

Summary and Conclusion

Hepatitis C virus is the predominant discriminated agent of non-A, non-B hepatitis worldwide. It cause mild inapparent infection which progress to chronicity in the majority of cases.

The virus is transmissible via blood transfusion as well as parenteral routes. The healthy carrier state may be exist, as there are HCV RNA positive individuals with normal liver function and minimal intrahepatic changes.

There is now an evidence that the screening of blood for HCV antibody lower the prevalence rate of HCV infection. Polymerase chain region PCR is sensitive and reliable method for detecting HCV RNA, specially during the early seronegative period. Genotyping and subtyping may play a rule in evaluation of the clinical prognosis for long term patient management and in the future will help in the vaccination technology for prophylaxis.

Therefore, this study was carried out to correlate between positive HCV antibody among apparently healthy Egyptian individuals, the presence of HCV RNA, the level of ALT and AST. We tried to identify the predominant HCV genotypes and also, the presence of HCV and HBV dual infection.

This study was comprised 201 apparently healthy individuals who were choosen randomly from Egyptian population applying to the Central Blood Bank in Mansoura for the health certificates to work abroad.

They were 34 females and 167 males and all of them were adults. Venous blood samples were collected from them sera were, separated, tested for HCV antibody, HBsAg. Schistosoma antibodies, AST and ALT

levels. Also, all the studied individuals were subjected to history taking including the most common risk factors for HCV infection.

All 57 cases positive for HCV antibody as well as 18 randomly selected cases of those who were negative HCV antibody, were tested for HCV RNA, by PCR technique.

Twenty sera of positive HCV RNA cases, randomly selected, were subjected to HCV genotyping and subtyping by INNO LiPA HCV II.

In this study, it was found that the prevalence of HCV antibody, by second generation of ELISA, was 28.4%, HBsAg was 4%, but non of them had both HCV antibody and HBsAg.

No significant differences were detected as regard sex, residence, site of practising shaving for males, history of interventions during labour for females, or history of blood transfusion, between positive and negative HCV antibody as well as HCV RNA cases.

There were statistically, significant differences between positive and negative HCV antibody, also, between positive and negative HCV RNA for the old age group, those who had history of Schistosomiasis, those who had history of using glass syringes and those who had history of dental manoeuvres so, these situations can be considered as the most important risk factors for HCV infection.

The prevalence of positive HCV antibody and positive HCV RNA were higher in those cases who had elevated and double elevated AST levels, but this was not statistically significant. There was statistically significant difference as regard elevated ALT level between positive and negative HCV antibody, as well as positive and negative HCV RNA.

Also, individuals with elevated both AST and ALT had higher prevalence rate of positive both antibody and HCV RNA, than those who

had either elevated AST ALT or who had normal level of both enzymes and this was statistically significant .

The prevalence of HCV antibody and HCV RNA were high among those who were positive for Schistosoma antibodies, by IHA test, but this was statistically insignificant.

The prevalence rate of positive HCV RNA by RT PCR among the studied group were 40%. The HCV RNA positive percentage among the positive HCV antibody individuals were 49.1% and among the negative HCV antibody individuals were 11.1%.

The sensitivity and specificity of ELISA (second generation) if compared with PCR were 93.3%, and 35.6% respectively.

The predominant genotypes within the studied group were genotype 4, different genotype 4 subtypes, and mixed type 4a with type 1 a.

From this study we concluded that:

- The prevalence of HCV antibody was 28.4% by using (ELISA-2).
- The prevalence of HBsAg were 4%, so that the prevalence of HBV infection is much lower than that of HCV infection .
- There was no dual infection of HBV and HCV among the studied group.
- Age, history of Schistosomiasis, history of using glass syringes , and history of dental manoeuvres were important risk factors for HCV infection.
- HCV RNA were 40% among the studied group with percentage 49.1% out of positive HCV antibody and 11.1% out of negative HCV antibody.
- 93.3% of positive HCV RNA were positive for HCV antibody and 6.7% were negative for HCV antibody.

Summary & Conclusion

- Sensitivity of ELISA was 93.3% but specificity was 35.6% .
- The prevalence of HCV antibody as well as HCV RNA was significantly higher in cases of elevated ALT level and elevated both AST and ALT together.
- The most prevalent genotype was type 4, type 4 with its subtypes then mixed type 4a with type 1a