



Iron Deficiency Anemia and its association to Childhood Asthma

Thesis

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قَالَ

سُبْحَانَكَ لَا عِلْمَ لَنَا
إِلَّا مَا عَلَّمْتَنَا إِنَّكَ أَنْتَ
الْعَلِيمُ الْعَظِيمُ

صدق الله العظيم

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Dedication

This work is dedicated to...

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List of Contents

Title	Page No.
List of Tables	6
List of Figures	9
List of Abbreviations	11
Introduction	1
Aim of the Work.....	19
Review of Literature	
▪ Childhood Asthma.....	20
▪ Iron Deficiency Anemia.....	102
▪ The Relationship between Iron Deficiency Anemia and Childhood Asthma	143
Patients and Methods	152
Results	164
Discussion	192
Summary	207
Conclusion.....	213
Recommendations	214
References	215
Arabic Summary	—

List of Tables

Table No.	Title	Page No.
Table (1):	Showing criteria for stringent API	42
Table (2):	Showing normal spirometry results.....	57
Table (3):	Showing classification of pediatric asthma severity by force spirometry	57
Table (4):	Showing evaluation of asthma control.....	58
Table (5):	Showing the classification of asthma severity and its management.....	68
Table (6):	Showing Age-Related Differential Diagnosis for Wheezing	69
Table (7):	Showing the classification of asthma exacerbations	87
Table (8):	Showing stepwise approach for management of asthma in children.....	97
Table (9):	Showing the classification of asthma control in children.....	99
Table (10):	Showing Complete Blood Count (CBC) reference ranges	119
Table (11):	Showing laboratory Studies Differentiating the Most Common Microcytic Anemias	129
Table (12):	Responses to Iron Therapy in Iron-Deficiency Anemia.....	138
Table (13):	Showing diet Counseling to Prevent Iron Deficiency in Children	141
Table (14):	Showing classification of pediatric asthma severity by force spirometry	162
Table (15):	Comparison between asthmatic patients without IDA and asthmatic patients with IDA and the control group according to demographic data.	165
Table (16):	Comparison between asthmatics without IDA and asthmatics with IDA according to onset of the disease and the exacerbating factors.	167

List of Tables Cont...

Table No.	Title	Page No.
Table (17):	Comparison between asthmatic patients with and without IDA and control according to the anthropometric parameters.....	169
Table (18):	Comparison between asthmatics without IDA and asthmatics with IDA according to the asthma severity assessment.....	170
Table (19):	Comparison between asthmatic patients with and without IDA according to frequency and severity of asthmatic attacks.....	171
Table (20):	Comparison between group A and B according to number of hospital, ICU admissions and ER visits in the last year.....	172
Table (21):	Comparison between Group A , B and C according to the Complete Blood Count parameters.	174
Table (22):	Comparison between asthmatic patients without IDA and asthmatic patients with IDA and control groups according to iron profile.....	177
Table (23):	Comparison between Group A and B according to pulmonary function test parameters.	180
Table (24):	Comparison between between asthmatics without IDA and asthmatics with IDA according to the pulmonary function test results.....	182
Table (25):	Correlation between pulmonary function test PFT results and CBC parameters in Group A and B	184

List of Tables Cont...

Table No.	Title	Page No.
Table (26):	Correlation between BMI [wt/(ht) ²] with Hb, RBCs, Iron/TIBCx100, total iron and ferritin, using Pearson correlation coefficient in asthmatic patients (with and without) IDA groups.....	186
Table (27):	Correlation between the number of hospital admissions with Hb level and iron profile, using Pearson correlation coefficient in asthmatic patients group (with and without IDA).....	187
Table (28):	Correlation between severity of asthma with Hb level, iron profile, using Pearson correlation coefficient in asthmatic patients group (with and without IDA).....	188
Table (29):	Correlation between Pulmonary function test parameters with Hb level, iron profile, using Pearson correlation coefficient in asthmatic patient group (with and without IDA).....	190
Table (30):	Correlation between asthma duration (in years) with Hb level, iron profile, using Pearson correlation coefficient in asthmatic patients group (with and without IDA).	191

List of Figures

Fig. No.	Title	Page No.
Fig. (1):	Bar chart showing the relation between the asthmatic patient groups and the control group according to sex.....	166
Fig. (2):	Bar chart showing comparison between asthmatics without IDA and asthmatics with IDA according to the exacerbating factors.	168
Fig. (3):	Bar chart showing comparison between the 2 groups of asthmatic patients according to the number of hospital admissions in the last year.....	173
Fig. (4):	Bar chart showing comparison between asthmatic patients with and without IDA and control groups according to CBC parameters.....	175
Fig. (5):	Bar chart showing comparison between asthmatic patients group A, B and C according to PLT count which was higher in group B	176
Fig. (6):	Bar chart showing a comparison between asthmatic patients without IDA group and asthmatic patients with IDA group and control group according to iron profile.	178
Fig. (7):	Bar chart showing a comparison between group A, B and C according to TIBC, which was higher in group B.....	179
Fig. (8):	Bar chart showing a comparison between asthmatics without IDA and asthmatics with IDA according to forced spirometry parameters.....	181

List of Figures Cont...

