









جامعة عين شمس

التوثيق الالكتروني والميكروفيلم



نقسم بللله العظيم أن المادة التي تم توثيقها وتسجيلها علي هذه الأفلام قد اعدت دون آية تغيرات



يجب أن

تحفظ هذه الأفلام بعيداً عن الغبار

في درجة حرارة من 15-20 مئوية ورطوبة نسبية من 20-40 %

To be kept away from dust in dry cool place of 15 – 25c and relative humidity 20-40 %



ثبكة المعلومات الجامعية





Information Netw. " Shams Children Shams of the Shame of the S شبكة المعلومات الجامعية @ ASUNET بالرسالة صفحات لم ترد بالأص

ASSESSMENT OF ERVTHROPOLETIN LEVEL IN B-TIMEASSEMIA AND IRON DEFICIENCY ANEMIA

A Thesis Submitted For The Partial Fulfillment Of The Master Degree In Pediatrics

By

Hamdy Fekry Mohamed Youssef

(M.B.B.Ch.)

Faculty of Medicine
Suez Canal University
2002

BNCNV



Supervisors

Prof.Dr.

Prof.Dr.

Ahmed Atef Saad Nevene Ramsis Wissa

Professor of Pediatrics

Faculty of Medicine

Suez Canal University

Professor of Clinical Pathology

Faculty of Medicine

Suez Canal University

Dr.

Ashraf Nabil Eissa

Associate Professor of Pediatrics

Faculty of Medicine

Suez Canal University

Faculty of Medicine
Suez Canal University
2002



قالوا سبحانك لا علم لنا إلا ماعلمتنا إنك أنت العليم الحكيم

صدق الله العظيم

(البقرة آية ٣٢)

AKNOWLEDGMENT

First and foremost, I must thank **God**, the most gracious, the most merciful.

Words cannot express the depth of my gratitude to *Grof. On:* Ahmed Atef Saad, for his precious time and whose unlimited support, guidance and help in choosing and implementing this type of research.

I am indebted to *Graf. On Nevene Rumsis*, for her continous support, guidance and expert advice.

I am also grateful to *Gree Ashruf Nabil Eissu*, associate Professor of Pediatrics, Faculty of Medicine, Suez Canal University. For his continuous support and guidance.

Finally, I would like to express my deep appreciation to my colleagues in Pediatrics and Clinical Pathology Departments, who helped me to accomplish this work.



CONTENTS

Acknowledgement	
List OF Abbreviations	
List of Tubles	
List of Figures	1-3
Introduction	4
Aim of the work	. 5
Objectives	6-38
REVIEW OF LITERATURE	. •
[A] Beta-thalassemia:	, , 6
Definition Ligar distribution	7
Prevalence and geographical distribution.	9
 Pathophysiology of beta-thalassemia 	. 14
Clinical picture	23-30
Diagnosis of beta-thalassemia:	23
- Prenatal diagnosis.	24
- Postnatal diagnosis	26
- Hematological diagnosis	20
- Radiological diagnosis	30
Current management of beta-thalassemia	
	38-55
[B] Iron deficiency anemia	38
Definition and prevalence	40
Consequences of iron deficiency anemia	47
Laboratory diagnosis of iron deficiency anemia	52
Treatment of iron deficiency anemia	56-68
[C] Erythropoietin	56
 Introduction 	56
 Production of Epo 	58
Regular of Epo.	59
 Plasma concentration of Epo 	60
• Effect of Eno on erythrogenesis	62
Erythropoietin from recombined DNA and its uses	. 65
Erythropoietin in thalassemia	67
Erythropoietin in iron deficiency anemia	10 ms
Subjects and Methods	69-75 76-107
Results	108-119
Discussion	120-121
Summary and Conclusion	120-121
Recommendation	123-142
References	122-17-
Appendix	
Arabic Summary	•

LIST OF TABLES

Tables in Review of Literature:

Table (I)	: Clinical and hematological features of beta-thalassemia.	22
Table (II)	: Iron index according to age.	50
Table (III)	: Laboratory evaluation of microcytic states.	51
Table (IV)	: Responses to iron therapy in iron deficiency anemia.	55
Tables ir	n Results:	
Table (I)	: Percentage of clinical and radiological finding among	83
	studied thatassemic and iron deficiency cases.	
Table (2)	: Comparison of age, sex, weight and height percentile	85
	between all studied groups.	
Table (3)	: Comparison of weight and height percentiles between	86
	beta-thalassemia and iron deficiency anemia	
Table (4)	: Hematological data in beta-thalassemia, iron deficiency	88
	anemia and control group.	
Table (5)	: The differences among study groups in biochemical	90
	parameters.	•
Table (6)	: Comparison of studied parameters between	92
	beta-thalassemia and control group.	
Table (7)	: Comparison of studied parameters between iron	94
	deficiency anemia and control groups	
Table (8)	: Comparison of studied parameters between thalassemia	95
	and iron deficiency anemia groups.	
Table (9)	: Comparison of some studied parameters in both beta-	96
	thalassemia and iron deficiency anemia groups with	
	moderate anemia.	
Table (10)	: Comparison between the Hb level, MCV, MCH,	97
	reticulocytic count and Epo and thaslassemia major and	
	thalassemia intermedia.	
Table (11)	: Correlation coefficient (r) and probability (p) of the variables	97
	related to serum Epo among studied thalassemic cases	