Lipoprotein modulators relevant to certain cardiovascular risk factors in diabetes mellitus and hyperlipidaemia

By

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A thesis submitted in the fulfillment of the requirements for the award of the degree of Doctor of Philosophy

(Biochemistry)

Faculty of Pharmacy
Zagazig University
2008

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بيِّنْ إِنْ الْخَرِّ الْخَرِيْ

قال تعالى

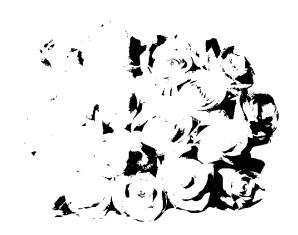
(وَقُلْ اعْمَلُوا فَسَيَرَى اللَّهُ عَمَلَكُمْ وَرَسُولُهُ وَالْمُؤْمِنُونَ وَسَتُرَدُّونَ إِلَى عَالِمِ الْغَيْبِ وَالشَّهَادَةِ فَيُنَبِّئُكُمْ بِمَا كُنتُمْ تَعْمَلُونَ)

(التوبة-١٠٥)

DEDICATION

I wish to dedicate this thesis to

- The soul of my mother.
- My father who has supported me all the way since the beginning of my studies
- Also, this thesis is dedicated to my husband who has been a great source of motivation and inspiration.
- My brother Ahmad and my sister Salwa, who believed in me and my ability to achieve my ambitions.



Nahla Younis

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ACKNOWLEDGEMENTS

I would like to formally thank the following people for their role in making this study possible:

Professor Mohamed M El-Seweidy: Professor of Biochemistry, Zagazig University for his kind supervision and support since I started my postgraduate studies.

Professor Paul N Durrington Professor of medicine, Manchester University for his valuable supervision, guidance and discussions throughout my years in Manchester.

Dr Sousou I Ali Professor of Biochemistry, Zagazig University for her supervision, valuable advice and encouragement during the progress of this work

Dr Valentine Charlton-Menys, Research Fellow, Clinical and Laboratory Sciences, Manchester University for his expert practical supervision and sincere effort to facilitate the difficulties during the progress of that work.

Phillip Pemberton, clinical research, Manchester Royal Infirmary for his kind assistance in setting and development of the apoB ELISA method used in that study.

Dr Handrean Soran, consultant in the Manchester Royal Infirmary, for his appreciated contributions in the recruitment of patients and volunteers.

People from the lipoprotein research group Jelena Chobatova, Jesica Knox and Ashley Moorhouse for their kind help in processing samples by auto-analyzer.

Of course, I'll not forget the **Egyptian government** that sponsored this work financially (one of The Egyptian Ministry of Higher Education Channel mission schemes granted to faculty of Pharmacy, Zagazig University).

LIST OF ABBREVIATIONS

AGEs Advanced glycation end products

ApoA-I Apolipoprotein A-I
ApoB100 Apolipoprotein B100
ApoE Apolipoprotein E
BCA Bicinchoninic acid
BMI Body mass index

BSA Bovine serum albumin
CE Cholesterol esters

CETP Cholesteryl ester transfer protein

CHD Coronary heart disease

DM-LLT Type 2 diabetes patients who were receiving lipid lowering treatment

DM-noLLT Type2 diabetes patients who were not receiving lipid lowering treatment

DPBS Dulbeccos phosphate buffered saline

EDTA Ethylenediamine tertracetic acid

ELISA Enzyme-linked immunosorbant assay

ER Endoplasmic reticulum

FCS Foetal calf serum

FH Familial hypercholesterolaemia

GA Glycolaldehyde

GDM Gestational diabetes mellitus
GlycLDL Glycated low density lipoproteins

HDL High density lipoproteins

HDL-C HDL-cholesterol

HL Hyperlipoproteinaemia

HL-LLT Hyperlipidaemic patients who were receiving lipid lowering treatment
HL-noLLT Hyperlipidaemic patients who were not receiving lipid lowering treatment

IDL Intermediate density lipoproteinsLCAT Lecithin-cholesterol acyl transferase

LDL Low density lipoproteins LDL1, 2 LDL subclasses 1 and 2

LDL-3 LDL subclass 3
LDL-C LDL-cholesterol
LDL-R LDL- receptors

LPDS Lipoprotein deficient serum

LPL Lipoprotein lipase

LPO Lipid peroxidation/peroxides

M Mean

MG Methylglyoxal

MODY Maturity-onset diabetes in young
MTP Microsomal transfer protein

NAD⁺ Nicotinamide adenine dinucleotide NADH Nicotinamide adenine dinucleotide-H

NEAA Non-essential amino acids NEFA Non-esterified fatty acids

Ox-LDL Oxidized LDL

PBS Phosphate-buffered saline

PKC Protein kinase C

PMA Phorbol 12-myristate 13- acetate

PON-1 Paraoxonase-1

PVD Peripheral vascular disease

REM Relative electrophoretic mobility

SEM Standard error of mean

t.LDL Total LDL
TG Triglyceride

TNBS Trinitrobenzenesulphonic acid TNF- α Tumour necrosis factor-alpha

TNP Trinitrophenyl

VLDL Very low density lipoproteins

ω-3 PUFA Omega-3 polyunsaturated fatty acids

WHO World health organisation

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