Role of polymerase chain reaction and liver biopsy in the evaluation of patients with asymptomatic transaminitis: implications in diagnostic approach

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Abstract:

BACKGROUND AND AIM: Detection of an asymptomatic rise in the hepatic aminotransferase (ARHA) value has become a distinct and frequent clinical problem. We evaluated a three-step diagnostic algorithm in such patients for maximum yield. METHODS: Consecutive patients with an ARHA value 1.5-fold the upper limit of normal for at least 4 weeks and who were apparently healthy were included in the study. Each patient underwent standard biochemical investigations and a stepwise investigative protocol. In the first step, serological markers for hepatitis viruses, serum ferritin, 24-h urinary copper, alpha-1-antitrypsin phenotyping, and autoimmune markers were carried out. In step two, patients who tested negative for all the above markers had polymerase chain reaction (PCR) analysis for hepatitis B virus (HBV)-DNA and hepatitis C virus (HCV)-RNA. Patients without a diagnosis despite the above investigations underwent a liver biopsy as part of step three. RESULTS: Of 105 patients with ARHA, 38 were excluded for various reasons and 67 were included for the final analysis. The mean age was 35.11 +/- 11.96 years and 56 patients were men. The mean body mass index was 24.17 +/- 3.2 kg/m(2). The stepwise diagnostic algorithm achieved a diagnosis in 65/67 (97%) patients. Non-alcoholic steatohepatitis (NASH) and chronic viral hepatitis were the most common diagnoses, in 24 (36%) patients each. Using the diagnostic algorithm a diagnosis was reached in 34% of patients with only serological and biochemical investigations, whereas PCR for HBV and HCV could further detect the presence of active HBV or HCV viremia in 21% (14/97) and a liver biopsy was necessary to establish the diagnosis in 28/67 (42%) patients. CONCLUSIONS: A stepwise diagnostic algorithm in patients with ARHA resulted in an optimal use of PCR and invasive tests such as liver biopsy. Cryptic HBV and HCV infection was frequent among these patients and PCR was necessary in such cases. NASH and chronic viral hepatitis were the most frequent causes of ARHA.