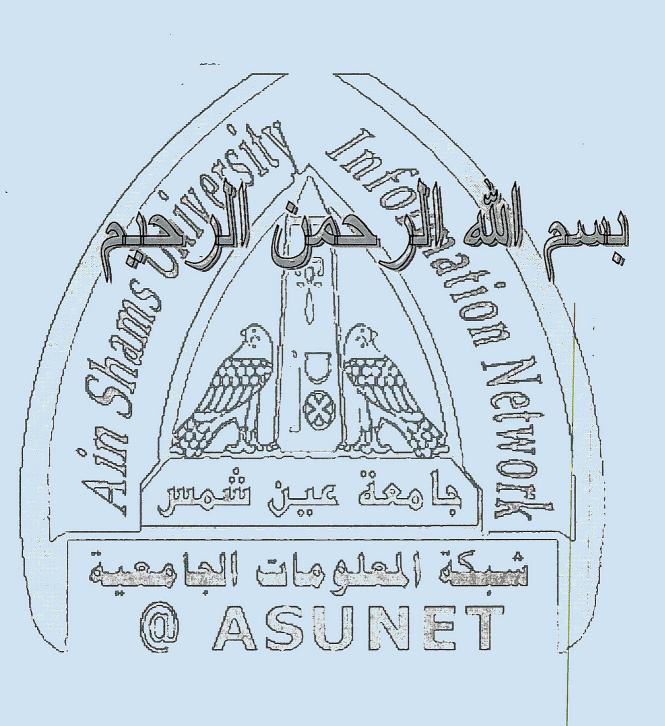


شبكة المعلومات الجامعية





شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها على هذه الأفلام قد أعدت دون أية تغيرات



يجب أن

تحفظ هذه الأفلام بعيدا عن الغبار المناد الم





شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



بعض الوثائق الاصلبة تالفة

Soluble Plasminogen Activator Receptor in Plasma of Children with Arthritis

Thesis Submitted for Partial Fulfillment of MSc Degree in Pediatrics

By Ebtihal Ahmed Abdel-Aziz M.B., B.Ch.

Supervisors

Prof. Dr. Magda A. Khazbak

Professor of Pediatrics Ain Shams University

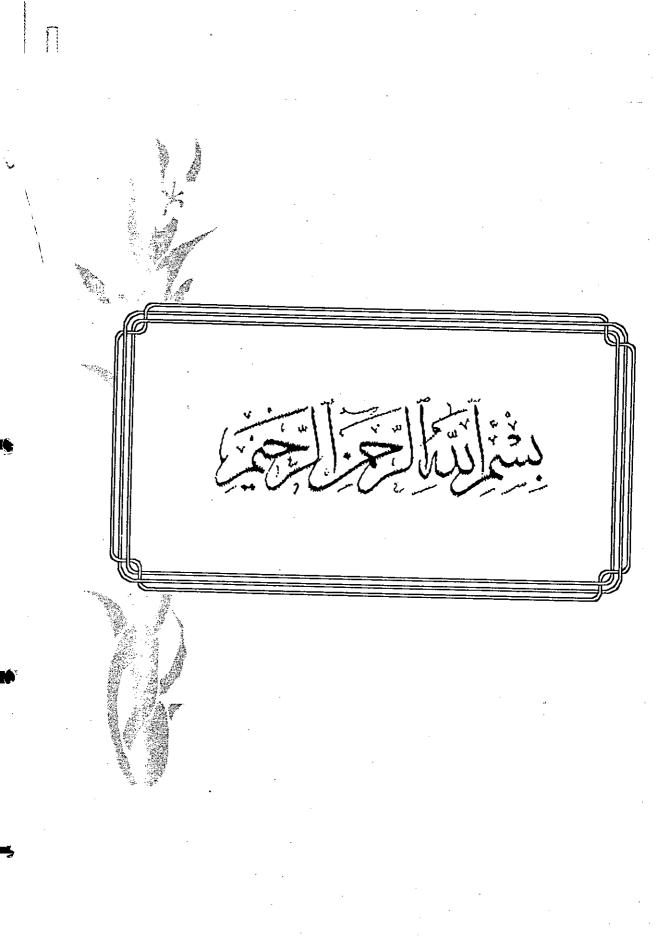
Prof. Dr. Salwa M. Abou-El Hana

Professor of Clinical Pathology Ain Shams University

Assistant Prof. Dr. Mohammed N. El-Barbary

Assistant Professor of Pediatrics
Ain Shams University

Faculty of Medicine
Ain Shams University
2001



Acknowledgement

At first, thanks to **GOD** for enlightening the way to me and directing me to every success, I have reached and will be reached in the future.

I significantly express my sincere gratitude, appreciation and heartful thanks to **Prof. Dr. Magda A. Khazbak,** professor of pediatrics, Faculty of Medicine, Ain Shams University for giving me the privilege of working under her supervision, her continuous encouragement, valuable guidance, kind help and close supervision. I am very grateful to her and words will never be enough to express my appreciation to her effort.

I would like to express heartly thanks to **Prof. Dr. Salwa M. Abu-El Hana**, professor of clinical pathology, Faculty of Medicine, Ain Shams Unviersity for considerable help, continuous guidance which was the paramount axis in progress of this work.

I also would never forget the great help, guidance and support given by **Dr. Mohammed N. El-Barbary,** assistant professor of pediatrics, Faculty of Medicine, Ain Shams University, without his help, this work would have never been accomplished.

