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ASSESSMENT OF SERUM HYALURONIC ACID AND N-ACETYLGLUCOSAMINE LEVELS IN CHRONIC HEPATITIS C PATIENTS

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Abstract

Background and aim: *Knowledge of the stage of liver fibrosis is essential for prognosis and decisions on antiviral treatment. Liver biopsy is currently the gold standard in assessing the liver histology. There is an increasing desire for non-invasive tests to assess the stage of liver fibrosis or cirrhosis. Serum hyaluronic acid (SHA) and N-acetylglucosamine (NAG) could be a hope for clinicians to diagnose or exclude fibrosis and cirrhosis. Therefore, the present study was done to assess SHA and NAG levels in chronic hepatitis C (CHC) patients and to determine the cut off values of these markers to predict fibrosis or cirrhosis.* ***Subjects and Methods:*** *The present study was conducted on 89 subjects (20 controls and 69 CHC patients). The HCV infection was diagnosed based on positive HCV antibodies and positive HCV-RNA. Percutaneous–ultrasound-assisted liver biopsies were done for all patients and assessed by the METAVIR scoring system. According to the results of the liver biopsy, the patients were classified into 3 groups. Group I included 15 patients without fibrosis (F0). Group II included 35 patients with significant fibrosis (F1-F3). Group III included 19 patients with cirrhosis (F4). SHA levels were determined using enzyme-linked binding protein assay Kits and NAG levels were assayed by reverse phase-high performance liquid chromatography (RP-HPLC).* ***Results:*** *There were highly significant elevations of SHA and NAG in patient group when compared to the control group. Moreover levels of SHA and NAG increase with the extent of fibrosis. SHA with cut off value of less than 25 ng/ml was used to exclude fibrosis or cirrhosis with a sensitivity of 68% and specificity of 58%. SHA*

with cut off value of more than 200 ng/ml was used to detect significant fibrosis with sensitivity of 93% and specificity of 95%. SHA with cut off value of more than 350 ng/ml was used to detect cirrhosis with sensitivity of 92% and specificity of 100%. NAG with cut off value of less than 25 ng/ml was used to exclude fibrosis or cirrhosis with sensitivity of 60%, specificity of 55%. NAG with cut off value of more than 40 ng/ml was used to detect significant fibrosis with sensitivity of 90% and specificity of 92%. NAG with cut off value of more than 55 ng/ml was used to detect cirrhosis with sensitivity of 90% and specificity of 86%. SHA and NAG were correlated negatively with serum albumin, prothrombin concentrations and platelet count and positively with the degree of fibrosis. ***Conclusion:*** *Serum hyaluronic acid and N-acetylglucosamine are highly valuable and informative in detection of significant fibrosis and cirrhosis while they are of limited value in exclusion of minimal fibrosis.*