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بسم اللّه الرحمن الرحيم

مركز الشبكات وتكنولوجيا المعلومات

قسم التوثيق الإلكتروني

Salwa Akl

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم باللّه العظيم أن المادة التي تم توثيقها وتسجيلها

علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

Salwa Akl

بعض الوثائق الأصلية تالفة
وبالرسالة صفحات لم ترد بالأصل

EVALUATION OF α - GLUTATHIONE S TRANSFERASE AS A MARKER OF HEPATOCELLULAR DAMAGE IN PATIENTS WITH CHRONIC HEPATITIS C

Thesis
SUBMITTED FOR PARTIAL FULFILLMENT OF MASTER DEGREE IN CLINICAL AND CHEMICAL PATHOLOGY

BY

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LIST OF ABBREVIATIONS

ALT	Alanine aminotransferase
ALB	Albumin
AST	Aspartate aminotransferase
ALP	Alkaline phosphatase
CAH	Chronic active hepatitis
bDNA	Branched deoxy ribonucleic acid
cDNA	Complementary deoxy ribonucleic acid
CMV	Cytomegalovirus
CPH	Chronic persistent hepatitis
Dbil	Direct bilirubin
DCNB	3,4-dichloro-nitrobenzene
DEAE	Diethyl amino ethyl
dL	Deciliter
DNA	Deoxy ribonucleic acid
EBV	Ebestein Barr virus
EIA	Enzyme immunoassay
FIB	Fibrosis
g	Gram
GGT	γ Glutamyltransferase
GST	Glutathione S transferase
HAV	Hepatitis A virus
HBV	Hepatitis B virus
HBsAg	Hepatitis B surface antigen
HBcAg	Hepatitis B core antigen
HCV	Hepatitis C virus
HGV	Hepatitis G virus

HIV	Human immunodeficiency virus
IgG	Immunoglobulin G
IgM	Immunoglobulin M
IU	International unit
Kd	Kilo dalton
LN	Lobular necrosis
mg	Milligram
m.w.	Molecular weight
NANBH	Non-A Non-B hepatitis
ORF	Open reading frame
PCR	Polymerase chain reaction
PN	Piecemeal necrosis
PI	Portal inflammation
RNA	Ribonucleic acid
RIA	Radioimmunoassay
RIBA	Recombinant immunoblot assay
RT-PCR	Reverse transcription polymerase chain reaction
SH	Sulfhydryl
SOD	Superoxide dismutase
T-F	Total score without fibrosis
TS	Total score
TP	Total protein
Tbil	Total bilirubin

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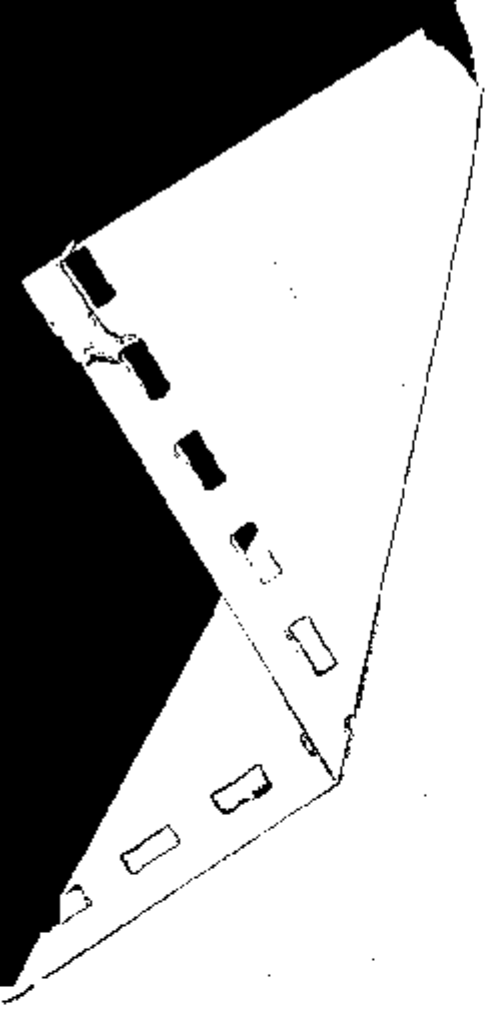

INTRODUCTION

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Hepatitis C is a form of slowly progressive, silent and often asymptomatic hepatocellular damage. Transaminases are useful markers for measuring such damage in most cases, but not in mild cases as their activities lag behind changes in hepatocellular integrity because of their relatively long half life. {*Lau et al 1993*}

Moreover transaminases are located in periportal hepatocytes so their activities do not increase in mild liver damage. Thus was the need to get a better and more accurate marker than transaminases, also due to the wide fluctuation of their activity and the presence of significant histological changes in patients with normal concentration of transaminases. { *Tiainen et al 1994*}

Glutathione S-transferases (GST, EC 2.5.1.18) are a family of enzymes that catalyze the conjugation of glutathione with toxic hydrophobic molecules . α glutathione S-transferase (α GST) the basic human class of the enzyme also referred to as ligandin has a molecular weight of 50 KD, short half life of < 90 min. and present in high concentration in the cytosol of both periportal and centrilobular hepatocytes. {*Hiley et al 1988*}

α Glutathione S-transferase is uniformly distributed in hepatic tissue , thus elevated in both centrilobular and periportal liver damage , while ALT is elevated mainly with periportal damage. In addition α glutathione S-transferase has a shorter half life, low M.W, and high cytosolic concentration, so it is rapidly detected following hepatocellular

damage. Due to these properties α glutathione S-transferaseh will provide more accurate and early measure of hepatocellular damage. {*Nelson et al 1995*}

An enzyme immunoassay has been recently developed, and α GST has been proposed as a better and more sensitive index of hepatocellular injury than transaminases. { *Ray et al 1995*}

The importance of α GST was proved in several clinical settings such as halothane hepatotoxicity , birth asphyxia, autoimmune chronic hepatitis and paracetamol poisoning. Further more it was reported that α GST in combination with ALT may improve the biochemical assessment of hepatocellular damage in chronic hepatitis C patients.

{ *Vaubourdolle et al 1995* }

AIM OF THE WORK

AIM OF THE WORK

The aim of our study is to evaluate Alpha glutathione S-tranferase (α–GST) as a marker of hepatocellular damage in chronic hepatitis C patients and compare it to the healthy control group to assess the clinical importance of α-GST in monitoring the disease activity in these patients.

other liver function tests namely ALT & AST