RADIOLOGIC MANIFESTATIONS OF ACQUIRED IMMUNODEFIECINCY SYNDROME

Essay

Submitted in Partial Fulfilment of

The Master Degree of Radiodiagnosis

By

Dr. Hanaa Mohamed Osman

M.B.B.Ch.

Faculty of Medicine

Ain Shams University

Supervised by

Prof. Dr. FATMA SEDDIK MAHMOUD

Professor of Radiodiagnosis

Ain Shams University

Dr. AIDA MOHAMED EL-SHEBINI

Lecturer of Radiodiagnosis

Ain Shams Univeristy

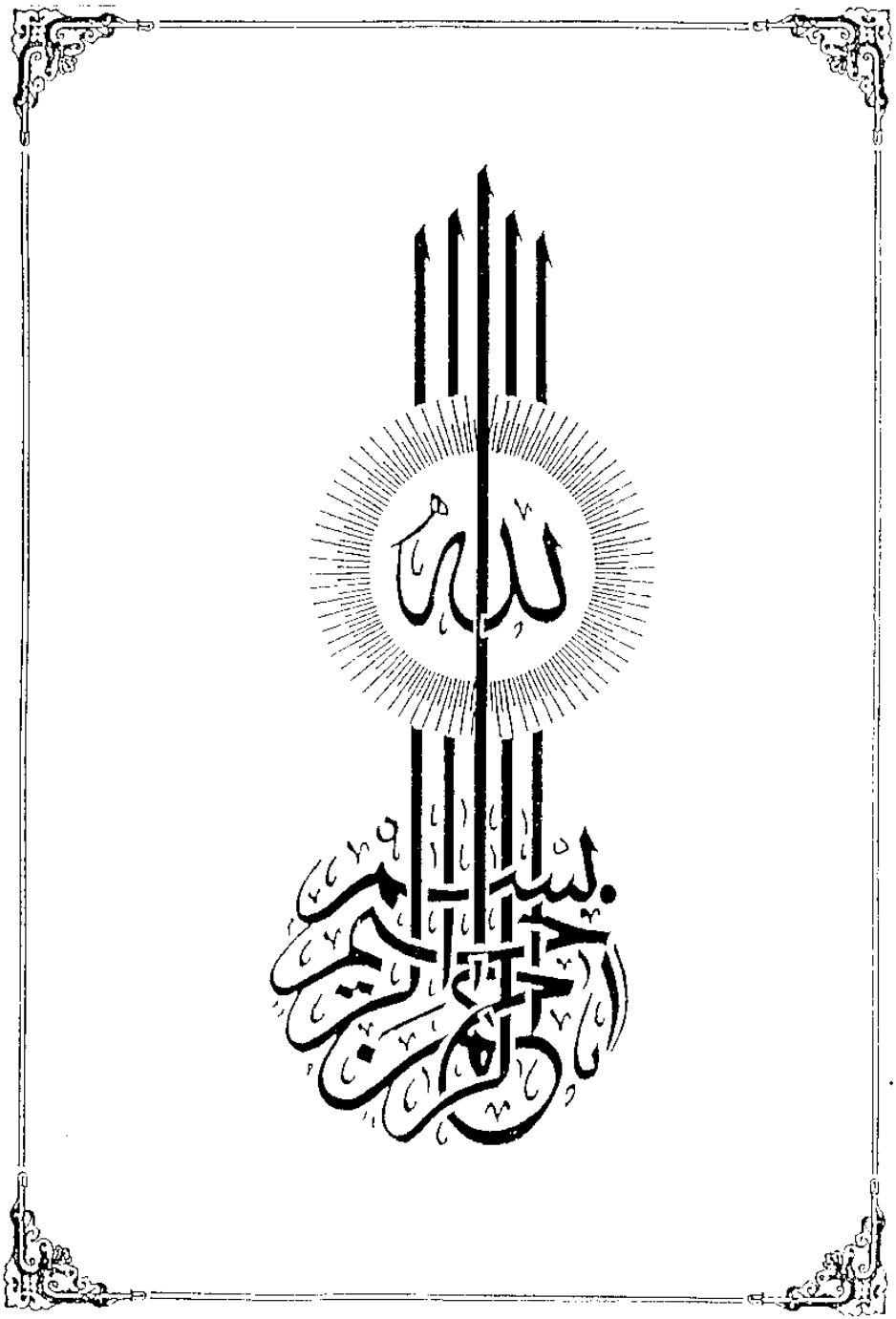
1994

بسم الله الرحمن الرحيم

قالوا سبحانك لا علم لنا الا ما علمتنا

انك انت العليم الحكيم

"صدق الله العظيم"



ACKNOWLEDGEMENT

I'm deeply indepted to Prof. Dr. Fatma Seddik Mahmoud, Professor of Radiodiagnosis, Faculty of Medicine, Ain Shams University for her unlimited support, patience, guidence and spirit of cooperation which provide me with great help and assistance to continue this work.

Also my sincere gratitude for Dr. Aida Mohamed El - Shebini, Lecturer of Radiodiagnosis for her help.

To My
Family

CONTENTS

LIST OF FIGURES

Introduction
and
Aim of the Work

Introduction and Aim of the Work

Acquired immunodeficiency syndrome (AIDS) refers to the condition in which multiple, life - threatening opportunistic infections or Kaposi's sarcoma, or both, occur in patients without a history of primary or iatrogenic immunodeficiency. (Griffith RC. et al, 1990).

It was found to be due to infection with the human immunodeficiency virus (HIV) (Adams JH. et al, 1992).

This study aims at studying the different radiological manifestations of these infections and neoplasms occurring in AIDS.

Pathology

PATHOGENESIS OF THE ACQUIRED IMMUNODEFICIENCY SYNDROME :

This syndrome results from infection by a retrovirus, the human immunodeficiency virus I (HIV - 1) previously referred to as human T - cell lymphotropic virus type III (HTLV - III), lymphadenopathy - associated virus (LAV), or AIDS related virus (ARV).

HIV is related to the group of nontransforming, cytopathic lentiretroviruses. More recently, HIV - 2, which has 60% homology with HIV-1, has been described as a cause of AIDS - like disease. HIV appears to exhibit unusual biologic variability.