Fig. No.	Title	Page No.
Fig. (9):	Bar chart showing a comparison between asthmatics without IDA and asthmatics with IDA according to pulmonary function test results.	183
Fig. (10):	Correlation between severity of asthma and Hb.	189
Fig. (11):	Correlation between Pulmonary function test parameters with Hb level, iron profile, using Pearson correlation coefficient in asthmatic patients group (with and without IDA).	190
Fig. (12):	Correlation between duration of asthma and serum ferritin.	191

List of Abbreviations

Abb.	Full term
AAP.....	American Academy of Pediatrics
ACD.....	Anemia of Chronic Disease
ACQ.....	Asthma Control Questionnaire
AD.....	Atopic dermatitis
ADAM33.....	A disintegrin and metalloproteinase 33
ADHD.....	attention-deficit/hyperactivity disorder
AHR.....	Airway hyper-response
APCs.....	antigen-presenting cell
API.....	Asthma Predictive Index
AR.....	Allergic rhinitis
ATS/ERS.....	American Thoracic Society/European Respiratory Society
BA.....	Bronchial Asthma
BDR.....	Bronchodilator response
BHR.....	Bronchial hyperresponsiveness
BMI.....	Body Mass Index
BTS/SIGN.....	British Thoracic Society/Scottish Intercollegiate Guidelines Network
cAMP.....	Cyclic adenosine monophosphate
CBC.....	Complete Blood Count
CDC.....	Centers for Disease Control
CF.....	Cystic Fibrosis
CFC.....	Chlorofluorocarbon
CMV.....	Cytomegallovirus
COX-1.....	Cyclooxygenase enzyme 1
CRP.....	C-reactive protein
CS.....	Corticosteroid
CT.....	computed tomography

List of Abbreviations Cont...

Abb.	Full term
CXR.....	Chest x-ray
CysLTs	Cysteinyl LTs
DNA.....	Diauxic ribonuclease acid
DPI.....	Dry-powder inhaler;
DPP10	Dipeptidyl peptidase
EAR	Early asthmatic response
ED	Emergency department
EIB.....	Exercise-Induced Bronchospasm
ERCP	Endoscopic retrograde pancreatography
ERV	Expiratory reserve volume
ETS	Environmental Tobacco Smoke
FA	Food allergy
FEF	Forced Expiratory Flow
FEP	Free Erythrocyte Protoporphyrin
FEP	Free erythrocyte protoporphyrin
FEV1.....	Forced Expiratory Volume in The First Second
FOT.....	Forced Oscillation Technique
FRC.....	Functional Residual capacity
FVC	Forced Vital Capacity
GERD	Gastroesophageal reflux disease
GI	Gastrointestinal
GI	Gastro-Intestinal
GINA	Global Initiative for Asthma
GM-CSF	Granulocyte macrophage colony stimulating factor
H	Histamin
Hb	Hemoglobin
HCT	Hematocrit

List of Abbreviations Cont...

Abb.	Full term
HFA	Hydrofluoroalkane
HIV	Human immunodeficiency virus
Hr	Hour
HS	Highly Significant
IBD	Inflammatory bowel disease
ICS	Inhaled Corticosteroid
ID	Iron-Deficiency
IDA	Iron-Deficiency Anemia
IgE	Immunoglobulin E
IL6R.....	Interleukin 6 Receptor
IOM.....	Institute of Medicine
IOM.....	The Institute of Medicine
IOS.....	Impulse oscillometry
IOS.....	Impulse oscillometry
IQ	Intelligence quotient
ISAAC	International Study of Asthma and Allergies in Childhood
LABA	Long Acting Beta Agonist
LAR.....	late asthmatic response
LMIC	Low and middle income countries
LOX5	Lipoxygenase 5
LRTI	Lower Respiratory Tract Infections
LTRA	Leukotriene Receptor Antagonist
LTRAs	Leukotriene receptor antagonist
LTs.....	Leukotrienes
MCHC.....	Mean Corpuscular Hemoglobin Concentration
MCV.....	Mean Corpuscular Volume
MRI.....	Magnetic resonance imaging

List of Abbreviations Cont...

Abb.	Full term
NAEPP	National Asthma Education and Prevention Program
NaFeEDTA,	Sodium Ferredetaten Ethylene Diamine Tetra Acetic
No.....	Number
NPPV	Non-invasive positive pressure ventilation
NSAIDs	Non Steroidal Anti-inflammatory Drugs
NSAIDs	Nonsteroidal anti-inflammatory drugs
O2.....	Oxygen
OCD	Obsessive Compulsive Disorder
PFTs	Pulmonary Function Tests
PHF11	plant homeodomain finger protein 11
PO	Per Oral
RBCs.....	Red Blood Cells
RBCs.....	Red blood cells
RDW	Red Cell Distribution Width
RDW	Red cell distribution width
RSV.....	Respiratory Syncytial Virus
RV	Residual volume
SA	South Africa
SABA	Short Acting Beta Agonist
SD	Standard Deviation
SF	Serum Ferritin
TfR	Transferrin receptor
TfR1	Transferring Receptor 1
TIBC	Total Iron Binding Capacity
TIBC	Total iron-binding capacity
TNF:	Tumor nerotizing factor

List of Abbreviations Cont...

Abb.	Full term
URIs.....	Upper Respiratory Infections
URTI	Upper Respiratory Tract Infection
USA	United State of America
WHO.....	World Health Organization