Assessment of Arginase I Enzyme Level In Children with Bronchial Asthma and Its Correlation with Their Pulmonary Functions

Thesis

Submitted in the Partial fulfillment of Master Degree in Pediatrics

By

Marwa Ahmed Mossad El shiha

(M.B.B.CH.2007)

Ain Shams University

Under Supervision of

Prof. Dr. Karima Ahmed abd al khalek

Professor of Pediatrics

Faculty of Medicine - Ain Shams University

Prof. Dr. Eman Mahmoud Fouda

Professor of Pediatrics

Faculty of Medicine - Ain Shams University

Dr. Enas Samir Nabih

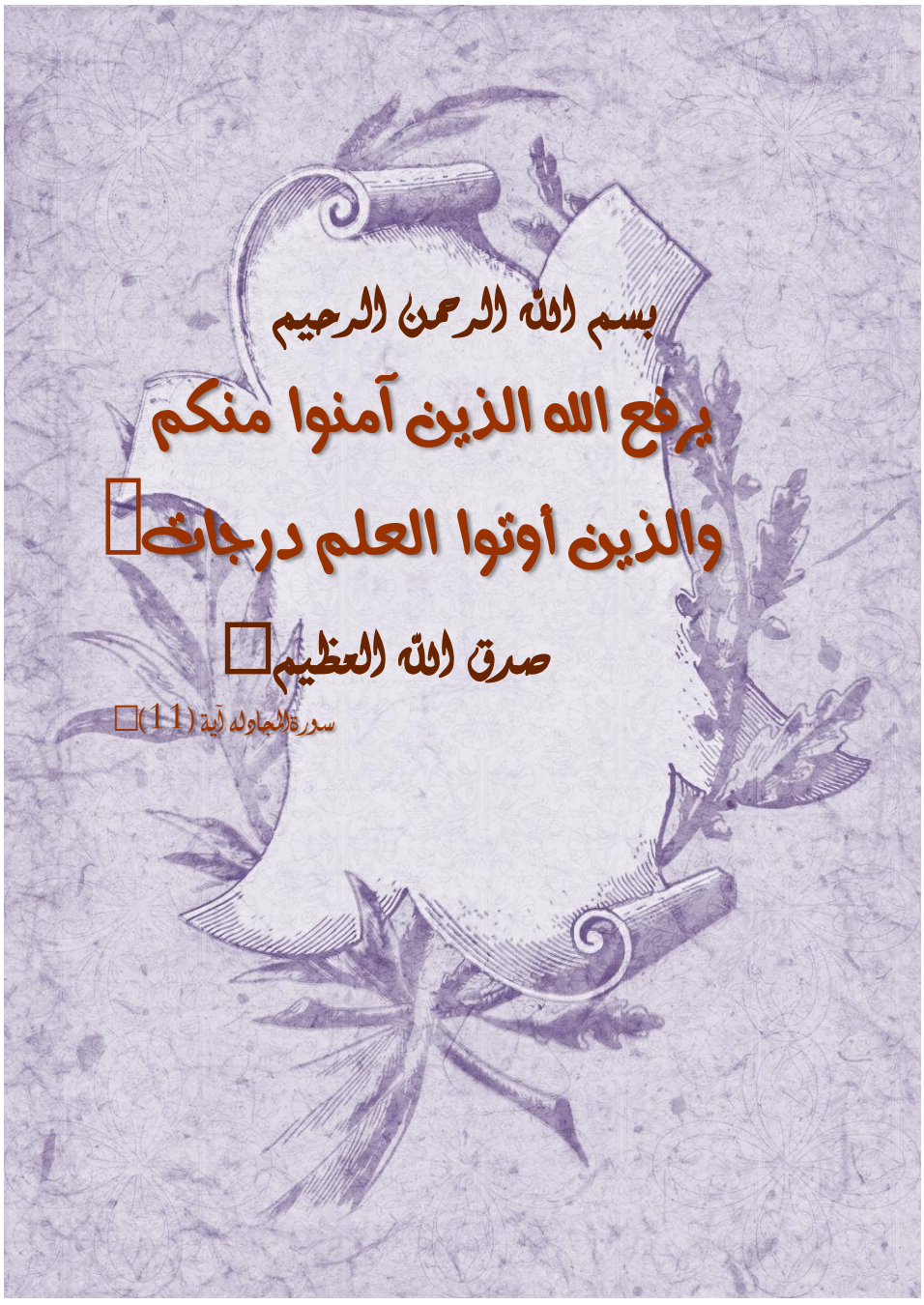
Lecturer of Medical Biochemistry and Molecular Biology