Some population groups have been identified as being at high risk for developing AIDS include :

Homosexual men, intravenous drug users, haemophiliacs, 2% of AIDS cases have been associated with blood transfusions, heterosexual transmission to women having sexual contact with documented HIV - infected persons and congenital transmission to offspring.

The virus infects at least two cells after entering the body, the CD4+ T - lymphocytes and mononuclear phagocytes, which also express the CD4 antign and include the microglia of the central nervous system.

After binding to the CD4 molecule and entering the cell, the virus may have a cytotoxic effect either directly or indirectly upon activation of the cell by concomitant infection or allogeneic cells.

This depletion of CD4+ T - cells, is paramount in causing the immunodeficient state.

The virus tends to accumulate within monocytes and remain insulated from antiviral immune responses. Monocytes appear to be important reservoirs for HIV within the body and may have a role as a vehicle in its transmission, since only a fraction of T - cells and as many as 15% of monocytes express viral protein, indicating infection.

The demonstration of antibodies to HIV by ELISA assay is the basis of routine HIV screening. Antibodies are not usually demonstrable for 4 to 8 weeks in newly infected, infectious individuals.

- <u>Incubation Period :</u>

  The mean incubation period appears to be long and is estimated at 7.8 years for homosexual men and 8.2 years for transfusion - associated AIDS.

- <u>Clinical picture of HIV infection :</u>

  It is classified by the Centers for Disease Control which provides the basis for the definition of AIDS.

Group	Characteristics
I	Acute infection
II	Asymptomatic infection
III	Persistent generalized lymphadenopathy
IV	Other disease
A	Constitutional disease
B	Neurologic disease
C	Secondary infection
D	Secondary neoplasia
E	Other conditions

Classification for HIV infection

(Griffith RC. et al, 1990)