

Serum osteopontin reflects the degree of liver fibrosis in patients with hepatitis C virus infection

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Abstract:

Background & Aims: Osteopontin (OPN) is a matricellular protein that upregulates during pathogenesis of hepatic fibrosis. The present study was aimed to evaluate whether serum OPN could be used as a biomarker to assess the degree of hepatic fibrosis in patients with hepatitis C virus (HCV) infection.

Methods: Needle biopsy was performed on HCV patients and scored as zero fibrosis (F0), mild fibrosis (F1), moderate fibrosis (F2), severe fibrosis (F3) and liver cirrhosis (F4) based on Masson's trichrome and α -smooth muscle actin (α -SMA) staining. Serum OPN levels were measured using ELISA and correlated with the degree of fibrosis. Furthermore, the OPN values were correlated and evaluated with platelets count, serum hyaluronic acid (HA), and collagen type IV and subjected to receiver operating characteristic (ROC) curve analysis.

Results: Serum OPN levels were remarkably increased from F0 through F4 in a progressive manner and the differences were significant ($P < 0.001$) between each group. The data were highly correlated with the degree of hepatic fibrosis. The ROC curve analysis depicted that serum OPN is an independent risk factor and an excellent biomarker and a prognostic index in HCV patients.

Conclusions: The results of the present study indicate that serum OPN levels reflect the degree of hepatic fibrosis and could be used as a biomarker to assess the grade of fibrosis in HCV patients which would help to reduce the number of liver biopsies. Furthermore, serum OPN serves as a prognostic index towards the progression of hepatic fibrosis to cirrhosis and hepatocellular carcinoma.