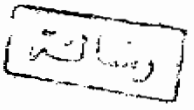
PREVALENCE OF HIV INFECTION IN CHILDREN ON HEMODIALYSIS

Thesis Submitted For Partial Fulfillment of Master Degree In Pediatrics

By

Amany Mohamady Mohamed Farag

M.B., B.Ch.



Supervised By

Prof. Dr. GILANE ABDEL HAMID OSMAN

Professor of Pediatrics

Ain Shams University

Co-Supervised By

Dr. MOUSTAFA ABDEL AZIZ EL-HODHOD

Lecturer of Pediatrics

Ain Shams University

Dr. SEHAM ABDEL GHAFOUR BAHGAT

Lecturer of Clinical Pathology

Al-Azhar University

FACULTY OF MEDICINE

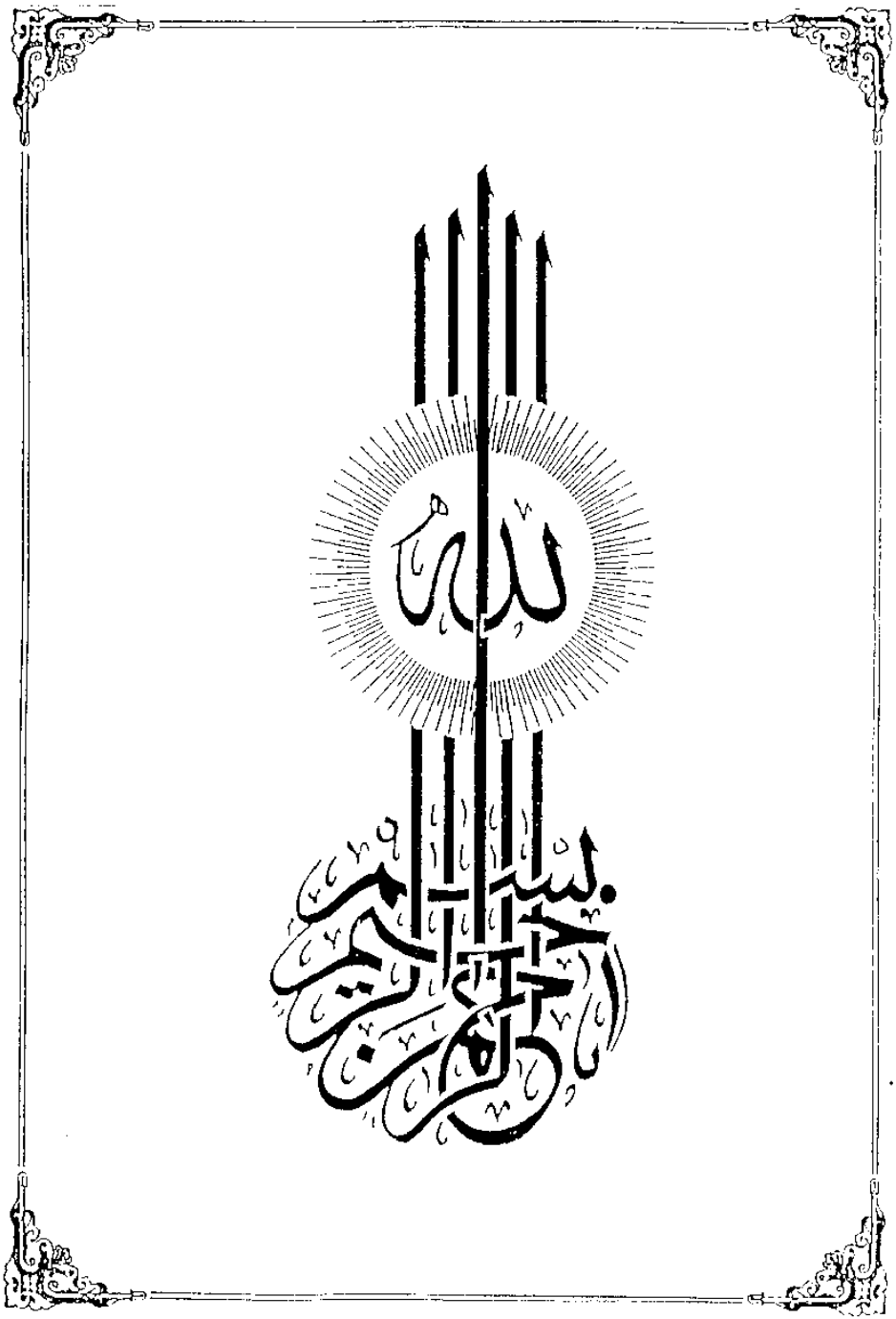
AIN SHAMS UNIVERSITY

1993

TO MY PARENTS

HUSBAND AND

DAUGHTERS



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LIST OF ABBREVIATIONS

ABP	=	Arterial blood pressure.
AIDS	=	Acquired immunodeficiency syndrome
α	=	Alpha
ARC	=	AIDS-related complex.
AZT	=	3' azido 2', 3' dideoxythymidine.
BUN	=	Blood urea nitrogen.
CDC	=	Centers for disease control.
CD_4	=	an antigenic marker of helper T-lymphocyte
CD_8	=	an antigenic marker of suppressor/cytotoxic T-cells.
CIC	=	Circulating immune complexes.
Cmm	=	mm^3= cubic millimeter.
CMV	=	Cytomegalovirus.
CNS	=	Central nervous system.
CRF	=	Chronic renal failure.
CSF	=	Cerebrospinal fluid.
C3b	=	Complement type 3b
d	=	day
ddc	=	dideoxycytidine
ddI	=	dideoxyinosine
°C	=	degree centigrade(celsius).
dL	=	deciliter.
DNA	=	Deoxyribonucleic acid.
ELISA	=	Enzyme linked immunosorbent Assay.
env gene	=	Envelope gene.
EPO	=	Erythropoietin
ESRD	=	End stage renal disease.
Fc receptors	=	The site to which the Fc region of an antibody is attached to the cell.
FSGS	=	Focal and segmental glomerulosclerosis.
gag gene	=	group-specific antigen gene.
γ-interferon	=	gamma -interferon.
GIT	=	gastrointestinal tract.
gm	=	gram.

gp	= glycoprotein.
Hb	= hemoglobin
HBsAg	= Hepatitis B surface antigen.
HBV	= Hepatitis B virus.
HIV	= Human immunodeficiency virus.
HIVAN	= HIV associated nephropathy.
HLA	= Human leucocytic antigen.
HLA-DR	= HLA-D related.
HTLV	= Human T-lymphotropic virus.
Ig(A,E,G,M.)	= Immunoglobulin (A,E,G,M).
IL	= Interleukin.
IM	= Intramuscular
IV	= Intravenous
IVIG	= IV immunoglobulin.
Kgm	= Kg = Kilogram
