

Interleukin-28 Polymorphism: Ethnic variations and the response to chronic hepatitis C treatment in Malaysia

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We refer to the article by Merican, which provides a comprehensive overview of chronic hepatitis C (CHC) management.¹ The author highlighted the concern over the exorbitant cost of direct-acting antivirals, which is the reason for their limited use in Malaysia currently. Based on the findings of the previous studies, the author also underlined that Asians receiving the conventional, interferon-based treatment generally have a higher sustained virological response (SVR) rate as compared with Caucasians and African Americans, mainly due to the interleukin-28B (IL28) single nucleotide polymorphism (SNP) across different ethnic populations. Nonetheless, to date, information on the variations in IL-28 genotypes among different ethnic groups in Malaysia is still limited.

Hence, we would like to add to the existing knowledge by sharing the findings of a retrospective cohort study involving 96 CHC patients, who received their treatment (peginterferon alfa and ribavirin) in 2013 at the Sultanah Bahiyah Hospital, Alor Setar. Patients with genotype-1 (n=30) and genotype-3 (n=66) hepatitis C virus (HCV) infections were, respectively, treated for 24 and 48 weeks. After 24 weeks of treatment completion, blood samples were collected from all the patients to determine the SVR, and to identify their IL-28 (rs12979860) genotypes using the methods and instruments as described in a similar study.² The associations between IL-28 genotypes (CC and non-CC) and both ethnicity (Malay, Chinese and Indian) and SVR were confirmed using the Pearson's chi-square tests.

The patients were mainly male (68.8%), with a mean age of 48.3±11.8 years. The majority of them were Malay (59.4%), followed by Chinese (32.3%) and Indian (8.3%). In total, 72 (75%) patients were identified to have the CC genotype at the

IL-28 polymorphic site. It is noteworthy that sociodemographic and baseline characteristics of the patients, including age, gender, body mass index, risk factors of CHC, genotypes of HCV, viral load, alanine aminotransferase level and fibrosis score, did not vary significantly by IL-28 genotypes (p>0.05). However, interestingly, a higher proportion of the Chinese (87.1%) and Malay (73.7%) patients were found to have the CC genotype, as compared with the Indian patients, 62.5% of whom had the non-CC genotypes (p=0.016). Similar with the estimation of McDonald et al.,³ the SVR rates for genotype-1 and genotype-3 HCV infections found in this study were, respectively, 53.3% and 68.2%. Additionally, despite the HCV genotypes, the patients with the CC genotype were confirmed to have a higher SVR rate compared with those with the non-CC genotypes (70.8% versus 41.7%; p=0.010).

Overall, the findings reaffirm the role of the IL-28 SNP in influencing the responses to interferon-based treatment. Besides, the information on variations in IL-28 genotypes across different ethnic groups could also be helpful in predicting responses to the interferon-based treatment among the CHC patients in Malaysia.

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