

19911

CIRCULATING IMMUNE COMPLEXES IN CHILDREN WITH BRONCHIAL ASTHMA

Thesis

Submitted in The Partial Fulfilment of

The Master Degree in Pediatrics $\sqrt{\gamma}$

By

Hanan Ahmed Hassan

a 1 1 3

Under The Supervision of

Prof. YEHIA MOHAMMAD EL GAMAL

Professor of Pediatrics & Head of the Pediatric
Allergy and Immunology Unit
Ain Shams University

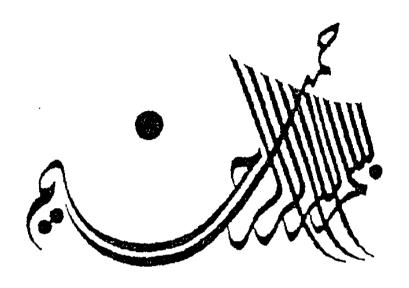
Dr. ELHAM MOHAMMAD HOSSNY Assistant Professor of Pediatrics Ain Shams University

Dr. RANDA REDA MABROUK Lecturer of Clinical Pathology Ain Shams University

> Faculty of Medicine Ain Shams University Cairo 1997







قَ الْوَا الْمَا الْمَ

حَمَدَ وَثَالِلَهُ النَّهُ اللَّهُ النَّهُ النَّالِمُ النَّا النَّالِي اللَّهُ النَّالِمُ النَّالْمُ النَّالِ

الآية (٢٢) سودة البقرة

ACKNOWLEDGEMENT

I would like to express my endless gratitude and appreciation to Prof. YEHIA EL-GAMAL, Professor of Pediatrics and Head of the Pediatric Allergy and Immunology Unit of Ain Shams University, for giving me the honour to work under his meticulous supervision and for providing me with a lot of encouragement and support throughout this whole work and always.

My thanks and appreciation are due to Dr. ELHAM HOSSNY, Assistant Professor of Pediatrics, Ain Shams University, for her honest assistance and supervision in every step of this work.

I do appreciate the kind and active participation of **Dr. RANDA MABROUK,** Lecturer of Clinical Pathology, Ain Shams University, in the Laboratory part of this work.

The help and encouragement from every member of the Pediatric Allergy and Immunology team are sincerely acknowledged and I am truly grateful to the children and their parents for their kind cooperation in accomplishing my thesis.

I am deeply indebted to my parents, my brother, my sisters and my dear friend Abeer Abd El Rahman for their kind support and encouragement.

Hanan Almed

Acknowledgement



CONTENTS

LIST OF ABBREVIATIONS	
LIST OF FIGURES	
LIST OF TABLES	
INTRODUCTION AND AIM OF THE WORK	(1)
REVIEW OF LITERATURE	
Bronchial asthma	
Definition	(3)
Epidemiology	(3)
Inducers and triggers of asthma	(6)
Pathological changes in asthma	(8)
Etiology	(8)
Immunological basis of asthma Clinical manifestation of asthma	(9)
Laboratory evaluation	(11) (14)
Treatment	(16)
	(,
Circulating immune complexes	
Definition	(19)
Pathophysiology	(19)
Factors affecting IC formation	
and deposition	(19)
Detection of circulating immune	48.53
complexes	(22)
SUBJECTS AND METHODS	(24)
RESULTS	(29)
	·

Contents

DISCUSSION (53)
RECOMMENDATIONS (63)
SUMMARY (64)
REFERENCES (66)

ARABIC SUMMARY.

ABBERVIATIONS

ABC: Absolute basophil count.

AEC: Absolute Eosinophil count.

Ag: Antigen.

BVM: Bronchovascular marking.

C1: Complement-1.

C2: Complement-2.

C3a: Complement 3a.

C3b: Complement 3b.

CIC: Circulating immune complexes.

CBC: Compelete blood count.

ESR: Erythrocyte sedimentation rate.

FDA: Food drug Administration.

FEV1: Forced expiratory volume in 1 second.

IC: Immune complex.

IgA: Immunoglobulin A.

IgE: Immunoglobulin E.

IgG: Immunoglobulin G.

IgM: Immunoglobulin M.

List of Abbreviations

IL-1: Interleukin-1.

PEFR: Peak expiratory flow rate.

RAST: Radio allergo sorbent test.

SLE: Systemic lupus erythematosus.

VIP: Vasoactive intestinal peptide.

List of Abbreviations

LIST OF FIGURES

Fig.	(1) CIC Seropositivity in the studied sample	(43)
Fig.	(2) CIC titres in the studied sample	(44)
Fig.	(3) CIC concentrations in asthmatic children according to disease severity	(48)
Fig.	(4) CIC seropositivity in relation to chest X-ray findings	(50)
Fig.	<pre>(5) CIC mean titres in relation to chest X-ray findings</pre>	(51)
Fig.	(6) Negative correlation of CIC to AEC	(53)

List of Abbreviations

LIST OF TABLES

TABLES OF REVIEW OF LITERATURE:		
Table (1) Estimation of severity of acute exacerbation in children with asthma	(13)	
Table (2) The main diseases in which immune complex are implicated, indicating sites of deposition	es (23)	
TABLES OF RESULTS:		
Clinical and Laboratory data of asthmatic children enrolled during attacks	(30)	
Table (4) Clinical and laboratory data of asthmatic children enrolled inbetween attacks	(35)	
Table (5) Clinical and Laboratory data of the healthy hildren	(40)	
Table (6)		
Comparison between the CIC seropositive a seronegative asthmatic children in some clinical and laboratory data	nd (46)	
List of Tables		

