Clinical Manifestations and Demographic Characteristics of HIV patients admitted to Abbasia Fever Hospital

Thesis

Submitted for Partial Fulfillment of Master Degree in Tropical Medicine

Presented By

Mohammad Ashour Elsayed

M.B., B. Ch

Faculty of medicine – Al-Azhar University

Under Supervision Of

Prof. Maamoun Mohammad Ashour

Professor of ***Tropical Medicine***

Faculty of Medicine – Ain Shams University

Dr. Fatma Ahmed Ali-eldeen

Assistant Professor of ***Tropical Medicine***

Faculty of Medicine – Ain Shams University

Dr. Mohammad Mohei El Badry

Lecture of Tropical Medicine

Aswan University

Faculty of Medicine

Ain Shams University

2016

Acknowledgment

*Praise to be done to **ALLAH**, without his help nothing could be reached.*

*My deepest thanks to **Professor Dr. Maamoun Mohammad Ashour, Professor of Tropical Medicine, Faculty of Medicine, Ain Shams University** to whom I am indebted and who cared about every detail written down in this work. It was impossible for me to finish this work without his wise instructions, his guidance and his way of thinking.*

*My deepest thanks to **Asst. Prof.** **Fatma Ahmed Ali-eldeen** **Assistant Professor of Tropical Medicine, Faculty of Medicine, Ain Shams University** who helped me achieve my goal in this work with her meticulous supervision, valuable instructions, sincere efforts, fruitful encouragement, outstanding supportand generous help. I doubt that I will ever be able to convey my appreciation.*

*I'm also grateful to **DR. Mohammad Mohei El Badry, Director of Emergency Department, Abbasia Fever Hospital** for kind supervision and support throughout this work.*

Last but not least, allow me to send my deepest gratitude, my great appreciation and sincere thanks to My Family.

LIST OF CONTENTS

LIST OF ABBREVIATIONS

AFB	Acid-Fast Bacilli
AHI	Acute HIV-1 infection
AIDS	Acquired immunodeficiency syndrome
AP	Alkaline phosphatase
ART	Antiretroviral Therapy
AZT	Azidovudine
BAL	Bronchoalveolar lavage
CBC	Complete Blood Count
CCR5	Chemokine receptor type 5
CD4	Cluster of differentiation 4
CDC	Centers for disease control and prevention
CMV	Cytomegalovirus
CNS	Central nervous system
CPAP	continuous positive airway pressure
CSF	Cerebrospinal fluid
CT	Computed tomography
CTL	Cytotoxic T Cells
CXCR4	Chemokine receptor type 4
DC	Dendritic cells
DNA	Deoxyribonucleic Acid
EHI	Early HIV-1 infection
ELISA	Enzyme linked immunosorbent assay
EMB	Ethambutol
ESR	Erythrocyte sedimentation rate

FTC	Emtricitabine
GIT	Gastro intestinal tract
Gp	Glycoprotein
GRID	Gay-related immune deficiency
HAART	Highly Active Anti-Retroviral Therapy
HIV	Human immunodeficiency virus
HRCT	High resolution computed tomography
HRP	Horseradish peroxidase
HSV	Herpes simplex virus
HTLVs	Human T- lymphotropic viruses
IGRA	Interferon Gamma Release Assay
INH	Isoniazid
IV	Intravenous
KS	Kaposi's sarcoma
LAV	lymphadenopathy-associated virus
LDH	Lactate dehydrogenase
LPV/ RTV	lopinavir and ritonavir
MAC	Mycobacterium avium complex
MDR	Multi drug resistant
MRI	Magnetic resonance imaging
MTB	Mycobacterium tuberculosis complex
NNRTIs	Non-nucleoside reverse transcriptase inhibitors
NRTIs	Nucleoside or nucleotide reverse transcriptase inhibitors
NSAIDs	Non-steroidal anti-inflammatory drugs
OHL	Oral hairy leukoplakia