I heartly thank Dr. Suha Ezz El-Arab for her

remarkable effort, which was the major factor behind the completions of this work, Also, I introduce my deep gratitude to her active skillful participation and cooperation throughout the practical part of this work.

Page

Ĺ

4

4

37

äč

 T_{i}

92

001

:03

 M_{1}

837

I also express my sincere appreciation and heartly thanks to my mother, my father, my daughters **Aliaa** and **Nada**, and especially my lovely supporting husband **Ahmed** for their understanding and for current support throughout this work.

Last, but by no means least, I thank all children and their parents for their co-operation and patience and to whom I dedicate this work.

LIST OF CONTENTS

	Page
Introduction	1
Aim of the Work	3
Review of Literature	4
Arthritis in children	4
Fibrinolytic system	37
Subjects and Methods	56
Results	67
Discussion	92
Summary and Conclusion	92 100
Recommendations	103
References	104
Arabic summary	126

LIST OF TABLES

•	Page
Table (1) Molecular components of the plasma	O
fibrinolytic system and their characterisics	41
Table (2) Clinical data of patient groups	68
Table (3) Labortory data of patient groups	71
Table (4) Data of control gorup	77
Table (5) Comparative study of different para-	
meters for group I, group II, group III versus the	э .
control group	79
Table (6) Statistical comparison study of diff-	
erent parameters between (group I) and (group	
III)	81
Table (7) Statistical comparison of different	-
parameters between (group I) and (group III)	82
Table (8) Statistical comparison study of differ-	-
ent parameters between group II and group III	83
Table (9) Statistical comparison between CRP	
+)ve and CRP (-ve) in group I, II regarding	
suPAR.	84
Table (10) Correlation study between level of	-
suPAR and different parameters in different	
group	85
Table (11) Correlation study between level of	
uPAR and No. of joints affected in different	
patient groups	87

LIST OF FIGURES

	Page
Figure (1):Schematic representation of the dom-	J
ainal structures of plasminogen, tPA and uPA	42
Figure (2): Molecular forms of plasminogen	
plasma	42
Figure (3): Different vlaues of control and pat-	
ient groups regarding suPAR	88
Figure (4): Relation beltween CRP (+ve) and	
(-ve) in each group and control group versus	
the level of suPAR	89
Figure (5): Correlation between ESR and suPAR	
in control group	90
Figure (6): Correlation between ESR and suPAR	
in suPAR concentration in group I	90
Figure (7): Correlation between ESR and suPAR	
concentration in group II	91
Figure (8):Correlation between ESR and suPAR	~
concentration in group III	91

LIST OF ABBREVIATIONS

ANA: antinuclear antibodies

ARF: acute rheumatic fever

ASOT: antistreptolysin O titre

CBC: complete blood count

 CH_{50} : total serum haemolytic complement

CPK: creatine phosphokinase

CRP: C-reactive protein

DM: diabetes mellitus

DNA: deoxyribonucleic acid

EACA: E-amino caproic acid

ECG: electrocardiography

EDTA: ethylene diamine tetra-acetic acid

ESR: erythrocyte sedimentation rate

F: female

HK: high molecular weight kininogen

HS: highly significant

IBD: inflammatory bowel disease

JRA: juvenile rheumatoid arthritis

Kb: kilobase

KD .: kilo daltons

LDL: low density lipoprotein

LRP: low-density lipoprotein receptor related protein

M: male

Max.: maximum

MCP: meta carpophalangeal joint

MI: mitral incompetence

Min.: minimum

MS: mitral stenosis

MTP: metatarsophalangeal joint

NS: nonsignificant

NSAIDs: nonsteroidal anti-inflammatory drugs

PA: plasminogen activators

PAI: plasminogen activator inhibitors

PIP: proximal interphalageal joint

RA: rheumatoid arthritis

RF: rheumatoid factor

S: significant

SLE: 'systemic lupus erythematosus.

scuPA: single chain urokinae plasminogen activator

suPAR : soluble urokinase plasminogen activator receptor

tcu-Pa/T: two chain urokinase plasminogen activator thrombin cleaved.

tPA: tissue type plasminogen activtor.

tPAR: tissue-type plasminogen activator receptor

uPA: urokianse plasminogen activator

uPAR: urokinase-type plasminogen activator receptor

WBC: white blood cell count

Introduction

INTRODUCTION

Rheumatoid arthritis is a chronic inflammatory disease characterized by the transendothelial ingress of leucocytes into synovial tissue that is rich in newly formed blood vessels. A regulatory network of inflammatory cells and mediators, as well as cellular adhesion molecules play an important role in the pathogenesis of arthritis. Angiogenesis is crucial for the perpetuation of leucocyte extravasation into the synovial tissue in rheumatoid arthritis, these elements have also been implicated in osteoarthritis and in degenerative joint disease with inflammatory features. (Slot et al., 1999).

There is substantial data suggesting that the urokinase plasminogen activator (uPA), which is highly involved in the proteolytic joint destruction underlying arthritis, interacts with a number of participants in the regulatory network. uPA, a serine protease, activates a cascade of proteolysis leading to extracellular matrix degradation, and thus it is involved in cell adhesion, migration and proteolysis underlying tumour invasion, inflammation, angiogenesis and tissue remodelling. (Dane et al., 1994).