LAV	= Lymphadenopathy associated virus.
LIP	= Lymphocytic interstitial pneumonitis.
m^2	= meter square.
mg	= milligram
min.	= minute
mL	= milliliter.
m-RNA	= messenger ribonucleic acid.
NK cell	= natural killing cell.

nm	= nano meter
orf gene	= open reading fragment gene.
P	= protein
P-AIDS	= Pediatric AIDS
PCP	= Pneumocystis carinii pneumonia.
PCR	= Polymerase chain reaction.
PMNs	= Polymorph nuclear cells.
Pol gene	= Polymerase gene.
+ve or +	= Positive.
PV-DNA	= Proviral DNA
RBC	= red blood cell.
RNA	= ribonucleic acid.
tat III gene	= transactivator gene
TMP-SMZ	= Trimethoprim sulfamethoxazole.
TNF	= Tumour necrosis factor.
WBC	= White blood cell.

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Introduction

INTRODUCTION

The human immunodeficiency virus (HIV) is the causative agent of AIDS (Hawas et al.,1988). It can be transmitted by contaminated blood. This explains possible transmission to patients treated by hemodialysis who often require blood transfusions to correct anemia associated with renal failure (Goldman et al.,1986).

In addition, the introduction of anti-retroviral drugs, as zidovudine, has markedly prolonged the life span of AIDS patients thus increasing the prevalence of HIV related complications as HIVAN with a greater number of AIDS patients developing ESRD and undergoing subsequently hemodialytic therapy.(Humphreys and Schoenfeld, 1987). This places HIV-negative dialysis patients and health care workers at potential risk (Rao et al.,1987).

Since the virus is highly susceptible to the chemicals used in sterilization, the usual precautions against hepatitis B should be adequate to prevent the transmission of AIDS among dialysis patients (Rao,1988).

Besides emphasizing public health measures ultimate prevention of the disease requires a safe and effective vaccine, which has not yet been developed. (Saxon and Campen,1988).

Aim of the Work

AIM OF THE WORK

The aim of this work is to assess the prevalence of HIV infection among children receiving hemodialysis as a maintenance therapy and to prevent transmission of this infection to other patients through the dialysis set.

Review of Literature