Chronic viral hepatitis C in pediatric age group; assessment of viral activity and hepatic fibrosis by H1 magnetic resonance spectroscopy and diffusion weighted imaging in asymptomatic patient

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Abstract:

Background: Chronic hepatitis C is the most common cause of chronic liver disease and cirrhosis. Egypt is the highest affected country with a prevalence of 22%. In children, seroprevalence of HCV is 0.2% in children less than 11 years of age and 0.4% in children equal and more than 11 years of age. Aim of the work: The purpose of this study was to assess the value of 1H MRS and DW-MRI as non invasive tool in evaluation of activity and fibrosis of hepatic parenchyma in asymptomatic children with chronic hepatitis C. Subjects and Methods: Across-section study was conducted over a period of two years, included thirty children of asymptomatic chronic hepatitis C virus infection (mean age ± SD 14.1±2.8 years) and twenty healthy children as controls were included. Abdominal ultrasonography, Percutaneous liver biopsy, MRS and DW-MRI were done to all cases. Results: The results showed HCV infection was more common in our males (83.3%). The results of METAVIR grades showed 29 cases (99.9%) had activity while 17 cases (56.4%) had fibrosis. The results of MRS& DW-MRI showed significant differences between cases and controls and positive correlations between the results of 1H MRS with the results of liver biopsy (METAVIR Grades and METAVIR Stages). Conclusion: Early diagnosis of asymptomatic chronic hepatitis C is essential to prevent or delay end stage chronic parenchymal liver disease. 1H MRS may be a potential non-invasive helpful diagnostic tool in assessment the staging and fibrosis of asymptomatic chronic hepatitis C. As the increased of its metabolites were correlated with histopathological changes. DW-MRI can be considered an effective predictor in assessment of activity in chronic hepatitis C.

Keywords: hepatitis C, children, MRS, DW- MRI, liver biopsy

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