Genotypic Detection of Hepatitis C Infection Among Multi-transfused Thalassemic Patients In Erbil City by Using Real Time PCR.

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Abstract

Background: Thalassemia is one of the most common genetic diseases in the world. It is a major health problem, causing much morbidity. The prevalence of hepatitis C virus (HCV) among multi-transfused patients varies from one area to another and depends on the endemcity of viral hepatitis in different regions.

Objective: To investigate the prevalence of hepatitis C virus among patients with thalassemia major and to determine the most prevalent genotype for this virus.

Patients and Methods: This cross sectional- descriptive study was carried on all patients registered for central laboratory in Erbil City-Iraq during the period from September 2015 till September 2016, thus a total of 176 thalassemia patients were included. Hepatitis C virus infection was tested by using serum for HCV RNA detection by real time- polymerase chain reaction.

Results: Out of (176) patients with thalassemia 61 patients had positive result for HCV genotypes by RT-PCR and the most common of genotypes was detected including (gene-1a, gene-1b, gene-2, gene-3, gene-4, gene 1a,4, gene 1a,2,4, gene-1b,2 and gene 1b,4), the most prevalent gene in our study gene-3 was 20(32.8%) followed by gene-1a 16(26.2%) and then gene 1b,4 and gene-4 (6%, 6%, 9.8%) respectively. There is difference between male and female patients according to HCV genotype in which the most common genotypes that appear among male patients was gene-3 13(37.4%), gene-1a 7(20%) and gene 1b, 4 was 5(14.3%) respectively. While among female patients the most common type of gene was gene-1a 9(34.6%) and gene-3 7(26.9%) although there is no significant differences between sex (male and female) according to HCV genotype (P-value = 0.063).

Conclusion: Geographical distribution of various genotypes of HCV is useful for understanding the epidemiological status, detection of mode and source of infection. Preservation of screening and development and update of its laboratory methods seems to be the sole beneficial decision. PCR technique is essential to detect and treat active infection.

Key words: Hepatitis C virus, beta thalassemia, blood transfusions, blood, real time PCR.

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