PBMC	Peripheral blood mononuclear cells
PCP	Pneumocystis carinii pneumonia
PCR	Polymerase chain reaction
PIs	Protease inhibitors
PPD	purified protein derivative
RMP	Rifampicin
RT	Reverse transcriptase
SDS-PAGE	sodium dodecyl sulfate poly a crylamide gel electrophoresis
SIV	Simian Immunodeficiency Virus
SM	Streptomycin
TB	Tuberculosis
TDF	Tenofovir
TE	Toxoplasmic Encephalitis
TMP-SMZ	Trimethoprim sulfamethoxazole
TST	Tuberculin skin test
UNAIDS	United Nations Programme on HIV/AIDS
vDNA	Viral Deoxyribonucleic Acid
WHO	World Health Organization
3TC	Lamivudine

LIST OF TABLES

LIST OF FIGURES

INTRODUCTION

The human immunodeficiency virus (HIV) is a lentivirus (a subgroup of retrovirus) that causes the acquired immunodeficiency syndrome (AIDS) ***(Douek et al., 2009).***

Since the beginning of the epidemic (during the late nineteenth or early twentieth century), almost 78 million people have been infected with the HIV virus and about 39 million people have died of HIV. Globally, 35.0 million [33.2–37.2 million] people were living with HIV at the end of 2013. An estimated 0.8% of adults aged 15–49 years worldwide are living with HIV. There were about 1.5 million people died of AIDS-related illnesses worldwide in 2013. Sub-Saharan Africa remains most severely affected, with nearly 1 in every 20 adults living with HIV and accounting for nearly 71% of the people living with HIV worldwide ***(World Health Organization, 2014).***

HIV is transmitted primarily via unprotected sexual intercourse (including anal and oral sex), contaminated blood transfusions, hypodermic needles, and from mother to child during pregnancy, delivery, or breastfeeding ***(Blankson, 2010)***.

Classifications of HIV infection

Two main clinical staging systems are used to classify HIV and HIV-related disease for surveillance purposes: the WHO disease staging system for HIV infection and disease, and the CDC classification system for HIV infection. The CDC's classification system is more frequently adopted in developed countries. Since the WHO's staging system does not require laboratory tests, it is suited to the resource-restricted conditions encountered in developing countries, where it can also be used to help guide clinical management. Despite their differences, the two systems allow comparison for statistical purposes ***(Schneider et al., 2008).***

WHO classifications of HIV infection:

There are three main stages of HIV infection: acute infection, clinical latency and AIDS ***(World Health Organization, 2007).***

Acute infection: The initial period following the contraction of HIV is called acute HIV, primary HIV or acute retroviral syndrome ***(Elliott and Tom, 2012).***

Clinical latency: The initial symptoms are followed by a stage called clinical latency, asymptomatic HIV, or chronic HIV. Without treatment, this second stage of the natural history of HIV infection can last from about three

years to over 20 years (on average, about eight years). While typically there are few or no symptoms at first, near the end of this stage many people experience fever, weight loss, gastrointestinal problems and muscle pains. Between 50 and 70% of people also develop persistent generalized lymphadenopathy ***(Evian and Clive, 2006).***

Acquired immunodeficiency syndrome (AIDS): is defined in terms of either a CD4 T cell count below 200 cells per μL or the occurrence of specific diseases in association with an HIV infection ***(Blankson, 2010).***

In the absence of specific treatment, around half of people infected with HIV develop AIDS within ten years. The most common initial conditions that alert to the presence of AIDS are pneumocystis pneumonia (40%), cachexia in the form of HIV wasting syndrome (20%) and esophageal candidiasis. Other common signs include recurring respiratory tract infections ***(Blankson, 2010).***

Opportunistic infections may be caused by bacteria, viruses, fungi and parasites that are normally controlled by the immune system. Which infections occur partly depends on what organisms are common in the person's environment. These infections may affect nearly every organ system ***(Chu and Selwyn, 2011).***

CDC classifications of HIV infection:

There are five stages of HIV infection. A confirmed case that meets the criteria for diagnosis of HIV infection can be classified in one of five HIV infection stages (0, 1, 2, 3, or unknown). Early infection, recognized by a negative HIV test within 6 months of HIV diagnosis, is classified as stage 0, and acquired immunodeficiency syndrome (AIDS) is classified as stage 3 ***(Selik et al., 2014).***

AIM OF THE WORK

The aim of the work is to determine the clinical manifestations and demographic characteristics of 100 consecutive HIV patients admitted to Abbasia fever hospital starting from February 2015.