

PREVALENCE OF HEPATITIS C VIRUS GENOTYPES AND VIRAL LOAD ISOLATED FROM IRAQI PATIENTS BY REVERSE TRANSCRIPTION-PCR

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ABSTRACT

Hepatitis C virus (HCV), the major causative agent of parenterally transmitted non-A, non-B hepatitis, belongs to the Flaviviridae family. The genome of HCV is a single-stranded RNA with positive polarity, considerable genetic heterogeneity has been reported among isolates. HCV's genome sequence is highly variable worldwide; Six major genotypes (1 to 6) have been identified, some of which contain several subtypes referred to as a, b, c, etc, which are approximately 80 subtypes have been recognized. The study was conducted in Basrah General Hospital and Middle East Private Laboratory Center in Basrah Governorate. The study is cross-sectional study and conducted in the period of May 2015 to January 2016. Samples were collected from 131 patients attending Basrah General Hospital and Middle East Private Laboratory Center, (total cases are 258, we exclude 127 patients because missing data and enrolled 131 patients included in this study) serological test done for all patients for the detection of anti-Hepatitis C virus antibody generation 3, by Enzyme Linked ImmunoAssay (ELISA). All ELISA positive samples were tested individually for the HCV viral load by Real time PCR, using patient plasma, then RNA extraction done by QIAamp viral RNA Mini kit then amplification done by using qiagen artus HCV –RG –RT –PCR kit which run on Q6000 rotozen according to manufacturer protocol the samples that contain viral load (5×10^3 – 8×10^8) were further tested for HCV genotyping by using (Nuclear Laser Medicine HCV Rt-PCR 2.0 kit). This study that enrolled 131 HCV patients, 63 males and 68 females and their age range from 3 to 65 years old, mean age: 27.4 ± 17 SD years with male to female ratio 0.92:1. HCV genotype that increasing frequency of genotype 1a in male in studied patients 32 65.3% (24.4% of total cases) as compared to other genotypes which are statistically significant $p = 0.047$. The distribution of HCV genotype among Iraqi patients in our study that genotype in following frequencies 1a 49 (37.4%), 1b 17 (13%), 2a 2 (1.5%), 3a 7 (5.3%), 4a 25 (19.1%) and 4c 31 (23.7%). Awareness seminars regarding the risk factor of HCV infection transmission should be regularly arranged and discovery of new vaccines by scientists is of utmost importance to overcome this disease. The highest viral load in age between 21- 40 years old patients. So Monthly blood tests should be necessary for the diagnosis and monitor the progression of HCV.

KEYWORDS: Basrah General Hospital and Middle East Private Laboratory Center, Progression of HCV

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