

رسالة

STUDY OF SERUM CARNITINE LEVEL IN INFANTS WITH PROTEIN ENERGY MALNUTRITION

THESIS

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By

Hanaa Mostafa Khaled Otaiba

M.B., B.Ch., 1986

Supervised by

Prof. Dr. Kotb Ahmed Tolba

Professor of Pediatrics

Faculty of Medicine

Ain Shams University

Dr. Gamal Ahmed Helmy Mottier

Lecturer of Pediatrics

Faculty of Medicine

Ain Shams University

Dr. Fouad Fetouh Mahmoud Atia

Lecturer of Biochemistry

Faculty of Pharmacy

Al-Azhar University

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"بسم الله الرحمن الرحيم"

قَالُوا سُبْحَانَكَ لَا عِلْمَ لَنَا
إِلَّا مَا عَلَّمْتَنَا إِنَّكَ أَنْتَ الْحَكِيمُ الْحَكِيمُ

"صدق الله العظيم"

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To
My FAMILY

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CONTENTS

	Page
Introduction	1
Aim of The Work	3
Review of Literature:	
<i>Carnitine</i>	4
Carnitine metabolism	12
Pathophysiology of carnitine deficiency	19
<i>Protein-energy malnutrition</i>	30
Aetiology of PEM	34
Kwashiorkor	36
Marasmus	44
Marasmic kwashiorkor	49
Subjects and Methods	50
Results	56
Discussion	85
Summary, Conclusion and Recommendation	101
References	104
Arabic Summary	---

LIST OF TABLES

Tab. No	Title	Page
I	Normal values of carnitine concentration in tissues	17
II	Secondary carnitine deficiency syndromes	24
III	Classification of PEM	32
IV	Classification of PEM (Wellcome classification)	33
1	Clinical and anthropometric data of infants of the control group	58
2	Clinical and anthropometric data of infants with PEM	64
3	Lab data of infants of control group	67
4	Lab data of infants with PEM	69
5	Lab data of infants with PEM	71
6	S.carnitine, pl.albumin, s.FFA and pl.glucose in infants with PEM versus control group	73
7	S.carnitine, pl.albumin, s.FFA and pl. glucose in infants with Kwo., m.Kwo. and marasmus versus control group	79
8	Correlation between s.carnitine, pl.albumin, s.FFA and pl.glucose in infants with PEM	81

LIST OF FIGURES

Fig. No	Title	Page
I	The pathway of mitochondrial fatty acid oxidation (β -oxidation)	4
II	Carnitine acyltransferases	6
III	Carnitine biosynthesis	12
1	Comparative study for all studied groups regarding serum carnitine and serum free fatty acids levels	74
2	Comparative study for all studied groups regarding plasma albumin level	75
3	Comparative study for all studied groups regarding plasma glucose level	76
4	Comparative study for all studied groups regarding serum carnitine, plasma albumin, serum free fatty acids, and plasma glucose levels	77
5	Correlation between serum carnitine and plasma albumin in infants with PEM	82
6	Correlation between serum carnitine and serum free fatty acids in infants with PEM	83
7	Correlation between serum carnitine and plasma glucose in infants with PEM	84

LIST OF ABBREVIATIONS

CoA	: Coenzyme A
PEM	: Protein-energy malnutrition
Kwo.	: Kwashiorkor
m.Kwo.	: Marasmic kwashiorkor
IgA	: Immunoglobuline A
S.carnitine	: Serum carnitine
pl.albumin	: Plasma albumin
s.FFA	: Serum free fatty acids
pl.glucose	: Plasma glucose
Lab	: Laboratory
Fig.	: Figure

INTRODUCTION

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L-carnitine was discovered in meat extracts eighty years ago (*Gulewitsch and Kremberg, 1905*), but the role for carnitine in metabolism was established fifty years later (*Fritz, 1959*). It was found that carnitine caused a marked stimulation of long-chain fatty acids oxidation in mitochondria. Carnitine is a necessary factor in the transport of acyl residues across the inner mitochondrial membrane (*Bremer, 1983*).

L-carnitine is synthesized endogenously from methylated lysyl residues (*Winter et al., 1987*). Meat products, particularly red meats, and dairy products are important dietary sources of L-carnitine (*Rebouche and Engel, 1983*).

Carnitine levels are regulated by endogenous biosynthesis from lysine and methionine, intestinal absorption, renal excretion, and catabolism. Also, the amount of dietary carnitine contribute to the final levels of carnitine in body fluids and tissue (*Duran et al., 1990*).

Infants with protein-energy malnutrition have deficiency in the essential amino acids as lysine and methionine as a part of their syndrome (*El-Mougi, 1990*). Also, these infants with

protein-energy malnutrition consume little amounts of red meat and dairy products, which are the richest sources of dietary carnitine.

So, carnitine deficiency can be anticipated in those infants. This deficiency may contribute to the metabolic disturbances they have.

AIM OF THE WORK

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The aim of this work is to study the serum carnitine level in infants with protein-energy malnutrition and its correlation with plasma albumin, serum free fatty acids, and plasma glucose levels.

REVIEW OF LITERATURE