Study the impact of smoking on serum levels of osteopontin in patients with hepatitis C-related liver cirrhosis and its role in carcinogenesis

Magda Abd El-Ghany Megahed, Thoria M Dawood, Mohammed M Shamsia and Osama G B Abd El-Halim
Alexandria University, Egypt

Hepatitis C is a disease of significant global impact. The virus infects liver cells and can cause severe inflammation of the liver with long-term complications. Hepatocellular Carcinoma (HCC) is the most frequent primary malignancy of the liver. The pathogenesis of HCC is highly associated to chronic viral hepatitis. Smoking causes a variety of adverse effects on liver. Osteopontin (OPN) is a multifunctional glycoprotein identified as one of the leading genes associated with the metastasis of HCC. The study aimed at investigating the effect of heavy smoking on levels of osteopontin and its role in carcinogenesis in patients of hepatitis C. This study was conducted on 75 volunteers. The subjects were divided into four groups, the first group comprised of 15 normal healthy controls. The second was comprised of 10 HCV-negative heavy smokers, the third was comprised of 25 HCV positive cirrhotic nonsmokers (Child-Pugh Class A) and the fourth was comprised of 25 HCV positive cirrhotic smokers (Child-Pugh Class A). The current study revealed a statistically significant elevation of serum levels of osteopontin in hepatitis C-positive patients in comparison to hepatitis C-negative subjects (P<0.001). HCV-positive cirrhotic smokers were found to have significantly elevated levels of serum osteopontin in comparison to HCV-positive cirrhotic nonsmokers (P<0.004). The mean serum osteopontin level in hepatitis C-negative smokers is statistically significantly elevated in comparison to healthy control (p<0.005). It can be concluded that smoking increases levels of osteopontin in sera of hepatitis C-positive smokers in comparison to its levels in hepatitis C-positive nonsmokers.