Human umbilical cord blood as a future aspect for bone marrow transplantation

An Essay
Submitted in Partial Fulfillment
of Master Degree in Clinical and
Chemical Pathology

By
Sarah Muhammad Aqeel
M.B., B.Ch.

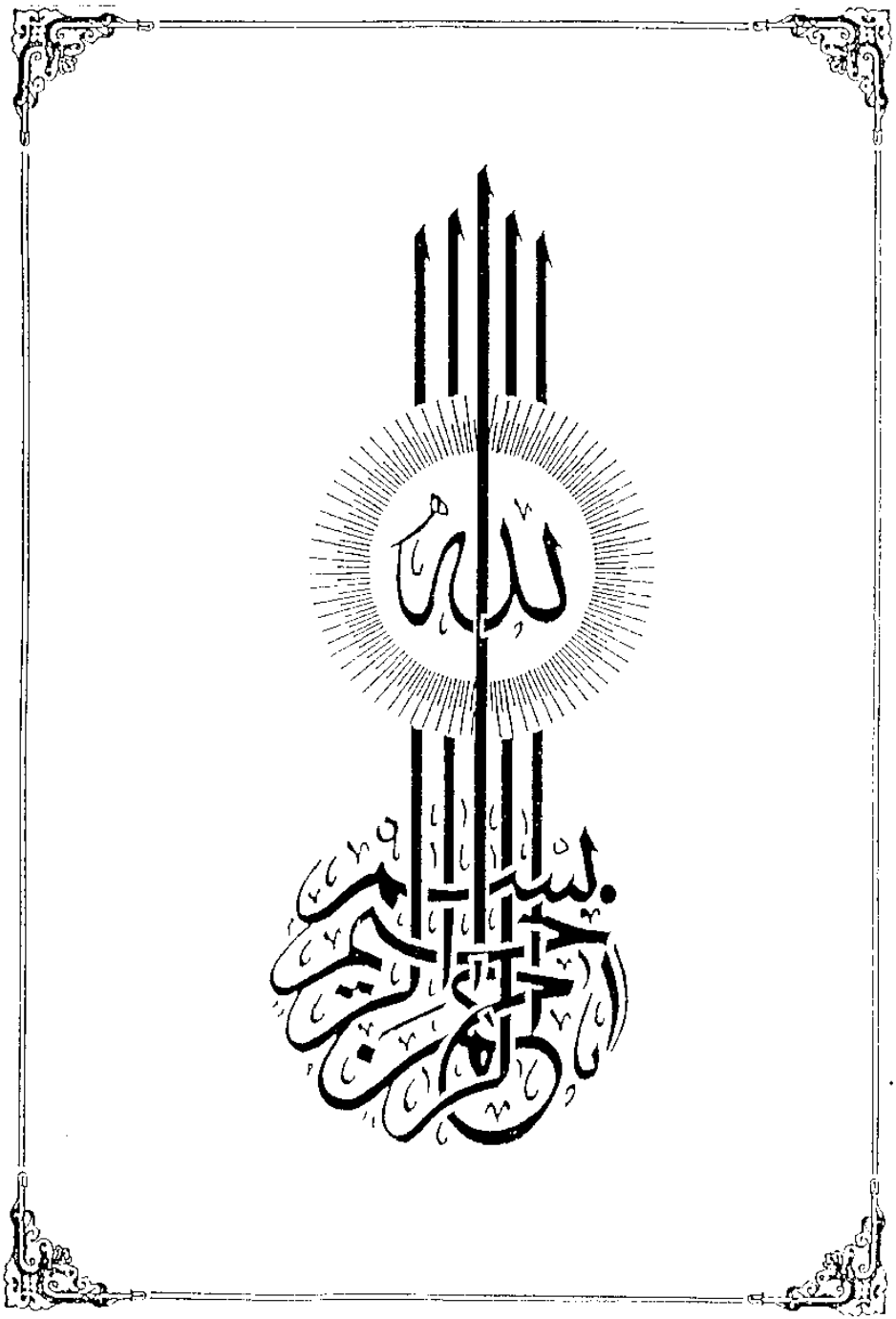
Supervisors

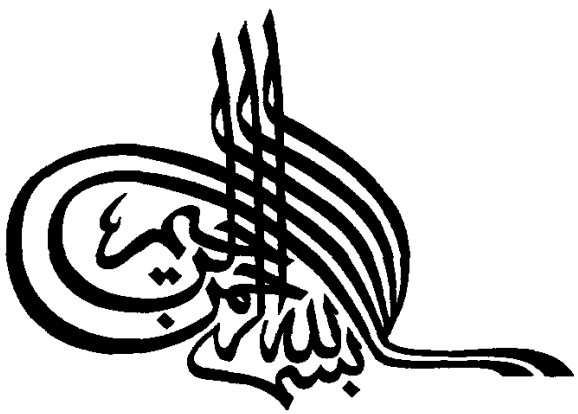
Prof. Hebatallah Adel Sedky
Professor of Clinical Pathology
Ain Shams University

