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LIST OF APPREVIATION

ALT	Alanine aminotransferase
anti HBc	Antibody Hepatitis B core Antigen
anti-HBe	Antibody to HB e Antigen
anti HBs	Antibody to HB Surface Antigen
ATP	Adenosine triphosphate
CAH	Chronic active hepatitis
CPH	Chronic persistent hepatitis
DNA	Deoxyribonucleic acid
DNA-P	DNA Polymerase
DDT	Dichloro diphenyl trichloroethane
DDB	Dimethyl Dimethyoxyl Biphenyl Dicarboxylate
EIA	Enzyme immunoassay
ELISA	Enzyme Linked Immunosorbent Assay
EPI	Extended program of immunization
FIFRA	Federal Insecticide, Fungicide and Rodenticide Act
HAV	Hepatitis A Virus
HBcAg	Hepatitis B Core Antigen
HBeAg	Hepatitis B e Antigen
HBsAg	Hepatitis B Surface Antigen
HBV	Hepatitis B Virus
HCV	Hepatitis C Virus
HEV	Hepatitis E Virus
HIV	Human Immunodefeciency virus
HSM	Hepatosplenomegaly
IFN	Interferon
Ig	Immunoglobulin
Kb	Kilo base
NsS	Non-structural S
NTE	Neurotoxic esterase enzyme
PCR	Polymerized Chain Reaction

RIBA	Recombinant immunoblotting assay
RNA	Ribonucleic acid
RT-PCR	Reverse transcription polymerase chain reaction
SGPT	Serum glutamate pyruvate transaminase
SOD	Superoxide Dismutase
U/S	Ultrasound.
WHO	World Health Organization

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INTRODUCTION

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The liver is the target organ of many occupational and environmental agents and plays a central role in their detoxification as well as the elimination of many toxic chemicals and/or their metabolites **(Plaa and Hewitt , 1992).**

Viral hepatitis is a systemic disease primarily involving the liver. Most cases of acute viral hepatitis in children and adults are caused by one of the following agents: hepatitis A virus, hepatitis B virus, hepatitis C virus, hepatitis D virus & hepatitis E virus **(Brooks et al., 1998)** .

Hepatitis B and C are common infection world wide and may give rise to hepatic cellular carcinoma, which is one of the most common cancers, and progress to cirrhosis even after a long symptomless coarse **(Akimkin et al., 1997)** .

Although the prevalence of HCV infection in Egypt is high yet , little is known about the risk factors, the pathogenicity and the virology features of HCV **(Angelico et al., 1997)** .

Acute and chronic HBV infection is a leading cause of liver diseases world wide **(Machoney, 1999)** .

Humans are exposed to pesticides in a variety of occupational settings including agriculture, structural pest control , public health pest eradication programs, manufacture and formulators

transportation industries (Sckenker et al., 1993).

The severity of any adverse effects from exposure to pesticides depends on the dose, the route of exposure, absorption of pesticides, the types of effects of the pesticides , its metabolites , its accumulation and persistence in the body. The toxic effects also depend on the health status of the individual. Malnutrition and dehydration are likely to increase sensitivity to pesticides (WHO, 1990) .

Health profiles for 300 pesticide formulators and 300 pesticide applicators revealed that the frequency of carrier state of hepatitis (HbsAg) was 7.4% confirmed by measuring chromosomal aberrations among formulators and applicators and proved to be more twice those of controls (Amr, 1999).

Pesticides exposure may play a greater role in suspected fragile immune system, and may result in altered disease susceptibility. Immune dysfunction is related to dose and duration of pesticide exposure (Banerjee et al ., 1996) .

A previous study was done three years ago on 389 subjects in a chemical factory for pesticide formulators, it revealed that there was a significant seroprevalenace of HCV & HBV among studied workers as well as significant elevation of ALT enzymes among both seropostive and seronegative HCV & HBV .

AIM OF THE WORK