both groups. Result: HLA-A11 antigen was significantly increased in chronic HCV patients versus controls (OR 3.98; 95% CI = 1.85â€“8.89; p=0.001; and pc=0.021). HLA-B12, HLA-B13, HLA-B17, and HLA-B40 were higher in patients and HLA-A32, HLA-B14 were higher in controls. However, the significance was lost after correction for multiple testing and no other HLA-Class I antigens were associated with chronic HCV infection. HLA-A9 was significantly associated with low viral load (p=0.008, pc=0.048). Conclusion: The results of the present work implicate that HLA-A11 antigen may influence chronic HCV infection and may play a role in viral persistence. Different HLA-Class I antigens are not associated with degree of liver fibrosis, grades of activity, level of ALT, or HCV viral load. However, HLA-A9 is associated with low HCV viral load in chronic HCV Egyptian patients.

2- Insulin resistance, adipocytokines pattern and its relation to hepatic steatosis in patients with chronic HCV

Abstract: Insulin resistance (IR) is known to be associated with visceral obesity and promote liver fibrosis. The relationship between chronic hepatitis C infection (HCV) and IR is a matter of debate. This study aims to assess the relation of IR and adipocytokines profile to hepatic steatosis and grades of fibrosis in Egyptian patients with chronic HCV infection.

Patients and Methods:
The study included 70 chronic HCV infected patients (45 were obese) and 25 healthy subjects with matched age and sex as controls. All subjects were assessed clinically by calculation of BMI and measurement of waist circumference as an index of visceral obesity. Liver biopsy and histopathological grading were done for all patients. IR was measured by homeostasis model assessment (HOMA-IR). An index >2 was considered IR. Serum levels of adiponectin, leptin, and TNF-α were measured by ELISA.

Results: HOMA-IR index was elevated in 17/25 (68%) in lean group, 41/45 (91.11%) in obese patients. Changes in adipocytokines profile were encountered on comparison to control group in the form of decreased adiponectin level 5.844.53±1 ng/ml vs 13.681.24±1 ng/ml, p = 0.000, increased serum level of leptin 15.21±1.27±1/4iu/ml vs 4.85 1.02±1/4iu/ml, p 0.001 and TNF-α± was 6.652.01 ±1 ng/dl vs 2.800.39±1 ng/dl, p = 0.000. There was positive correlation between HOMA-IR index and increased BMI and visceral obesity as well as increased serum leptin and TNF-α± levels. Also, there was a significant association with grading of fibrosis, and activity. Only BMI, visceral obesity, serum leptin and TNF-α± levels were independently associated with increased HOMA-IR.
index. The stage of fibrosis could be predicted with 75% certainty in our population groups by using the equation including TNF-α±, PCR RNA HCV and HOMA-IR.

Conclusion: chronic HCV by itself was associated with IR which correlated to the level of viremia in lean patients, and presence of visceral obesity with subsequent adipocytokines profile changes pronounced these effects on IR.

3-

**Obesity biomarkers and Insulin resistance in patients with chronic hepatitis C, genotype 4: Effect of a non-pharmacologic weight reduction program**

Abstract:

Background and aim of the work: Metabolic steatosis that occurs in non-3 genotype HCV infection is associated with obesity and virus-induced insulin resistance. The aim of this study was to evaluate the clinical and biological effects of a non-pharmacologic weight reduction program in obese patients with chronic hepatitis C prior to initiation of antiviral therapy.

Material and methods: Fourty six patients with HCV genotype 4 infection associated with obesity versus 25 non-obese patients with HCV genotype 4 infection as a control group. All obese patients were subjected to a non-pharmacologic weight reduction program for a period of 12 weeks, a weight reduction of >5% was considered significant. All patients were subjected to thorough history taking, physical examination, routine laboratory investigations as well as tests for obesity and insulin resistance including serum leptin, adiponectin, TNF-α±, insulin and insulin resistance. Also, all patients were subjected to percutaneous liver biopsy to assess liver fibrosis, necro-inflammatory changes and hepatic steatosis.

Results: Hepatic steatosis was found in 5 patients (20%) of the control group (lean HCV) versus 21 patients (45.7%) in the obese group. Serum leptin was significantly higher (P< 0.05) in obese versus non-obese patients. In obese patients (n=46), serum leptin, adiponectin, TNF-α±, and IR were not significantly different in patients with (n=21) and without (n=25) hepatic steatosis. Weight reduction program led to significant reduction of body weight of > 5% over a period of 12 weeks. This reduction led to significant changes in serum leptin (P

Conclusion: Hepatic steatosis is common in obese HCV patients. Significant weight reduction is possible in spite of the common complaint of fatigue. This can lead to significant improvement in obesity biomarkers and insulin resistance which are related to hepatic steatosis in genotype 4 HCV infection.

4-

**The high prevalence of Listeria monocytogenes peritonitis in cirrhotic patients of an Egyptian Medical Center**

Background: Spontaneous bacterial peritonitis (SBP) is a potentially lethal complication of cirrhosis. It is probably the most characteristic infectious complication of cirrhosis.

Aim: The aim of this study was to evaluate the bacterial and fungal causes of SBP in Egyptian population. Furthermore to predict the occurrence of rare pathogen like Listeria monocytogenes in those patients.
Materials and methods: The study included 100 patients with end stage liver disease associated with ascites. Patients were suspected to have SBP. The ascitic fluids were subjected to full cytological and microbiological study.

Results: The peritoneal fluid cytological study revealed that 50 samples had cell counts >250 cells/mm³. 37 samples had growth and 13 samples had no growth (CNNA). The distribution of isolated pathogens was Gram positive cocci 48.8% followed by L. monocytogenes 24.4%, Gram negative bacilli 12.2% and Mycobacterium tuberculosis 7.3. The cells counts associated with listeria culture were 475 cells/mm³ with sensitivity 70% and specificity 68%.

Conclusion: The study highlights the prevalence of microorganisms in Egyptian patients with liver cirrhosis associated with ascites. It reflects the occurrence of L. monocytogenes as an important pathogen of such clinical situation. Other rare pathogens like M. tuberculosis are not uncommon in those patients.

Relevance of Serum Levels of Interleukine-6 and Syndecan-1 in Patients with Hepatocellular carcinoma

Abstract
Syndecan-1 is a trans-membrane heparan sulfate proteoglycan that localizes in epithelial cells and has been shown to be present in normal hepatocytes. It is thought to be involved in processes such as cell growth, differentiation and adhesion. However, the clinical data regarding syndecan-1 in patients with hepatocellular carcinoma (HCC) are scarce and controversial. Therefore, we need to evaluate the effects of HCC on the serum levels of syndecan-1. Thus, patients with HCC and 31 patients with liver cirrhosis were physically examined. Blood samples were taken for measurements of routine markers (sGPT, sGOT, bilirubin, albumin, and α-fetoprotein), as well as serum levels of interleukin (IL)-6 and syndecan-1. Patients with liver cirrhosis showed significant increase in serum IL-6 as compared with HCC patients and the control subjects. Serum level of syndecan-1 was significantly increased in HCC patients as compared with the cirrhotic and control groups. In addition, significant positive correlations between syndecan-1 and serum levels of ALT, AST in HCC patients were found. Moreover, syndecan-1 increased significantly with increasing stage of Barcelona-Clinic Liver Cancer Group diagnostic and treatment strategy. In conclusion, the development of HCC is accompanied by a significant elevation in serum syndecan-1 levels. The increase in serum syndecan-1 may be linked with progression of HCC.
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