Assis. Prof. Dr. Salwa Saad Mostafa Khodair
Assistant prof. of Clinical Pathology
Ain Shams University

Dr. Lama Akram Al- Safadi
Lecturer of Clinical Pathology
Ain Shams University

Faculty of Medicine
Ain Shams University
1997





ربنا لاتؤاخذنا إن نسينا أو أخطأنا

ربنا ولاتحمل علينا إصرا

كما حملته على الذين من قبلنا

ربنا ولاتحملنا ما لا طاقة لنا به

واعف عنا واغفر لنا وارحمنا

أنت مولانا فانصرنا على القوم الكافرين

Acknowledgment

First and foremost thanks, to God.

I would like to express my gratitude to the continuous help, meticulous care and expert advice offered to me by *Professor Dr. Hebatallah Adel Sedky*, **Professor of clinical pathology, Ain Shams University, in every step of this work.**

And, many thanks *for Assistant professor Dr. Salwa Saad Mostafa Khodair*, **Assistant professor of clinical pathology, Ain Shams University, for her kind heart, great patience and continuous support through this work.**

Also, I wish to express my appreciation to *Dr. Lama Akram AL- Safadi*, **lecturer of clinical pathology, Ain Shams University, for her constructive criticism and valuable comments.**

Lastly, no words could even express my deepest gratitude to my ever giving family, my husband and my son. Their favor is unforgettable.

List Of Abbreviations

5-FU	:	**5-FluoroUracil.**
AA	:	**Aplastic Anemia .**
AIDS	:	**Acquired Immune Deficiency Syndrome.**
ALL	:	**Acute Lymphocytic Leukemia.**
AML	:	**Acute Myeloid Leukemia.**
AMM	:	**Agnogeneic Myeloid Metaplasia.**
BM	:	**Bone Marrow.**
BMT	:	**Bone Marrow Transplantation.**
CB	:	**Cord Blood.**
CBSC	:	**Cord Blood Stem Cell.**
CFC	:	**Colony Forming Cells.**
CFU-GM	:	**Colony Forming Unit-Granulocyte Macrophage.**
CFU-S	:	**Colony Forming Unit in the Spleen.**
CML	:	**Chronic Myeloid Leukemia.**
CMV	:	**CytoMegaloVirus.**
CNS	:	**Central Nervous System.**
CY	:	**Cyclophosphamide.**
DMSO	:	**DiMethylSulfOxide.**
EPO	:	**Erythropoietin.**
ET	:	**Essential Thrombocytosis.**
FACS	:	**Fluorescence Activated Cell Sorting.**
G-SCF	:	**Granulocyte-Colony Stimulating Factor.**
GIT	:	**Gastro Intestinal Tract.**
GM-CSF	:	**Granulocyte Macrophage-Colony Stimulating factor.**
GVHD	:	**Graft Versus Host Disease.**
GVL	:	**Graft Versus Leukemia.**
HCMV	:	**Human CytoMegaloVirus.**
HEPA	:	**High Efficiency Particulated Air filters.**
HGL	:	**High Grade Lymphoma.**

HIV	:	Human Immune deficiency Virus.
HLA	:	Human Leucocytic Antigen.
HSC	:	Hematopoietic Stem Cell.
IEF	:	Iso Electric Focusing.
IGL	:	Intermediate Grade Lymphoma.
IL	:	InterLeukin.
JCML	:	Juvenile Chronic Myeloid Leukemia.
LAK	:	Lymphokine Activated Killer cell.
LGL	:	Low Grade Lymphoma.
LTC-ICs	:	Long Term Culture Initiating Cells.
LVL	:	Large Volume Leukapheresis.
MHC	:	Major Histocompatibility Complex.
MLR	:	Mixed Lymphocyte Reaction.
MM	:	Multiple Myeloma.
MDS	:	Myelo Dysplastic Syndrome.
NK	:	Natural Killer Cell.
NMDP	:	National Marrow Donor Program.
PB	:	Peripheral Blood.
PBSCT	:	Peripheral Blood Stem Cell Transplantation.
PCR	:	Polymerase Chain Reaction.
PF	:	Programmed Freezing.
PV	:	Polycythemia Vera.
RBC	:	Red Blood Cell.
RFLP	:	Restriction Fragment Length Polymorphism.
SBA	:	Soya Bean Agglutinin.
SCF	:	Stem Cell Factor.
TBI	:	Total Body Irradiation.
Thy	:	Thymus.
TNF	:	Tumor Necrosis Factor.
UCB	:	Umbilical Cord Blood.
VOD	:	Veno Occlusive Disease.
WBC	:	White Blood Cell Count.

Table of Contents