Long Term Inhibition of Hepatitis B Virus reactivation by Antiviral therapy in immunosuppressed Patients

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ALP: Alkaline phosphatase.

ALT: Alanine amino transferase.

Anti- HAV: Antibody to hepatitis A virus**.**

Anti- HBV: Antibody to hepatitis B virus.

Anti- HCV: Antibody to hepatitis C virus.

Anti- HDV: Antibody to hepatitis D virus.

Anti- HEV: Antibody to hepatitis E virus.

Anti-HBc: Antibody to hepatitis B core antigen**.**

Anti-HBe: Antibody to hepatitis B envelope antigen**.**

Anti-HBs: Antibody to hepatitis B surface antigen.

AST: Aspatate aminotransferase.

bp: Base Pair**.**

CAH: Chronic Active Hepatitis.

CccDNA: Covalently closed circular DNA.

CHB: Chronic Hepatitis B**.**

ELISA: Enzyme linkage immuno sorbent assay.

GGT: Gamma glutamyl transferase.

HAV: Hepatitis A Virus.

HAV-Ag: Hepatitis A virus antigen.

HBeAg: Hepatitis B envelop antigen**.**

HBV: Hepatitis B virus.

HCC: Hepato Cellular Carcinoma.

HCV: Hepatitis C virus.

HDV: Hepatitis D virus.

HEV: Hepatitis E virus.

HFV: Hepatitis F virus.

HGV: Hepatitis G virus.

HIV: Human immunodeficiency virus.

IHAB: Immune Heam Agglutination for bilharzias.

HBSAG: HEPATITIS B SURFACE ANTIGEN.

HBEAB: TOTAL ANTIBODIES TO HEPATITIS E ANTIGEN.

HBSAB: HEPATITIS B SURFACE ANTIBODIES.

PCR: POLY CHAIN REACTION.

CK: CREATININKINASE CATALYZES

BMT: Bone Marrow Transplantation

NSAID: Non-Steroidal-anti-inflammatory

ABSTRACT

In Order to evaluate the long term effect of antiviral lamivudine therapy on HBV reactivation in pateints with malignancies and receiving immunocompromising therapies, thirty seven HBsAg positive children and adolescents undergoing immunosuppressive, treatment were treated with lamivudine 3 mg/kg body weight (Up to 100 mg) daily over a period of up to 87 months during which biochemical, serological and virological response was followed periodically. The result demonstrated a significant decrease in the mean AST (216.2 IU/L to 82.7 IU/L) and ALT (233.2 IU/L to 91.3 IU/L) within the first 6 months of treatment with lamivudine. At the end of the study period, HBsAg positivity decreased to 70.3. HBsAb increased to 16.2% by the end of the study compared to 5.4% at baseline. HBeAg decreased from 70.3% at baseline to 29.7% at the end of the study. HBeAb increased from 10.8% at baseline to 35.1% at the end of study. HBcAg & HBV-DNA incidence at base line was 86.5% and 75.7% respectively .All pateints became HBV-DNA negative during the study; however seven pateints became HBV-DNA again indicating resistance to lamivudine.

AIM OF WORK

Administration of immunosuppressive treatment in hepatitis B virus carriers with malignancies is associated with risk hepatitis B reactivation.

The aim of the work is evaluation of long term effect of antiviral therapy (Lamivudine) on chemotherapy – induced HBV reactivation.

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بسم الله الرحمن الرحيم

" قالوا سبحانك لا علم لنا الا ما علمتنا انك أنت العليم الحكيم"

صدق الله العظيم

سورة البقرة، الآية32

1-Introduction

1.1.Viral Hepatitis

Many viruses can affect liver function and morphology indirectly, such as Epstein-Barr virus, cytomegalovirus, rubella, adenoviruses, yellow fever virus… **(WHO, 1973).** However, " viral hepatitis" is a general term that is reserved for infection of the liver caused by one of at least eight human viral agents that have been discovered and characterized (Table 1) **(Levine *et al.*, 1999; Dusheika, 1990; Hollinger, 1996).** These viruses are named A through G, and possess distinctive immunoserologic characteristics.

Table 1: Human Hepatitis Viruse A-E and G (Levine *et al.*, 1999)

Name of Virus (Abbreviation)	Viral Genome	Mode of Transmission	Diagnostic Tests
Heapatiotis A (HAV)	7.5 kb single strand RNA	Enteric (fecal/oral)	ALT, antibodies to HAV
Hepatitis B (HBV)	3.2 double stranded DNA	Parenteral or percutaneous	ALT, HBV antiges, antibodies to HBV, HBV DNA
Hepatitis C (HCV)	9.5 kb single stranded RNA	Parenteral or percutaneous	ALT, antibodies to HCV, HCV RNA
Hepatitis D	1.7 kb single-	Parenteral or percutaneous	Antibodies to HDV, HDAg,