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Role of IL10 and IL28B in the genetic susceptibility of HCV in Punjab, Pakistan

Rubi G and Aslamkhan M
Aga Khan University Hospital, Pakistan

Objective: To determine the role of interleukin genes in genetic susceptibility HCV in Punjab, Pakistan.

Introduction and Rational: Interleukin genes have important role in the genetic susceptibility of HCV gene as it is critical according to the host of patients of HCV as it depends on genetic variation to predict the kind of interferon treatment, response to treatment and spontaneous clearance of viral load. Interleukin gene polymorphism has respective contribution of direct HCV treatment by interferon. Various studies have been done in relation to IL10 and IL28b for interferon treatment or mixed therapy to clear the virus, rather creating non-responders and relapser in this society.

Methodology: This study was undertaken to find out the role of IL10 and IL28b gene polymorphism in the genetic susceptibility of HCV of the Punjab population. The hospital samples of chronic HCV patients consist of 249 patients, who undertook the treatment of standard therapy of Interferon/Ribavirin. Thus the samples were divisible into three groups of patients, i.e.: Responder, who responds to the therapy, and cured; Relapser, who relapsed after successful therapy while; Non-responder, the group of patients who did not show positive response to therapy.

Results: We found that HCV genotype 3a is very common (84.0%) among responder group while genotype 1a is more common in relapse (66.2%) and non-responder (54.0%) groups. Thus the genotypes of HCV play important roles relating to disease progress, prognosis and treatment. Human genetic susceptibility to HCV genotypes appears to be of great importance in getting the infection as revealed by the analyses of different ethnic / isonym groups of the Punjab. Five out of the Six main genotypes, namely, 1a (61.40 %), 2a (0.50 %), 2b (20.00 %), 3a (13.70 %). Gene-polymorphism for the variation of genotypes in IL-10 and IL-28B genes was studied to find the genetic susceptibility among various groups. A total of six SNPs have been found, which are as follows: In IL-10, SNP at 1082 position, AA (14.5 %), GA (80.30 %) and GG (5.20 %); SNP at 819, AA (3.2%), AC (84.7 %) and CC (12.0 %); and SNP at 592 position, AA (6.0 %), CA (69.9 %) and CC (24.1 %). CA was in high frequency than CC and AA homologous gene polymorphism. In IL-28B SNP at location a, GG (4.8%), TG (40.6%), TT (54.6%); SNP at location b, CC (34.9%), CT (58.2%), TT (6.8%) and CC (40.2%), CT (43.8%), TT (16.1%) was found. Frequency of TT homologous high at one position, CT heterozygous polymorphism was frequent at second and third position.

Conclusion: The study suggests that IL-10 and IL-28B interleukin genes, which are common in Pakistani population, of Punjab. It is recommended to do these two interleukin tests before HCV therapy to get the target therapy. A cohort study should be done in detail for better understanding of human susceptibility to HCV infection and its management.

rubi.ghazala@aku.edu

Incidence of human rabies exposure and associated factors at Gondar health center, Ethiopia: A three-years retrospective study

Meseret Yibrah Yeebio
University of Gondar, Ethiopia

This study involves incidence rate, exposure and associated factors of human rabies at Gondar health center which is in Gondar city of Ethiopia. A retrospective cross-sectional study was used to assess incidence, exposure and associated factors at the Gondar health center where post-exposure prophylaxis (PEP) for rabies was available for the whole population in the north Gondar zone catchment area. The literature for this study was collected from different sources including PubMed. The abstract of the article is translated into six official working languages of the United Nations. This study built understanding for the consideration of the disease since this disease was neglected over decades and opens door for more research regarding rabies.

mesiilonely27@yahoo.com