

Molecular Prevalence and Clinical Importance of Torque Teno Virus Infection in Thalassemia Patients as High Risk Individuals

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ABSTRACT: Recently a novel DNA virus (Torque Teno Virus (TTV) has been identified in Japan and shown to be associated with elevated amino transferases levels after transfusion. However the exact role of TTV in pathogenesis of liver disease is yet to be established. The purpose of this study was to determine the prevalence of TTV in thalassemic patients and its relationship with elevated alanine-aminotransferase (ALT) and aspartate-aminotransferase (AST). This cross-sectional analysis study was conducted on 452 thalassemic patients. Serums were collected from all of the patients, first ALT and AST levels were determined. Then, after DNA extraction, TTV DNA was amplified and detected using semi-nested PCR, followed by gel electrophoresis. Demographic characteristics and clinical data were collected from each participant for statistical analysis. The findings showed that 160 of 452 (35.4%) samples had TTV DNA detected by PCR. From 160 TTV DNA positive, 98 (61.20%) were female and 62 (38.80%) of them were male (P=0.549). The mean ALT and AST values in TTV positive group were higher than in TTV negative group, and the difference was statistically significant (p<0.0001). The result showed that the prevalence of TTV in thalassemic patients in Jahrom is less than other studies in Iran and the mean ALT and AST values in TTV positive individuals were about 2 times more than in TTV negative individuals.

KEYWORDS: Transfusion Transmitted Virus (TTV); ALT; AST; Thalassemia; Jahrom