

The Association between Interleukin-28B Gene Single Nucleotide Polymorphism (rs8099917) and the Response to Pegylated Interferon and Ribavirin Combined Therapy in Egyptian Patients Chronically Infected with Hepatitis C Virus

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Egypt has the highest prevalence of Hepatitis C virus (HCV) infection in the world, estimated nationally to infect 14.7% of the population. The standard of care treatment consists of a pegylated interferon (PEG IFN) and ribavirin (RBV) combination. It is valuable to predict an individual's response to peg-IFN/RBV before their use in treatment to avoid side effects, to choose the appropriate treatment for the appropriate patient as well as to reduce the treatment cost. Single nucleotide polymorphisms (SNPs) near the interferon-lambda3-encoding IL28B gene may affect sustained viral response. The present work aimed at studying the association between the interleukin 28-B T/G single nucleotide polymorphism (rs8099917) and early virological response to combined peg-IFN/RBV therapy. Ninety nine chronic HCV Egyptian patients receiving combined peg-IFN/RBV were included and subdivided into forty nine patients proved to be responders and fifty patients proved to be non-responders based on their early virological response. Genotyping of interleukin 28B single nucleotide gene polymorphism rs8099917 was done using allelic discrimination Real -Time PCR with dual labeled fluorogenic TaqMan minor groove binder probes. Non-responders had a significant higher frequency of the homo-mutant genotype GG than responders, a higher hetero-mutant genotype "TG" than responders and a lower Homo-wild genotype "TT" than responders ($p=0.01842$). This resulted in an overall Odds ratio of 2.048 (95% CI: 1.067 to 3.929). From these results it could be concluded that the mutant allele "G" of the rs8099917 SNP of IL28B was associated with a statistically significant increased risk of non-response to peg-IFN/RBV therapy among the studied Egyptian CHC patients.

Biography

Salwa Hamdi Gomaa has completed her PhD at the age of 35 years from Medical Research Institute, Alexandria University. She is an Assistant Professor of Clinical chemistry in Medical Research Institute. She has published about 9 papers in reputed journals and has been serving as an online reviewer for Annals of the Rheumatic Diseases journal.

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