Faculty of Medicine – Ain Shams University

Faculty of Medicine

Ain Shams University

2014


بسم الله الرحمن الرحيم
يرفع الله الذين آمنوا منكم
والذين أوتوا العلم درجات
صدق الله العظيم
سورة المجادله آية (11)

Dedication

To:

My dear and lovely parents
Who gave me everything and received nothing and my family
My wonderful future husband Ahmed
Who helped and support me a lot
I wish for all of them a long and happy life

Acknowledgment

First and foremost, all thanks and gratefulness to ***"ALLAH",*** *the most beneficial and merciful.*

I would like to express my deepest appreciation and gratefulness to ***Prof. Dr. Karema Ahmed Abd El-Khalek,*** *Professor of Pediatrics, Faculty of Medicine, Ain Shams University for her continuous supervision, fruitful guidance and generous support. Indeed, this work would not be accomplished without her efforts and advice.*

Special thanks to ***Prof. Dr. Eman Mahmoud Fouda,*** *professor of Pediatrics, Faculty of Medicine, Ain Shams University for her tremendous effort and precious advice for the proper achievement of this work.*

I would like to thank ***Dr. Enas SamirNabeh*** *lecturer of biochemsrry, Faculty of Medicine, Ain Shams University for her kind help and great cooperation.*

My special thanks to all my patients and their parents who agreed to share in this study. I'm thankful to them for their effort, time and cooperation.

MARWA AHMED MOSAAD

List of contents

List of tables

List of figures

List of Abberviations

Abb.	Full term
AHR	Airway hyperreactivity
ALT	Alanine transferase
AMP	Adenosine mono phosphate
ASL	Argino succinate lyase
ASS	Argino succinate synthase
AST	Aspartate transferase
BHR	Bronchial hyper responsiveness
CD	Cluster of differentiation
COPD	Chronic obstructive pulmonary disease
CXR	Chest X ray
DCs	Denderitic cells
DNA	Deoxy riboneuclic acid
EAR	Early asthmatic reaction
EIB	Exercise induced broncospasm
eNOS	Endothelial nitric oxide synthase
FEV/FVC	Forced expiratory volume/Forced vital capacity
FEV1	Forced expiratory volume in 1^{st} second
GERD	Gastro esophageal reflux disease
GINA	Global initiative for asthma
GM-CSF	Granulocyte macrophage colony stimulating factor
HDM	House dust mites
ICS	Inhaled corticosteroids
IgE	Immunoglobulin E
IL	Interlukien
iNANC	Inhibitory non adrenergic non cholinergic
INK-T	In variant natural killer cell
LAR	Late asthmatic reaction
NCHS	National center for health statistics
NHLBI	National heart lung blood institute
NK	Natural killer

nNOS	Neuronal nitric oxide synthase
NO	Nitric oxide
NOHA	N-hydroxy L-arginine
NOS	Nitric oxide synthase
ODC	Ornithine decarboxylase
PDE	Phosphodiesterase
PDGF	Platelet derived growth factor
PEF	Peak expiratory flow
PGE2	Prostaglandiens E2
PUFA	Poly unsaturated fatty acid
Th1	T-helper cell
TNF	Tumer necrosis factor
US	United states
WHO	World health organization