

# Cierry Terry Con







شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



# جامعة عين شمس

التوثيق الالكتروني والميكروفيلم



نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها علي هذه الأفلام قد اعدت دون آية تغيرات



# يجب أن

تحفظ هذه الأفلام بعيداً عن الغبار في درجة حرارة من 15 - 20 منوية ورطوبة نسبية من 20- 40 %

To be kept away from dust in dry cool place of 15 – 25c and relative humidity 20-40 %









الأصلية تالفة

# THE DIAGNOSTIC AND PROGNOSTIC VALUES OF ANTIHEPARIN ANTIBODIES IN PEDIATRIC CONNECTIVE TISSUE DISEASES

Thesis Submitted for Partial Fulfilment of Master Degree in Paediatrics

By
Huayda El-Taher Abd El-Salam

M.B., B.Ch.

Supervised by

Prof. Dr. Galila Mohamed Mokhtar

Professor of Paediatrics Ain Shams University

Prof. Dr. Mona Mohamed Rafik

Professor of Clinical Pathology Ain Shams University

Prof. Dr. Shereen Medhat Reda

Assistant Professor of Paediatrics Ain Shams University

Faculty of Medicine
Ain Shams University
2000

# بسم الله الرحمن الرحيم

قالوا سبحانك لا علم لنا إلا ما علمتنا، إنك أنت العليم الحكيم

صدق الله العظيم

. سورة النقرة-الآية:٣٢

# Dedicated to my parents

#### ACKNOWLEDGMENT

I would like to express my sincere gratitude and deep appreciation to Professor Dr. Galila Mokhtar, Professor of Pediatric, Faculty of Medicine, Ain Shams University for her valuable supervision, continuous guidance and endless support throughout the whole work.

I'm greatly thankful to Professor Dr. Mona Rafik, Professor of Clinical Pathology, Faculty of Medicine, Ain Shams University, for her assistance during the practical part of this work.

I'm greatly thankful to Dr. Shereen Medhat Reda. Assistant Professor of Pediatric, Faculty of Medicine, Ain Shams University for her continuous support and her meticulous guidance during this work.

Last but not least, I would like to thank all my patients and all the staff members of the Pediatric Allergy and Immunology Unit for their great help.

### **List of Contents**

	Page
List of Abbreviation	1
List of tables	Ш
List of figures	IV
Introduction and Aim of the Work	1
Review of Literature	5
<ul> <li>Physiology of hemostasis and thrombosis</li> </ul>	5
Antiphospholipid syndrome	10
Vasculitis in children	18
• Role of antiheparin antibodies in connective	29
tissue diseases	30
Subjects and Methods	35
Results	50
Discussion	58
Conclusion	59
Recommendations	60
Summary	64
References	
Arabic Summary	

#### LIST OF ABBREVIATIONS

ACR American College of Rheumatism

**ADP** Adenosine diphosphate

**AECA** Anti-endothelial cell antibodies

AHA Anti-heparin antibody
ANA Antinuclear antibody

ANCA Anti-neutrophil cytoplasmic antibodies

APL As Antiphospholipid antibodies

**APS** Antiphospholipid antibody syndrome

AT III Antithrombin III

BSA Bovine serum albumin
CAMs Cell adhesion molecules
CBC Complete blood count
CH50 Complement hemolytic 50
CNS Central nervous system
CPK Creatine phosphokinase
CSF Cerebrospinal fluid

**CTD** Connective tissue disease

**Ds DNA**Double stranded deoxyribonucleic acid

ECG Electrocardiogram

**ELISA** Enzyme- linked immunosorbant assay.

**ESR** Erythrocyte sedemintation rate

ET-1 Endothelin-1

GAG Glycosaminoglycan

GBM Glomerular basement membrane.

GPL IgG phospholipid equivalent

HIV Human immunodeficiency virus

HS Heparan sulfate

HSP Heparin sulfate proteoglycans
INR International normalized ratio.
MCP-1 Monocyte chemotactic protein-1

μg/dl Microgram per deci-litermg/dl Milligram per deci-literMo Abs Monoclonal antibodeis

MPL IgM phospholipid equivalent

MPO Myeloperoxidase

NS Non-significant

NSAIDs Non-steroidal anti-inflammatory drugs

**OD** Optical density.

PAF Platelet activating factor.

PAIs Plasminogen activator inhibitor

PAN Polyarteritis nodosa

PBs Phosphate-buffered saline

PF4 Platelet factor 4

**PFTs** Pulmonary function tests

PLG Plasminogen PR3 Proteinase 3

**PT** Prothrombine time

PTT Partial thromboplastin time

RA Rhuematoid arthritis
RF Rheumatoid factor
RNP Ribonucleoprotein
RPR Rapid plasma regain
SD Standard deviation

SLE Systemic lupus erythematosus SPEP Serum protein electrophoresis TAT III Thrombin – antithrombin III

**TF** Tissue factor

Tm Thrombomodulin

VHSPGs Vascular heparan sulfate proteoglycans

**VWF** Von Willebrand Factor

### **List of Tables**

	Page
Table (1): Suggested criteria for the APS	6
Table (2): Coagulation factors	14
Table (3): A revised practical classification of vasculitis	18
Table (4): Common presentations of vasculitis syndromes	20
Table (5): Predominant immune phenomena in systemic	22
vasculitides delineate the major hypersensitivity	
reaction type described by Coomb's and Gell	
Table (6): Key clinical features that distinguish the major	25
vasculitis syndromes	
Table (7): Biopsy findings in major vasculitic syndromes	27
Table (8): Comparison between the serum AHA titre in	36
patients and the control group	
Table (9): Comparison between the serum AHA titre in male	37
and female patients	
Table (10): Comparison between serum AHA titre among	39
patients with SLE and those with other CTDs in	
relation to the control group	
Table (11): Comparison between the serum AHA titre between	40
patients with SLE and those with other CTDs	
Table (12): Comparison between the AHA titre in patients with	41
active stage of disease versus those in remission	
Table (13): The serum AHA titre in relation to different clinical	42
presentation	
Table (14): The serum AHA titre according to the type of	43
therapy received by patients in the study	
Table (15): Comparison between the serum titres of AHA in	45
patients with +ve Anti DNA versus those with -ve	
Anti ds DNA	

## **List of Figures**

	Page
Fig. (1): Diagrammatic representation of the	17
hemostatic mechanism	
Fig. (2): A diagram depicting the approach to	24
diagnosis the vasculitis syndromes	
Fig. (3): Diagrammatic representation of the	26
process of differential diagnosis in	
vasculitis.	
Fig. (4): Syndromes mimicking vasculitis	26
Fig. (5): Comparison between serum AHA titre in	38
male and female patients	
Fig. (6): The serum AHA titre according to the type	44
of therapy	
Fig. (7): Comparison between the serum AHA	46
titres in patients with +ve Anti ds DNA	
versus those with -ve Anti ds DNA	
Fig. (8): Correlation between AHA and platelets	47
number	
Fig. (9): Correlation between AHA and PT	48
Fig. (10): Correlation between AHA and PTT	49

