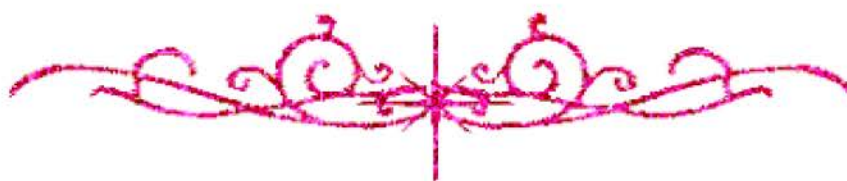


سامية محمد مصطفى



شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم



سامية محمد مصطفى



شبكة المعلومات الجامعية



شبكة المعلومات الجامعية التوثيق الالكتروني والميكرو فيلم



سامية محمد مصطفى



شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات



يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار



سامية محمد مصطفى



شبكة المعلومات الجامعية



بعض الوثائق الأصلية تالفة



سامية محمد مصطفى



شبكة المعلومات الجامعية



بالرسالة صفحات لم ترد بالأصل





Role Of Therapeutic Plasmapheresis In Rheumatoid Arthritis Activity

THESIS

**Submitted in partial fulfillment of the requirements for
M.D. Degree in Rheumatology and Rehabilitation**

By

Mohammad Al-Mokhtar Badawy Abdullah
M.B.Ch.B., M.Sc. Rheumatology and Rehabilitation

Supervised By

Prof. Dr.

Mohammad Gamal El-Dien Abdul-Motaal

**Professor of Rheumatology and Rehabilitation
Faculty of Medicine, Assiut University**

Dr.

Mohammad Mustafa Kamal

**Assistant Professor of
Rheumatology and Rehabilitation
Faculty of Medicine
Assiut University**

Dr.

Elham Abdul-Samie Aly

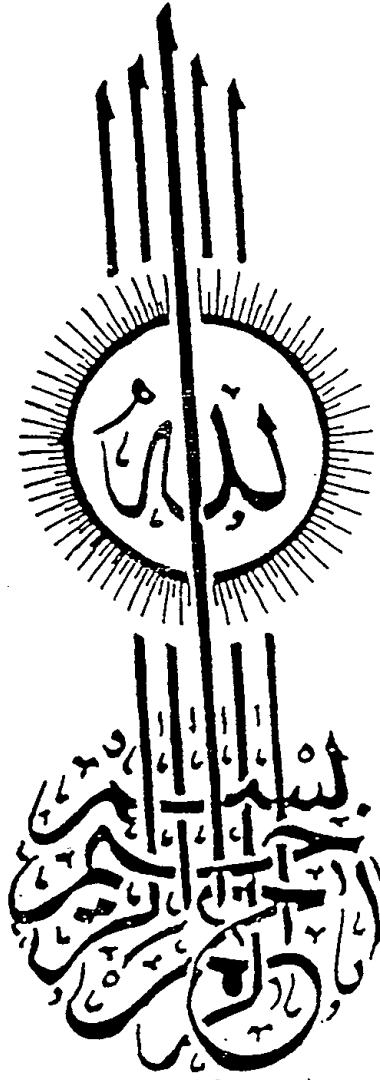
**Assistant Professor of
Clinical Pathology
Faculty of Medicine
Assiut University**

**Faculty of Medicine
Assiut University**

2000

B

17--5



« وَعَلَّمَكَ مَا لَمْ تَكُنْ تَعْلَمُ وَكَانَ فَضْلُ اللَّهِ
عَلَيْكَ عَظِيمًا »

صدق الله العظيم
(من الآية ١١٣ سورة النساء)

Acknowledgments

Praise be to Allah, the Merciful, Compassionate for all the countless gifts I have been offered. Of these gifts, those persons who were assigned to give me a precious hand so as to be able to fulfill this study. Some of them will be cordially acknowledged.

