

شبكة المعلومات الجامعية







شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها على هذه الأفلام قد أعدت دون أية تغيرات



يجب أن

تحفظ هذه الأفلام بعيدا عن الغبار في درجة حرارة من ١٥-٥٠ مئوية ورطوبة نسبية من ٢٠-٠٠% To be Kept away from Dust in Dry Cool place of 15-25- c and relative humidity 20-40%



بعض الوثائـــق الإصليــة تالفــة



بالرسالة صفحات لم ترد بالإصل

α - GLUTATHIONE -S- TRANSFERASE IN CHRONIC HEPATITIS C PATIENTS.

2442A

THESIS SUBMITTED FOR

THE PARTIAL FULFILMENT OF THE M.Sc.

DEGREE IN BIOCHEMISTRY

BY
EHAB LOTFY GEORGE
B.Sc., CHEMISTRY 1994

CHEMISTRY DEPARTMENT FACULTY OF SCIENCE CAIRO UNIVERSITY

Approval Sheet for submission

Title of the M. Sc. Thesis: Alpha Glutathione-S-Transferase in Chronic Hepatitis C.

Name of the candidate: Ehab Lotfy George.

This Thesis have been approved for submission by the supervisors:

1. Prof. Dr. Mona Salem

Signature:

2. Prof. Dr. Victorin Bishara

Signature: Victorine Bishara

3. Dr. Ahmed El Sayed El Taweil

Signature:

Prof. Dr. Sadek El Sayed Abdou

Chairman of Chemistry department

Faculty of science - Cairo University

ABSTRACT

Name

: Ehab Lotfy George.

Title of the Thesis: Alpha Glutathione -S- Transferase in Chronic Hepatitis C patients.

Degree

: M. Sc. of Science Thesis, Faculty of Science, Cairo University (2001).

This work has been carried out to investigate the serum level of alpha glutathione -Stransferase in chronic hepatitis C virus.

: Hepatitis C virus-; alpha glutathione-S-transferase; gamma-Key words glutamyl transferase; aminotransferase enzymes.

Supervisors:

Prof. Dr. Mona Salem.

Victoria Beshera Prof. Dr. Victorin Beshara. 2.

Dr. Ahmed El Sayed El Taweil 3.

Prof. Dr. Sadek Pl Sayed Abdou

Chairman of Chemistry department

Faculty of science - Cairo University

ACKNOWLEDGMENT

Before and above all, thanks God whose magnificent help was the main factor in accomplishing this work.

I would like to express my deepest gratitude to Prof. Dr. Mona Salem Khalil, professor of clinical chemistry, Faculty of Medicine, Cairo University for her supervision and gratitude to her concrete help and cooperation through out this work. I would like to record her generosity, wisdom and creativity that have meant much to me. As through her continuous supervision that work was produced.

This work has been carried out under the supervision of Prof. Dr. Victorin Beshara, professor of organic chemistry, Faculty of science, Cairo University. I wish to thank her for all the time she devoted for reading and correcting the manuscript. Her advice and support are deeply appreciated without her valuable supervision, this work, would not come to light. Her valuable encouragement and support were very helpful to complete this work in time.

I wish to express my grateful thanks to Dr. Ahmed El-Sayed El-Taweil, lecturer of clinical chemistry, Faculty of Medicine, Cairo University. I deeply appreciate his patience and repeated revision of every item of this work. I specially thank him, his effort and guidance for the fulfillment of the practical part of this work. I would like to record his genius style of work as a teacher.

Lastly I would present this work to the spirit of my father, my mother and my fiancé Margo as by their love, support and encouragement this work was done. I express my grateful thanks to all my colleagues and to every person who helped me.

