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**IMMUNOLOGICAL STUDIES IN SCHISTOSOMIASIS WITH  
SPECIAL REFERENCE TO CIRCULATING ANTIGENS,  
ANTIBODIES AND IMMUNE COMPLEXES.**

THESIS

Submitted in The Partial Fulfilment  
of Medical Degree of Clinical and Chemical Pathology.

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**1986**

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This research project is carried out under grant No. 82013 by foreign relation co-ordination unit of the supreme council of universities.

This grant is in pursuently, university linkage projects grant No. 263 - 0118 dated September 28, 1980 between government of A.R.E. and U.S.A.



### "ACKNOWLEDGMENT "

I wish to express my deepest gratitude to Professor Dr. Aida Abdel Azim, Professor of Clinical Pathology, Ain Shams University for having given me the chance to undertake the subject of this thesis and whose guidance, supervision, stimulating suggestions, generous cooperation and assistance were of great help in performing this work.

I am deeply indebted to Professor Dr. Mohamed Ali Madwar, Professor of Tropical Medicine, Ain Shams University. His meticulous supervision, constant kind advice and great effort were invaluable. He has gratefully given me a lot of his time and experience.

My thanks also goes to Dr. Liala El Shawarby, and Dr. Mona Rafik Lecturers of Clinical Pathology, Ain Shams University, for their precious advices, constant help and kind patience in supervising this work.

I am also thankful to Dr. O. Hassouna, Ph.D. London, and all my colleagues in Clinical Pathology Department, Ain Shams University, for their generous help and support during preparing this thesis.

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"LIST OF ABBREVIATIONS"

- Alanine transaminase :- ALT
- Alpha<sub>1</sub> egg antigen :-  $\alpha_1$
- Aspartate transaminase :- AST
- Antibody to Hepatitis B core antigen "IgG" :-  
Anti-HBc IgG
- Antibody to Hepatitis B e antigen :- Anti-HBe
- Antibody to Hepatitis B surface antigen :- Anti-HBs
- Anti-double stranded DNA :- Anti-ds DNA
- Antinuclear antibodies : ANA
- Cell-mediated immunity :- CMI
- Cationic egg antigen fraction 6 : CEF6
- Circulating anodic antigen :- CAA
- Circulating cathodic antigen :- CCA
- Circulating immune complexes : - CIC
- Circulating schistosomal antigen :- C.S.Ag.
- Circulating schistosomal antibody :- C.S.Ab.
- Circumoval precipitin test : COPT.
- Classic complement pathway :- CCP
- Complement : C
- Complement component C<sub>3</sub> : C<sub>3</sub>
- Complement component C<sub>5</sub> : C<sub>5</sub>
- Competitive radioimmunoassay :- CRIA
- Enzyme linked immunoelectrotransfer blot :- EITB

- Enzyme linked immunosorbent assay :- ELISA
- Extractable nuclear antigen :- ENA .
- Gut-associated proteoglycan :- GASP.
- Indirect fluorescent antibody tests :- IFAT.
- Hepatitis B core antigen :- HBcAg
- Hepatitis B e antigen :- HBeAg.
- Hepatitis B surface antigen :- HBsAg.
- Hepatitis B virus :- HBV.
- Kinetic dependent enzyme-linked immunosorbent assay:- K-ELISA.
- Omega 1 egg antigen :-  $\omega_1$  .
- Phenol sulfuric test active peak:-PSAP
- Radioallergosorbent test :- RAST .
- Ribonucleoprotein :- RNP.
- Schistosoma haematobium :- S. h.
- Schistosoma mansoni :- S.m.
- Schistosoma japonicum :- S.japonicum.
- Schistosoma mansoni adult microsomal antigens :- MAMA.
- Schistosoma japonicum adult microsomal antigens : JAMA .
- Smooth muscle : Sm.
- Sodium - dodecyl-sulphate polyacrylamide gel electrophoresis :- SDS-PAGE.
- Soluble egg antigens :- SEA .



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# Introduction &

AIM OF WORK

## INTRODUCTION AND AIM OF WORK

Schistosomiasis is one of the most prevalent diseases in Egypt. In the last few years, it has been considered to be one of the immune complex diseases. Several circulating antigens in blood and also in urine were found to be the consequences of parasitic infection by schistosomes. These antigens stimulate the formation of antibodies with which they form antigen-antibody complexes. The site of formation of these complexes is not yet determined. In addition, the involvement of antigen-antibody complexes in the renal injury associated with schistosomiasis, particularly the hepatosplenic form of the disease, has long been suspected. Granular deposits on the glomerular basement membrane have been demonstrated by a number of workers, as well as deposits of IgG, IgM and the third component of complement. All these findings suggest that circulating immune complexes is a feature of schistosomiasis and may well contribute to the associated pathology.

On the other hand, it is well known that serological methods often fail to detect antigen in patients with schistosomiasis even in some cases with active infection. It has been suggested that antibody binding of antigens into complexes may be at least partially responsible for this. The difficulty encountered in detecting a serological response in some patients is a limiting factor in sero-epidemiological