

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

قسم

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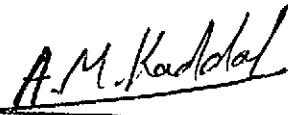
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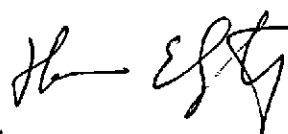
**ASSESSMENT OF SOME TRACE ELEMENTS IN
EGYPTIAN MEN WITH ANGIOGRAPHICALLY
DEFINED CORONARY ATHEROSCLEROSIS**

**THESIS SUBMITTED BY
Nazek Kamel Aly Safan
FOR FULFILLMENT OF PH.D. DEGREE**

UNDER SUPERVISION OF

Dr. Ahmed Mohamed Kaddah 
Prof. of Chemistry
Faculty of Science - Ain Shams University

Dr. Nashwa Ahmed Adel El-Badawi 
Ass. Prof. of Clinical and Chemical Pathology
Faculty of Medicine - Ain Shams University

Dr. Hossam El-Din M. El-Ghetany 
Assist. Prof. of Cardiology
Faculty of Medicine - Ain Shams University

**Institute of Environmental studied and Research
Ain Shams University
1999**

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Approval Sheet

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BY
NAZEK KAMEL ALY SAFAN

THIS THESIS FOR PH.D DEGREE IN ENVIRONMENTAL
SCIENCES HAS BEEN APPROVED BY :

Dr . Ahmed Mohammed Kaddah

Prof. Of Chemistry – Faculty of Science
– Ain Shams University .

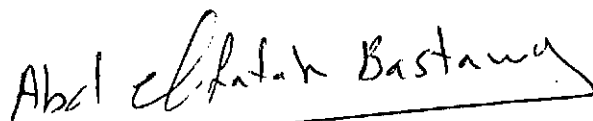


Dr. Nashwa Ahmed Adel El-Badawi

Nashwa El Badawi

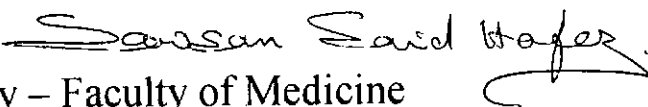
Ass. Prof. Of Clinical Pathology – Faculty of Medicine
– Ain Shams University .

Dr. Abd-Elfathah Bastawy Farag



Prof. Of Chemistry – Faculty Of Science
– Helwan University .

Dr. Sawsan Said Hafez



Prof. Of Clinical Pathology – Faculty of Medicine
– Ain Shams University .

ABSTRACT

Coronary heart disease is the leading cause of death in most industrialized countries and its importance as a major public health problem is increasing in developing countries. The aim of this study was to investigate the possible relationship between various trace elements concentrations and lipid profile (as a major risk factor) as well as cardiac enzymes. Seventy five adult male patients suffering from chest pain undergoing coronary angiography. Their ages ranged from 35-60 years. The parameters assessed were copper, zinc, magnesium, ferritin, selenium, lipid profile and cardiac enzymes. Obtained data revealed highly significant decrease in zinc, magnesium and zinc/copper ratio and a non-statistically significant difference was observed in the mean level of copper, selenium and ferritin in patients groups when compared to normal control. Correlation study between lipid profile and the trace elements revealed a significant positive correlation with zinc and magnesium and a significant negative correlation with copper. Furthermore, cardiac enzymes studies revealed a significant negative correlation with zinc, magnesium and selenium, while a positive correlation was shown with copper. ANOVA test revealed a highly significant F-ratio in zinc/copper ratio followed by triglycerides, cholesterol and LDL-C in discriminating patients with coronary artery disease.

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LIST OF ABBREVIATIONS

4-AAP	:	4-aminoantipyrine
AAS	:	Atomic absorption spectrometry
ADP	:	Adenosine diphosphate
ALP	:	Alkaline phosphatase
ALT	:	Alanine transaminase
ANOVA	:	Analysis of variance
AST	:	Aspartate transaminase
ASV	:	Anodic stripping voltametry
ATP	:	Adenosine triphosphate
BCP	:	Bromocresol purple
BUN	:	Blood urea nitrogen
CAD	:	Coronary artery disease
CE	:	Cholesterol esterase
CHD	:	Coronary heart disease
CK	:	Creatine kinase
CO	:	Cholesterol oxidase
Cu	:	Copper
CX	:	Circumflex artery
DNA	:	Deoxyribonucleic acid
ECG	:	Electrocardiogram
EIA	:	Enzyme immunoassay
ES	:	Emission spectrometry
ETS	:	Environmental tobacco smoke
G ₁ PDH	:	Glycerol-1 phosphate dehydrogenase
G ₆ PDH	:	Glucose-6-phosphate dehydrogenase
GK	:	Glycerol kinase
HDL-C	:	High density lipoprotein cholesterol
HK	:	Hexokinase
HPLC	:	High performance liquid chromatography
ICPES	:	Inductively coupled plasma emission spectroscopy
IDDM	:	Insulin-dependent diabetes mellitus
IDL	:	Intermediate density lipoproteins
IM	:	Intramuscular
IMT	:	Intima-media thickness
LAD	:	Left anterior descending artery

LCAT	:	Lecithin cholesterol acetyltransferase
LDH	:	Lactate dehydrogenase
LDL-C	:	Low density lipoprotein cholesterol
Lp(a)	:	Lipoprotein (a)
LPL	:	Lipoprotein lipase
Mg	:	Magnesium
MS	:	Mass spectrometry
NAA	:	Neutron activation analysis
NAD	:	Nicotinamide adenine dinucleotide
NADH	:	Reduced nicotinamide adenine dinucleotide
NCEP	:	National Cholesterol Education Program
NIDDM	:	Non-insulin dependent diabetes mellitus
PAI-1	:	Plasminogen activator inhibitor-1
PICA	:	Percutaneous transluminal coronary angioplasty
RCA	:	Right coronary artery
REM	:	Rapid eye movement
RIA	:	Radioimmunoassay
RID	:	Radial immunodiffusion
RNA	:	Ribonucleic acid
SDIHD	:	Sudden death ischemic heart disease
Sel	:	Selenium
S _F	:	Svedberg flotation index
VLDL	:	Very low density lipoproteins
XRF	:	X-ray fluorescence spectrometry
Zn	:	Zinc

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