Beside the work carried out in this thesis, the candidate had passed postgraduate studies for partial fulfillment of M. Sc. degree in the following topics:

Tissue culture

Body fluids

Biological analysis

Enzymology

Spectroscopy

Biochemistry

Molecular Biology

Stereochemistry

Statistics

Toxicology

Cytology

Immunology

Radiation

Immunochemistry

Applied Microbiology

Animal Physiology

Microbiology

Prof. Dr. Sadek El Sayed Abdou

Chairman of Chemistry department

Faculty of science - Cairo University

Contents

1.	Aim of the work1		
2.	Review of literature		
Λ.	Chapter I		
	- Hepatitis C virus3		
	- Quasispecies nature of HCV genome6		
	- Genotypes of HCV7		
	- Epidemiology of HCV8		
	- Modes of transmission HCV10		
	- Pathogenesis of HCV infection		
	- Clinical features of hepatitis C infection		
	- Serological immunodiagnosis23		
	- Distribution of HCV RNA in whole blood and blood cell fractions27		
B. Chapter II			
	- Glutathione -S- transferase29		
	- Sites and distribution33		
	- Functions and mechanism of actions		
	- Methods of determination of α- GST38		
	- α - GST and liver diseases43		
	Disadventages of known liver function tests		
	- η GST in liver diseases		

C.	Relation between α-GST and chronic hepatitis C patients	54
3.	Materials and methods	58
4.	Statistical analysis	67
5.	Results	79
6.	Discussion	92
7.	conclusion	96
8.	Summary	97
9.	References	99
10.	Arabic summary	139

Abbreviations List

α- GST Alpha Glutathione -S- Transferase

ALP Alkaline Phosphatase

ALT Alanine Aminotransferase

AST Aspartate Aminotransferase

CDC Center for Disease Control

cDNA Complementary Deoxyribonucleic Acid

CTLS Cytotoxic T Lymphocytes

DIP Defective interfering particles

DGKC Deutsch Gesellschat Für Klinish Chemie

EIA Enzyme Immunoassay

ELISA Enzyme - Linked Immunosorbent Assays

EST Expressed Sequence Tag

GGT Gamma Glytamyl Transferase

GSA Gel Shift Analysis

GSCC German Society For Clinical Chemistry

HBV Hepatitis B Virus

HCC Hepatocellular Carcinoma

HCV Hepatitis C Virus

HELLP Syndrome Syndrome of Hemolysis, Elevated Liver enzymes and Low Platelets

HIV Human Immunodefficiency Virus

HLA Human Leukocyte Antigen

HPLC High Performance Liquid Chromatography

HVR - I Hypervariable Region - I

IEP Iso Electric Point

IFCC International Federation of clinical chemistry

IFN- α Interferon - Alpha

IRES Internal Ribosome Entry Site

LDH Lactate Dehydrogenase

MDH Malate Dehydrogenase

NANBH Non A Non B Hepatitis

NIH National Institute of Health

OLT Orthotopic Liver Transplantation

ORF Open Reading Frame

PBLS Peripheral Blood Lymphocytes

PBMC Peripheral Blood Mononuclear Cells

PCR Polymerase Chain Reaction

RIA Radio Immunoassay

RIBA Recombinant Immunoblot Assay

RNA Ribonucleic Acid

SCE Scandinavian Committee on Enzyme

SDS - PGAGE Sodium Dodecyl Sulphate Polyacrlyamide Gel Electrophoresis

SSCP Single – Standard Conformational Polymorphism

STS Sequence Tagged Site

TAH - C Transfusion – Associated Hepatitis C

TGGE Temperature Gradient Gel Electrophoresis

TP Total Protein

UTR Untranslated Region

List of tables

No.	Title	Page
Table [1]	clinical data of control group as regard to different parameters.	81
Table [2]	clinical data of patients group as regard to different parameters.	82
Table [3]	Comparison between the two groups under study, as regards to AST, ALTand α-GST.	83
Table [4]	Comparison between the two groups under study, as regards to globulin, albumin and A/G.	84
Table [5]	Comparison between the two groups under study, as regards to bilirubin, ALP and GGT.	85
Table [6]	Correlation of studied parameters in control group	86
Table [7]	Correlation of studied parameters in patients of chronic of HCV.	87