

COULD SERUM HYALURONIC ACID AND MATRIX METALLOPROTEINASE-2 PRECLUDE LIVER BIOPSY FOR ASSESSMENT OF HEPATIC FIBROSIS IN CHRONIC VIRAL HEPATITIS?

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Abstract

The present study has aimed at evaluation of serum hyaluronic acid (HA), and matrix metalloproteinase-2 (MMP-2), as a possible markers of liver fibrosis, and their association, if any, with other clinical parameters in patients with chronic viral hepatitis. The study included 60 patients with chronic viral hepatitis and 15 normal healthy subjects of matched age and sex as a control group. Detailed history taking, complete clinical examination as well as routine investigations including complete blood picture, liver function tests (serum albumin, bilirubin, AST, ALT, and prothrombin activity), serological tests for HBV, & HCV, serum creatinine, abdominal ultrasonography, and liver histology (so long as there was no contraindication, and after a written consent from those who accept the maneuver), in addition to serum hyaluronic acid (HA), and matrix metalloproteinase (MMP-2) were all undertaken. The study revealed that; both HA and MMP-2 levels were significantly higher in patients (non cirrhotic or cirrhotic) than the control ($P < 0.001$). Moreover, their levels exhibited a linear increase with the grade of liver inflammation from the minimal to the moderate grade ($P < 0.001$). Also, they showed a linear elevation with the progression of the stage of hepatic fibrosis ($P < 0.001$). Only serum MMP-2 levels were significantly elevated with the deterioration of the Child-Paugh class however, the differences between A&C and B&C were significant ($P = 0.004$, 0.001 respectively). Both HA and MMP-2 were positively correlated with each other and with serum bilirubin ($P < 0.001$). They were also negatively correlated with serum albumin ($P < 0.001$), prothrombin time ($P < 0.001$), and platelet count ($P < 0.001$). However, they were not

correlated with either SGOT or SGPT. It could be concluded that; serum HA and MMP-2 levels were found, not only to be elevated in chronic viral hepatitis than the control, but they became also markedly increased when cirrhosis supervenes. In addition, these markers exhibited a linear elevation with the progression of both the grade of inflammation and the stage of hepatic fibrosis. Thus, they might be considered as an alternative to liver biopsy for assessment of the extent of hepatic fibrosis especially if the biopsy is contraindicated.