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INTERLEUKIN-28B (IL-28B) AND INTERFERON-GAMMA (IFN-Y) LEVELS IN PATIENTS WITH CHRONIC HEPATITIS C VIRAL (HCV) INFECTION

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Hepatitis C viral infection (HCV) is a serious liver disease that presents a major health problem worldwide and is endemic in Egypt. Egypt has the highest prevalence of HCV in the world with an infection rate of one in five individuals. HCV infection in Egypt is usually associated with *Schistosoma mansoni* infection, another endemic liver disease in Egypt. Interleukin-28B (IL-28B) and interferon-gamma (IFN-γ) are two immunological cytokines associated with both diseases. The aim of the present study is to investigate the behaviour and relationship between IL-28B and endogenous IFN-γ in untreated patients with HCV mono- or co-infection with *S. mansoni*. Serum levels of IFN-γ and IL-28B were measured by ELISA in three groups: 50 untreated patients with chronic HCV infection (group I), 22 untreated patients with chronic HCV co-infected with *S. mansoni* (group II), and 35 apparently healthy control subjects (group III). All patients were confirmed for HCV-RNA positivity, with viral load quantitated by Real-Time PCR. Routine liver function tests were performed for all groups, and diagnosis of *S. mansoni* infection was based on rectal snip and seropositivity for antischistosomal antibody by indirect haemagglutination technique. We found that serum total protein and albumin were lower in mono- and co-infected patients than in control groups ($p<0.01$), and lower in co-infection than in mono-infection. AST, ALT, and γ-GT were higher in co-infection than in mono-infection, and AST/ALT ratio>1 ($p<0.0001$). IFN-γ and IL-28B showed parallel relationship with viral load in mono- and co-infected groups ($p<0.001$).IFN-γ and IL-28B were higher in mono- and co-infected groups compared to controls ($p<0.0001$), but only IL-28B was higher in co-infected group compared to mono-infected group. Correlation analysis showed that IFN-γ and IL-28B were positively correlated in mono-infection ($r = 0.95$, $p<0.0001$) and co-infection ($r=0.87$, $p<0.0001$). In conclusion, the present data suggests a strong positive correlation between IFN-γ and IL-28B in patients infected with chronic HCV either alone or co-infected with *S. mansoni*. Also, both cytokines are found to be associated with HCV viral load either in HCV mono-infection or co-infection with *S.mansoni.*

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