

**A preliminary study on the association between pro-inflammatory cytokine IL-1 $\beta$  polymorphisms and susceptibility to hepatitis C infection in Malay male Malay drug abusers**

**ABSTRACT**

Introduction: Hepatitis C virus (HCV) infection frequently leads to liver complications, such as fibrosis, cirrhosis, and hepatocellular carcinoma. The incidence of HCV infection transmission among drug abusers is concerning. Interleukin-1 $\beta$  (IL-1 $\beta$ ) is a pro-inflammatory cytokine secreted during innate and adaptive immune responses and plays a pivotal role in chronic inflammatory diseases. Functional single nucleotide polymorphisms in IL-1 $\beta$  cause it to play different roles in disease susceptibility and progression. This study aimed to investigate the association between genetic polymorphisms of pro-inflammatory cytokines (IL-1 $\beta$ ) and HCV infection susceptibility in Malay male drug abusers. Methods: In total, 48 male Malay drug abusers were included in this retrospective case-control study. Genomic DNA was extracted from whole blood samples and analyzed using polymerase chain reaction-restriction fragment length polymorphism (PCR-RFLP) for the IL1 $\beta$  rs16944 and rs1143634 polymorphisms. Results: Analysis of IL-1 $\beta$  rs1143634 revealed that the C/C genotype was common in both the case and control groups; however, no statistical significance was observed ( $p = 0.068$ ,  $\chi^2 = 3.755$ ). Genotyping of IL-1 $\beta$  demonstrated that all samples were of the homozygous mutant type (T/T). Conclusion: There was no association between IL-1 $\beta$  polymorphism (rs1143634 and rs16944) and hepatitis C infection susceptibility among Malay male drug abusers.