Summary

Hepatitis is an inflammation of the liver that can be caused by viruses, chemicals, drugs, alcohol, inherited diseases or the patient's own immune system.

This inflammation can be acute, flaring up and then resolving within a few weeks to months, or chronic, enduring over many years.

Chronic hepatitis may simmer for 20 years or more before causing significant symptoms related to progressive liver damage such as cirrhosis, liver cancer or death.

Hepatitis B is a leading cause of chronic hepatitis, cirrhosis, and hepatocellular carcinoma, accounting for 1 million deaths annually.

In rapid succession, discoveries from around the world enhanced our understanding of the complexity of this unusual virus. Although there has not yet been a substantial decrease in the overall prevalence of infection, the next generation should see a decline in both the worldwide carrier rate and the incidence of new HBV infections.

Most HBV infections in developed countries result from sexual activity, injection-drug use, or occupational exposure. Other, less frequent causes of infection include household contact, hemodialysis, transmission from a surgeon and receipt of organs or blood products. No clear risk factors are found in 20 to 30 percent of patients.

Because HBV is present in serum in large quantities (10^8 to 10^{10} virions per milliliter), it is not surprising that HBV can also be detected in semen, saliva, cervical secretions, and leukocytes. Respiratory, water-borne, or insect-related infections have not been documented.

The present work aimed to determine the relation between the hepatitis markers and the HBV-DNA PCR and the most common hepatitis B genotype in Egypt.

The study was conducted on 70 cases with hepatits B they were selected from Cairo Lab. all with HBs-Ag positive.

All patients were subjected to the following:

- Full history taking and clinical examination.
- Abdominal sonography
- Routine laboratory investigations as AST , ALT , Bilirubin , GGt , albumin , TP and alkaline phosphatase by using Hitachi 912
- Serological markers (HBe-Ag, HBe-Ab, HBc-IgG) by using ELISA technique.
- HBV- DNA PCR by real time.
- HBV-DNA genotyping.

In our study there is a highly significant statistical inverse correlation between hepatitis Be antigen (HBeAg) with hepatitis Be antibody (HBeAb). (P. Value <0.01).

There is no significant statistically correlation between hepatitis Be antibody (HBeAb) with ALT (Alanine Transaminase) and AST (Aspartate transaminase). (P. Value >0.05).

There was highly significant correlation between ALT (Alanine Transaminase) with HBV-DNA PCR. (P. Value <0.01).

There was highly significant correlation between AST (Aspartate transaminase) with HBV-DNA PCR. (P. Value <0.01).

There was highly significant correlation between hepatitis Be antigen (HBe-Ag) with HBV-DNA PCR. (P. Value <0.01).

Also highly significant inverse correlation between hepatitis antibody (HBe-Ab) with HBV-DNA PCR. (P. Value <0.009).

There is no correlation between hepatitis B surface antigen (HBsAg) with HBV-DNA PCR.

Also no correlation between hepatitis B core antibody (HBCAb) with HBV-DNA PCR.

Genotype D appears to predominate in the Mediterranean basin and the Middle East, and this is consistent with Egypt's geographical location in the world.

Conclusion:

The genotyping of HBV is important to clarify the route and pathogenesis of the virus. In particular, the examination of sequence diversity among different isolates of the virus is important, because variants may differ in their patterns of serologic reactivity, pathogenicity, virulence, and response to therapy.