TRACE ELEMENTS AND PSYCHOLOGICAL SEQUELAE IN RENAL DISORDERS

Thesis

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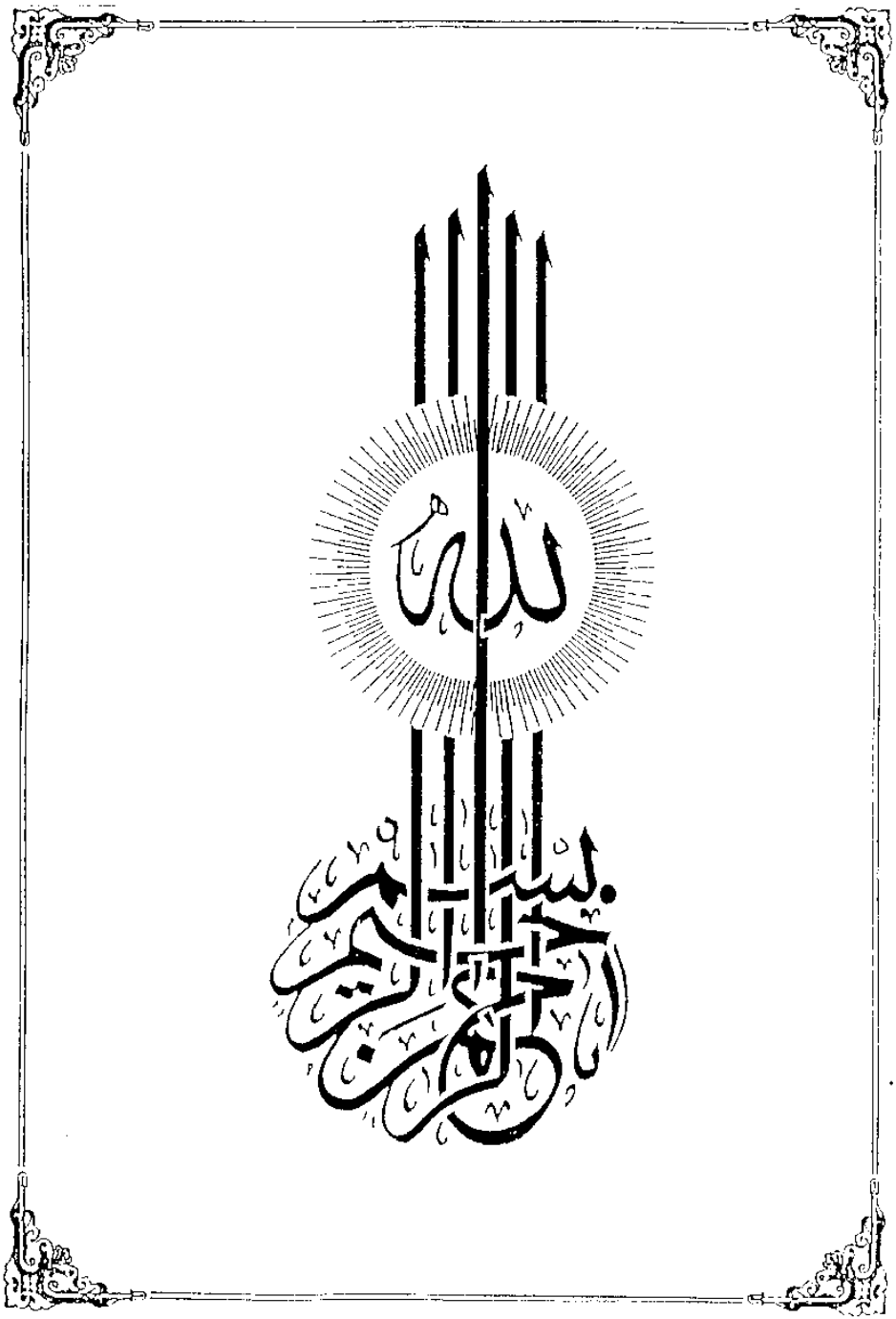

DEDICATION

TO MY BELOVED FAMILY

ACKNOWLEDGMENT

First of all thanks to **"GOD"**

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(The Candidate)

CONTENTS

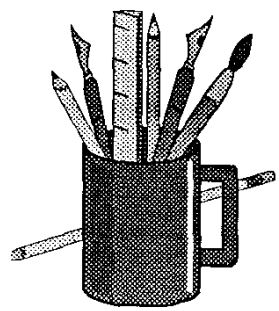
LIST OF ABBREVIATIONS

A.I.C.G.N.	: Acute immune complex-mediated glomerulonephritis
C.R.F.	: Chronic renal failure
Cu.	: Copper
E.S.R.D.	: End stage renal disease
G.B.M.	: Glomerular basement membrane
G.F.R.	: Glomerular filtration rate
G.H.Q.	: General health questionnaire
G.P.X.	: Glutathione peroxidase
H.D.L.	: High-density lipoprotein
L.D.L.	: Low-density lipoprotein
Mg.	: Magnesium
P.P.m.	: Parts per million
P.S.G.N.	: Post streptococcal glomerulonephritis
R.B.C.	: Red blood corpuscle
Se.	: Selenium
V.L.D.L.	: Very low-density lipoprotein
Zn.	: Zinc

LIST OF FIGURES

LIST OF TABLES

INTRODUCTION AND AIM OF THE WORK



INTRODUCTION

Trace elements constitute less than 0.01% of the human body weight. Despite their relative scarcity, their atoms are present in large numbers and each is believed to play an important role in human growth and development **(Shaw, 1980)**.

Trace elements can be divided from the dietary point of view into 3 groups: essential, possibly essential and non essential. Essential trace elements have several important functions as participation in oxidation-reduction reactions, catalytic functions, stabilization of lysosomal membrane, and may also act as a coenzyme **(Maritin et al., 1985)**.

During the last decades, kidney has emerged as a key organ in the homeostasis of trace elements and disturbances of trace elements metabolism have been described in several renal diseases **(Labeeuw and Pozet, 1988)**, for example; prior results have shown that chronic renal failure patients (dialyzed or not) present serious disturbances in the status of trace elements especially those involved in the antioxidant system i.e. copper, zinc and selenium, thus reduces the efficacy of antiradical defense mechanisms and increases the susceptibility of the organism to damage caused by these radicals **(Richard et al., 1991)**.

The kidney is also the target organ of many drugs and increased trace elements excretion can be observed either as an obligatory side effect or as a sign of nephrotoxicity **(Labeeuw and Pozet, 1988)**.

Psychiatric disturbances have for long known to occur frequently in relation to many different medical diseases, in some of these conditions, for instance renal diseases, the risk of various disturbances in the metabolism of trace elements and serum electrolytes have been reported to be associated with psychiatric symptoms **(Rasmussen et al., 1989)**.

Aim Of The Work

The aim of our study is to detect the effect of different renal diseases on the serum levels of copper, zinc, selenium and magnesium and to find out any correlation between the changes in trace elements levels and psychological troubles (if any).

These changes, if present, may be of aetiologic, diagnostic, prognostic or of therapeutic values.