*I am absolutely lucky to be supervised and directed by **Professor Dr. Mohammad Gamal El-Deen Abdel-Motaal**, Professor of Rheumatology and Rehabilitation, Faculty of Medicine, Assiut University, for selection of the subject of the thesis, his kind guidance, encouragement and keen supervision all through the course of this study. Thanking his constructive criticism and unfailing help throughout the course of this study through revising every part of this thesis.*

*I wish to express my sincere acknowledgment to **Dr. Mohammad Mostafa Kamal**, Assistant Professor of Rheumatology and Rehabilitation Faculty of Medicine. Assiut University, for his generous attitude, persistent support and kind attitude throughout this work.*

*With considerable appreciation, I express my great indebtedness to **Dr. Elham Abdel-Samie Aly**, Assistant Professor of Clinical Pathology and Immunology. Faculty of Medicine, Assiut University, for her authentic guidance and magnificent assistance.*

*I do express my gratitude toward **Professor Dr. Fatema Al-Zahraa M. Abdallah**, Professor of Rheumatology and Rehabilitation, Faculty of Medicine, Assiut University, for her sincere directions and outstanding help.*

*I wish to express my sincere acknowledgement to **HAEMONETICS®** Nyon.- Swizerland, with special thanks to Mr. Jack Antony Biomedical engineer of Haemonetics and all staff members of blood bank and Transfusion center, Nyon - Swizerland, for their greatly useful help during training course.*

Thanks to the members of the Cardiology unit and Renal dialysis unit. Faculty of Medicine, Assiut University for their help and good assistance.

Contents

| Subjects | Page |
|--|-------------|
| Introduction and Aim of the Work | |
| - Introduction | 1 |
| - Aim of the Work | 2 |
| Review of Literature | |
| -Cytokines in RA | 4 |
| - Interleukin-I (IL-1) | 6 |
| - Tumor necrosis factor | 9 |
| - Therapeutic Plasmapheresis | 14 |
| - Essentials for Plasmapheresis | 19 |
| - Plasmapheresis in some rheumatological diseases | 31 |
| - Plasmapheresis in some neurological disorders | 38 |
| - Plasmapheresis in some hematologic disease | 48 |
| - Plasmapheresis in some autoimmune metabolic and endocrinal diseases | 51 |
| - Plasmapheresis in neoplasia | 53 |
| - Complications of plasmapheresis | 54 |
| Patients and Methods | 60 |
| Results | 81 |
| Discussion | 104 |
| Summary and Conclusion | 121 |
| Recommendations | 125 |
| References | 126 |
| Arabic Summary | |

Abbreviation

| | |
|---------|---------------------------------------|
| AC | Anti coagulant |
| Ach R | Actyle choline receptor |
| ACTH | Adrenocorticotrophic hormone |
| CIC | Circulating immune complex. |
| CNS | Central nervous system |
| EGF | Epithelial growth factor |
| HLA | Human leucocyte antigen |
| IFN | Inferferon |
| Ig | Immunoglobulin |
| ITP | Idiopathic thrombocytopenic purpura |
| MAG | Macroglobulins |
| MGUS | Macroglobinamia urinary symptoms |
| MHC | Major histocompatibility complex |
| NK-cell | Natural Killer cell |
| NSAIDs | Non steroidal anti-inflammatory drugs |
| PMN | Poly morphonuclear leukocytes |
| TCR | T cell receptor |
| TGF | Transforming growth factor |
| Th-cell | T helper-cell |

**INTRODUCTION
AND
AIM OF THE WORK**

Rheumatoid arthritis (RA) is a systemic illness characterized by chronic inflammation of joints and severe cartilage abnormalities (Fons et al., 1995, Van den Berg & Bresnihan, 1999 and Goldring, 2000).

Cytokines have been implicated in the pathogenesis of arthritis (Elizabeth et al., 1990). Deleuran (1996) reported that interleukin-1 (IL-1) and tumor necrosis factor (TNF) are clearly involved in arthritic changes. Both local and systemic levels of each cytokine correspond to disease activity (Eastgate et al., 1988; Westacott et al., 1990; Feldmann et al., 1992 and Taylor et al., 2000).

Plasmapheresis immediately removes soluble mediators of inflammation from circulation (Kfoury et al., 1999). It may have a more prolonged effect by improving reticuloendothelial function, and thus immune complex clearance (Lock Wood 1979; Schneider 1996 and Bartges 1997). It has been used in the treatment of patients with RA (Lazarus et al., 1991) and Schneider, (1996) stated that RA is a classical indication for plasmapheresis.

It was demonstrated to be technically Feasible and effective (Wallace 1979). Busund et al., (1991) observed a reduction in both TNF and IL-1 level following plasmapheresis. Lazarus et al., (1991) and Liu et al., (1997) recorded that Plasmapheresis has the ability to remove rheumatoid factor and circulatory immune complexes. In addition Wallace et al., (1984); Lazarus et al., (1991) and Liu et al., (1997) noted that patients treated with plasmapheresis had significant clinical improvement.