A biochemical study on hidden 19S IgM rheumatoid factor and the disease activity of Egyptian patients with seronegative juvenile rheumatoid arthritis.

Thesis

Submitted by

Mohammed Khaled Mohammed Metwally

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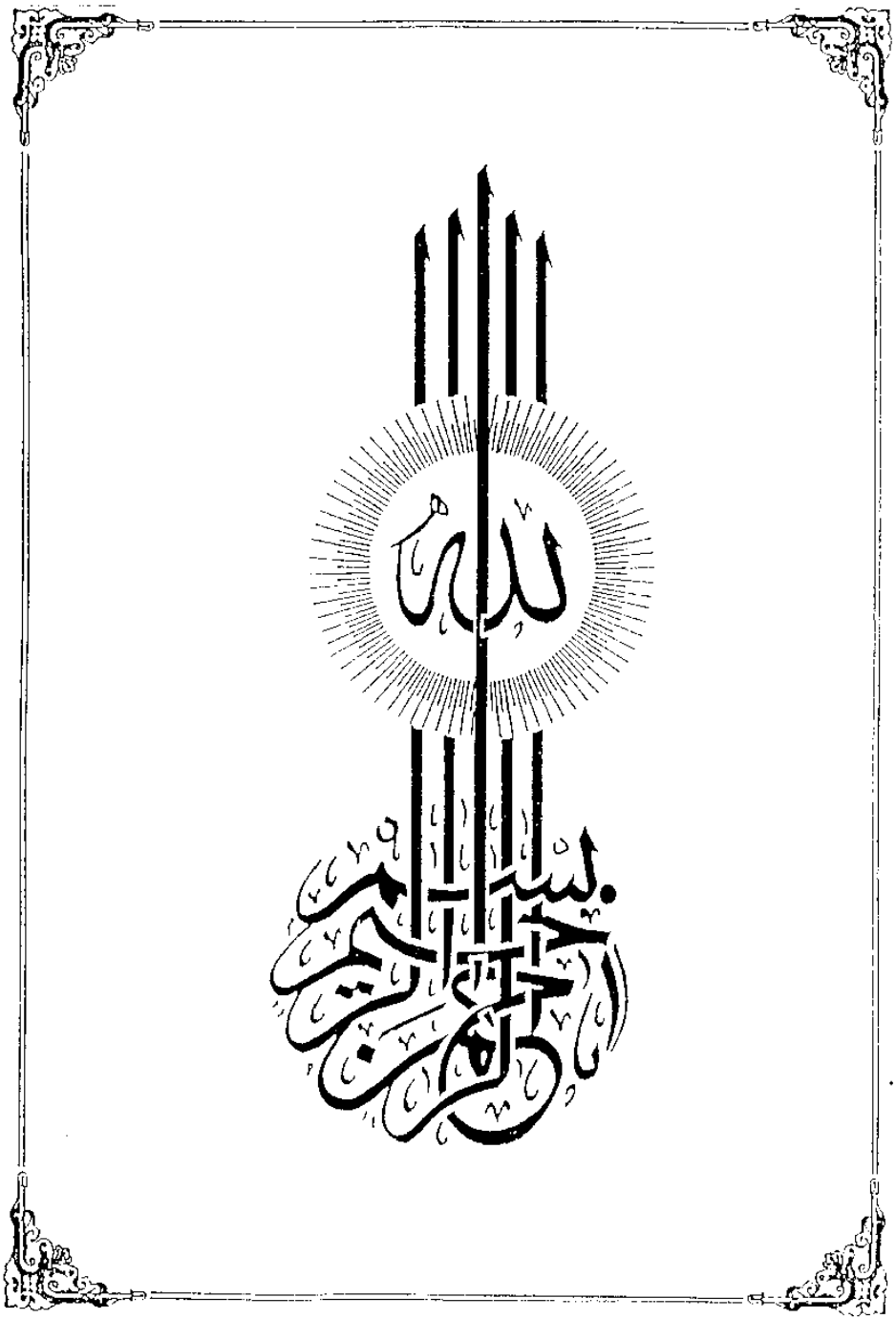
Supervisors

Prof. Dr. Tahany M. Maharem
Professor of Biochemistry
Faculty of Science
Ain Shams University

Prof. Dr. Fathy Tamara
Professor of General Medicine
Faculty of Medicine
Ain Shams University

Dr. Amina M. Medhat
Lecturer of Biochemistry
Faculty of Science
Ain Shams University

Faculty of Science
Ain Shams University
1996



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ABSTRACT

Mohammed Khaled Mohammed. A biochemical study on hidden 19S IgM rheumatoid factor and the disease activity of Egyptian patients with seronegative juvenile rheumatoid arthritis. Unpublished Doctor of Philosophy dissertation, Ain Shams University, Faculty of science, Biochemistry department, 1996.

In the present study the hidden rheumatoid factor was separated from the sera of seronegative juvenile rheumatoid arthritis patients by two methods (NaCl dissociation and ion-exchange chromatography) and its titer was correlated with serum circulating immune complexes and disease activity.

The simple, cheap and routine NaCl dissociation method yields similar hidden rheumatoid factor titers as the ion-exchange chromatography method. Also hidden rheumatoid factor titers correlated significantly with disease activity as indicated from the following observations .

The erythrocyte sedimentation rate, C3 , C4, circulating immune complexes, and interleukin 1β were significantly increased in hidden rheumatoid factor positive patients when compared to the hidden rheumatoid factor negative patients and normal subjects.

The C-reactive protein was positive in almost all the hidden rheumatoid factor positive patients and to lesser extent in hidden rheumatoid factor negative ones.

The syuovial fluid of hidden rheumatoid factor positive patients was more severely inflammed than in the hidden rheumatoid factor negative ones as observed from the marked increase in the levels of total leucocyte count, polymorphonuclear% , total protein, and acid phosphatase activity and the more detectable decrease in glucose level.

In conclusion, hidden rheumatoid factors were shown to be present in 60% of seronegative juvenile rheumatoid arthritis patients and the presence of hidden rheumatoid factor correlated with disease activity which may prove to be a valuable tool for the serologic diagnosis of juvenile rheumatoid arthritis and a mean of following disease activity.

The separation of hidden rheumatoid factor by NaCl dissociation method provides a simple, cheap, and accurate method suitable for most medical laboratories.

Key words : Juvenile rheumatoid arthritis, Rheumatoid factors, Hidden rheumatoid factors ,Acute phase proteins , Synovial fluid .

LIST OF ABBREVIATIONS

ANA	Antinuclear antibody
APF	Antiperinuclear factor
C3	The 3rd complement component
C4	The 4th complement component.
CIC	Circulating immune complexes.
CRP	C-reactive protein
EDTA	Ethylenediamine
ELISA	Enzyme linked Immunoabsorbent Assay.
ESR	Erythrocyte sedimentation rate.
HEP-2	Human epithelial cell-2.
HRF	Hidden rheumatoid factor.
hsp	Heat shock protein
IL-1	Interleukin-1
JRA	Juvenile rheumatoid arthritis.
LFT	Latex fixation test.
PLM	Polymorphonuclear leucocyte
PGs	Prostaglandins.
RA	Rheumatoid arthritis.
RCRI	Rheumatoid factor cross reactive idiotype.
RF	Rheumatoid factor
RW	Rose-Waaler test.
TLC	Total leucoycte count.

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