ANESTHESIA FOR GERIATRIC PATIENTS

ESSAY SUBMITTED FOR PARTIAL FULFILMENT
OF MASTER DEGREE IN ANESTHESIA

BY

NASR ABD EL MOHSEN ABD EL MACSOUD HEGAZY
M.B.B.Ch.
1990

Supervised by

Prof. Dr. AHMED GAMAL EISSA

PROFESSOR OF ANESTHESIA
FACULTY OF MEDICINE
AIN SHAMS UNIVERSITY

Prof. Dr. BAHIRA MOHAMED TAWFIC

PROFESSOR OF ANESTHESIA
FACULTY OF MEDICINE
AIN SHAMS UNIVERSITY

Prof. Dr. SAMIA IBRAHIM SHARAF

ASSISTANT PROFESSOR OF ANESTHESIA
FACULTY OF MEDICINE
AIN SHAMS UNIVERSITY

FACULTY OF MEDICINE
AIN SHAMS UNIVERSITY

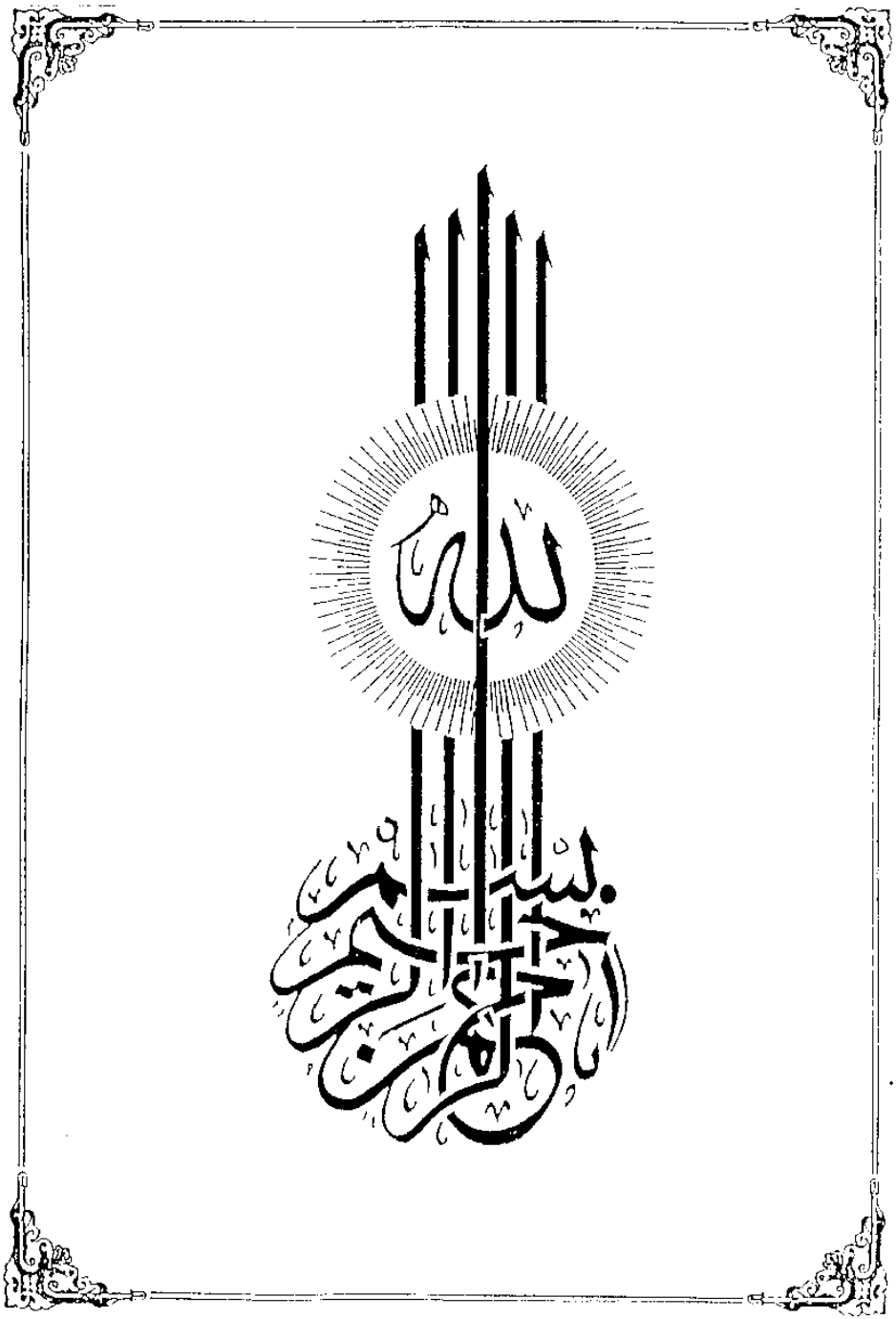
1994

بسم الله الرحمن الرحيم

اقرأ باسم ربك الذي خلق (١) خلق الإنسان من علق (٢) اقرأ
وربك الأكرم (٣) الذي علم بالقلم (٤) علم الإنسان ما لم يعلم (٥)

صدق الله العظيم

سورة العلق آية "١-٥"



Acknowledgment

First and Foremost thanks to god

I would like to express my profound and sincere appreciation and my deepest gratitude to Professor Dr. Ahmed Gamal Eissa, professor of Anesthesia and I. C. U. for his kind moral support and enthusiastic encouragemment.

I feel deeply indebted to Professor Dr. Bahira Mohamed Tawfic, professor of Anesthesia and I. C. U. for her great support and valuable advice, really , it is a great honour to work under her guidance and supervision.

No words can describe my heartiest gratitude to Professor Dr. Samia Ibrahim Sharaf , assistant professor of Anesthesia and I. C. U. for her great help, patience and the tremendous effort she had done in the meticulous revision of every possible detail.

Great thanks and appreciation are due to all members of staff of Anesthesia department , Ain Shams University and to my colleagues for their noble character and sincere support during the accomplishment of this work

Nasr Abd El - Mohsen

To
My
Family

List of figures

List of Tables

Contents

INTRODUCTION

ب لشئون الدراسات العليا.

ين ... وبعد...

سر المعلومات الطبيه بالمستشفى

زاء المطلوبه من الرساله المقدمه من :-

و

توقيع

Geriatrics is the branch of medicine that deals with the problems and diseases of old age and aging people ***(Carl, 1993)***.

Aging is a progressive , universally prevalent physiologic process producing measurable changes in the structure and function of the tissues and organs by the passage of time and that is called **1 ry aging** . The changes that are not universal or that don't increase in severity or the magnitude proportional to the chronological age, are probably not manifestations of aging but rather an indication of age - related diseases and is called **2 ry aging** ***(Muravchick, 1990)***.

