

بسم الله الرحمن الرحيم



HOSSAM MAGHRABY



شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



HOSSAM MAGHRABY

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

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



يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار



HOSSAM MAGHRABY



بعض الوثائق الأصلية تالفة



HOSSAM MAGHRABY



بالرسالة صفحات

لم ترد بالأصل



HOSSAM MAGHRABY

B14VII

DETERMINATION OF TRIGLYCERIDE CONTENT IN SOME LIPOPROTEIN FRACTIONS IN PATIENTS WITH CORONARY ATHEROSCLEROSIS

THESIS

*Submitted to The Medical research Institute in partial fulfillment
of the requirements for the
Master Degree
in
Chemical Pathology*

By

Ragaa Abdel Kader Ramadan

M.B.B.Ch., University of Alexandria, 1999

**Department of Chemical Pathology
Medical Research Institute
Alexandria University**

تمت صياغة هذا البحث في
190
مكتبة
2005
مكتبة
مكتبة

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

"قَالُوا سُبْحَانَكَ لَا عِلْمَ لَنَا إِلَّا مَا عَلَّمْتَنَا

إِنَّكَ أَنْتَ الْعَلِيمُ الْحَكِيمُ"

صَدَقَ اللَّهُ الْعَظِيمُ

SUPERVISORS

Prof. Dr. Ahmad Mohamad Zaki

Professor of Chemical Pathology
Medical Research Institute
Alexandria University

Dr. Omar Ismaeil El-Bahi

Assistant Professor of Cardiology and Angiology
Medical Research Institute
Alexandria University

**Dr. Gehan Mahmoud Hamdy
Magour**

Lecturer of Chemical Pathology
Medical Research Institute
Alexandria University

To My Parents
And
My Lovely Daughter
Noury

Acknowledgement

Thanks to God all mighty for the help and endurance offered to me to accomplish this work.

I would like to express my profound gratitude to Prof. Dr. Ahmad Mohamad Zaki, professor of Chemical Pathology, Medical Research Institute, University of Alexandria, for his valuable advice, guidance, constructive criticism, also for the invaluable assistance and persistent encouragement in the supervision of this study. I can hardly express my thanks for all what he has done for me. It is an honor to be supervised by him.

My sincere appreciation is especially expressed to Dr. Gehan Mahmoud Hamdy Magour, Lecturer of Chemical Pathology, Medical Research Institute, Alexandria University, for her precious advice, indispensable help, experience and valuable support which made her supervision a great pleasure to me.

My everlasting thanks to Dr.Omar Ismaeil El-Bahai, assistant professor of Cardiology and angiology, Medical Research Institute, Alexandria University, for his enormous efforts and precious cooperation.

Special thanks to Dr. Moyassar Ahmad Zaki, Lecturer of Chemical Pathology, for his great help and advice in this thesis.

I also owe special thanks to my brothers who faithfully supported me throughout this work.

Thanks to all staff members and personnel of the Chemical Pathology Department whose efforts were important in completion of this study.

CONTENTS

<i>Chapter</i>	<i>Page</i>
I. <i>Introduction</i>	1
1. <i>Lipids</i>	1
2. <i>Atherosclerosis</i>	28
II. <i>Aim of the work</i>	34
III. <i>Subjects and Methods</i>	35
IV. <i>Results</i>	45
V. <i>Discussion</i>	69
VI. <i>Summary and conclusions</i>	83
VII. <i>Recommendations</i>	86
VIII. <i>References</i>	87
<i>Protocol</i>	
<i>Arabic Summary</i>	

List of Abbreviations

Δ A/min	: Change in absorbance per minute
ACAT	: Acyl cholesterol acyl transferase
ALP	: Atherogenic lipoprotein phenotype
apo	: apolipoprotein
BMI	: Body mass index
CETP	: Cholesterol ester transfer protein
CHD	: Coronary heart disease
CIMT	: Carotid intima media thickness
CM	: Chylomicrons
CRP	: C reactive protein
ECG	: Electrocardiogram
EL	: Endothelial lipase
E-LDL	: Enzymatically altered low density lipoprotein
FSG	: Fasting serum glucose
HDL	: High density lipoproteins
HF	: Heart failure
HL	: Hepatic lipase
HMG-CoA reductase	: 3-hydroxy-3-methylglutaryl coenzyme A reductase
HSPG	: Heparan Sulfate proteoglycan
HTG	: Hypertriglyceridemia
IHD	: Ischemic heart disease
KDa	: Kilo Dalton
LCAT	: Lecithin cholesterol acyl transferase
LDL	: Low density lipoproteins
LDLR	: Low density lipoprotein receptor
LRP	: LDL receptor related protein
Lp(a)	: Lipoprotein (a)

LPL	: Lipoprotein lipase
LTIP	: Lipid transfer inhibitor protein
LVH	: Left ventricular hypertrophy
mm LDL	: Minimally modified low density lipoprotein
MTP	: Microsomal triglyceride transfer protein
NCEP-ATPIII	: The National Cholesterol Education Program Adult Treatment Panel III
nd HDL	: Nascent discoidal high density lipoprotein
ox-LDL	: Oxidized low density lipoprotein
PLTP	: Phospholipid transfer protein
PPh₂	: Post prandial serum glucose after 2 hours
r.p.m	: Run per minute
RCT	: Reverse cholesterol transport
rER	: Rough endoplasmic reticulum
S	: Standard
SD	: Standard deviation
sER	: Smooth endoplasmic reticulum
SR-B1	: Scavenger receptor class B-1
T	: Test
TG	: Triglycerides / Triacylglycerols
TRL	: Triglyceride-rich lipoproteins
VLDL	: Very low density lipoproteins
VSMCs	: Vascular smooth muscle cells

List of figures

<i>Figure</i>		<i>Page</i>
1	<i>Generalized structure of a plasma lipoprotein</i>	3
2a	<i>Biosynthesis of triglycerides</i>	7
2b	<i>Biosynthesis of triglycerides</i>	8
3	<i>The formation and secretion of (A) chylomicrons by an intestinal Cell and (B) very low density lipoproteins by a hepatic cell.</i>	13
4	<i>Metabolic fate of Chylomicrons</i>	15
5	<i>Metabolic fate of Very low density lipoproteins</i>	18
6	<i>Low density lipoprotein receptor pathway</i>	21
7	<i>HDL Reverse cholesterol transport pathway</i>	24