Astudy of plasma osteopontis as blomarker for hepatocellular carcinoma

Rania Ahmed Mohamed El-hady

Hepatocellular carcinoma (HCC) is one of the most common malignancies worldwide and it is one of the major causes of death, because of its high frequency and poor prognosis. Hepatocellular carcinoma is now a rather common malignancy in Egypt which usually develops on top of liver cirrhosis secondary to viral infection that increasing the risk of HCC in the Egyptian patients.Osteopontin (OPN) is a glycoprotein secreted by activated macrophages, leukocytes, and activated T lymphocytes, it is overexpressed in a variety of human tumors, including carcinomas of stomach, breast, prostate, lung, colon, and liver.The aim of this study was to determine the plasma OPN levels in the patients with hepatocellular carcinoma (HCC) in comparison with its levels in the patients with chronic liver diseases (CLD) or healthy control, to detect its usefulness as a biomarker for hepatocellular carcinoma (HCC).The study was conducted on 80 subjects divided into three groups:Group I: It included 30 patients with hepatocellular carcinoma; 21 males and 9 females.Group II: It included 30 patients with chronic liver disease without HCC; 18 males and 12 females.Group III: 20 apparently healthy individuals served as control group; 10 males and 10 females.Patients were recruited amongst those attending the Tropical Medicine Department in Benha University Hospital.Our results revealed:- Patients of group I were within a mean of 54.27±6.47 years with 70% males and 30% females that equals a male: female ratio 2: 1.- There was significant deterioration in group I and group II patients as regarding of liver biochemical profiles. Significant increase in the serum levels of AST, ALT, alkaline phosphatase, PT & bilirubin & significant decrease in the serum levels of albumin & platelet count.- High anti HCV seropositivity (90%) was the main etiology of liver disease in group I.- 60% of group I had enlarged liver & 93.3% of them had liver cirrhosis. Most patients of group I have a single tumor in the right lobe of grade II histopathologically.- The sensitivity and specificity of AFP for selective detection of the HCC group over the non-HCC group (CLD group and healthy control group) were 86.7% and 62%, respectively, at a cut-off value of 7.29 ng/ml.- AFP showed positive significant correlation with ALT and negative significant correlation with number of platelets in CLD group.- The plasma OPN level was significantly higher in group I patients (with HCC), than in the group II patients and control group.- Osteopontin showed positive significant correlation with PT, INR, AST, ALT & Alk.phosphatase and there was negative significant correlation with platelets & PC% in HCC group.- There was no significant correlation between plasma OPN level and serum AFP level

in HCC patients.- This study showed that OPN levels in the HCC group were not affected by sex, HBsAg, HCV Abs & anti-bilharzial Abs while OPN levels were affected by the presence of cirrhosis.- The sensitivity and specificity of OPN for selective detection of the HCC group over the non-HCC group (CLD group and healthy control group) were 90% and 68%, respectively, at a cut-off value of 71.25 ng/ml.- The sensitivity and specificity of combined AFP & OPN were 100% and 70% respectively.CONCLUSIONPlasma OPN levels were significantly elevated in patients with HCC and mildly elevated in chronic liver disease group compared with the control group. This suggests that OPN might be considered as a marker for HCC.There was no significant correlation between plasma OPN level and serum AFP level in HCC patients, so plasma OPN levels might be helpful for the diagnosis of HCC in the patients with non diagnostic AFP level.