Although established at the beginning of this century, the speciality of geriatrics has only recently been given the funding and attention appropriate to a discipline describing approximately one - fourth of the surgical population. However, from the engineering point of view, life span is the theoretical useful lifetime of the biological machine, realized only when all vital organ systems function optimally in a benign environment. In contrast, life expectancy is the mean time before failure ***(Muravchick, 1990)***.

The change in modern era is not an increase in the upper limit of the human life span but is an increase in the proportion and the number who survive to approach that limit. This trend is the result of narrowing of the gap between primary and secondary aging ***(William , 1986)*** .

In ***1989, McLesky*** considered geriatric patients are the individuals over 65 years of age. However , some specialized applications classified persons 65 to 74 years of age as elderly , those 75 to 84 years as aged and those 85 years or over as very old ***(Muravchick , 1990)*** .

Many theories had been developed for explanation of the aging process , these are : - ***(Collins et al., 1980)***

1) Autoimmunity : -

Mutation produces autoantigens for the cytoplasm or the nuclei making the cells malfunctioning e.g. diabetes.

2) Chromosomal theory : -

There are aberrations in the mitotic figures of the cells making them malfunctioning.

3) Genetic theory : -

Aging is due to genetic mutation causing cellular malfunction.

4) Wear and tear theory : -

Cells in the brain , muscle and the liver show wear without repair.

5) Collagen deposition : -

Widespread fibrosis in the tissues especially reproductive and endocrinal systems causing it malfunctioning.

In ***1987, Kelsey and Hoffman*** notified that one half of patients who reach 65 years of age will require surgery before they die - mostly - cataract extraction , transurethral resection of prostate , reduction of fractured hip and herniorrhaphy.

Unfortunately, elderly patients are at great risk for perioperative morbidity and mortality because of age - related concomitant diseases and the age - related decrease in the basic organ function ***(Triet et al., 1986)*** .

Pathophysiological Changes in Elderly