

GASTRIN HORMONE STATUS IN KWASHIORKOR AND MARASMIC KWASHIORKOR

Thesis

رسالة

*Submitted for partial fulfillment of master degree in
Pediatrics*

18.9239
Z. E.

Presented by

60767

ZEINAB EBRAHEEM HASAN
(M.B.B.CH)

Supervisors

**PROF. DR. GILANE ABDEL HAMID
OSMAN**

Prof. of Pediatrics

Faculty of medicine - Ain Shams University

**ASSIST. PROF. DR. HODA LOTFY
EL-SAYED**

Assist. Prof. of Pediatrics

Faculty of Medicine - Ain Shams University

**FACULTY OF MEDICINE
AIN SHAMS UNIVERSITY
1998**







Dedicated

To my parents

ACKNOWLEDGEMENT

I would like to express my deepest gratitude and profound respect for my honoured professor, **Professor Dr. Gilane Abdel Hamid Osman**, Professor of Pediatrics, Faculty of Medicine, Ain Shams University, for her valuable advice, enriching observations and limitless patience. It has been an honour and a privilege to work under her generous supervision.

I would also like to express my heart felt thanks and deepest sense of obligation to **Professor Dr. Hoda Lotfy El-Sayed**. Assist. Professor of Pediatrics, Faculty of Medicine, Ain Shams University, who offered me every guidance and encouragement, and without her endless support this work would never have seen the light.

I am also indebted to **Dr. Wael El-Garf** Assistant lecturer of human genetics, National Research Center, for his great help, continuous support and sincere advice during the laboratory part of this work.

Finally, I am truly grateful to my patients and their parents who helped me to achieve this work.



LIST OF ABBREVIATIONS

ALP:	Alkaline phosphatase enzyme
BMI:	Body mass index
Ca ⁺⁺ :	Calcium
c-AMP:	Cyclic adenosine triphosphate
CCK:	Cholecystokinin
CDNA:	complementary Deoxyribonucleic acid
Cl ⁻ :	Chloride ions
CNS:	Central nervous system
DNA:	Deoxyribonucleic acid
FAO:	Food and agriculture organization
G-14:	Gastrin 14
G-17:	Gastrin 17
G-34:	Gastrin 34
GAD1:	Gastrin antiserum
GAD2:	I ¹²⁵ gastrin
GAD3-9:	Gastrin calibrators
GARGG:	Goat anti-rabbit gamma globulin
GFR:	Glomerular filtration rate
GIP:	Gastric inhibitory peptide
GLI:	Glicentin
GRP:	Gastrin releasing peptide
H ⁺ :	Hydrogen ions
Hb:	Hemoglobin
HKATPase:	Hydrogen-potassium adenosine triphosphatase
I ¹²⁵ :	Radioactive iodine
KWO:	Kwashiorkor
M KWO:	Marasmic kwashiorkor
M:	Marasmus
MAC:	Mid arm circumference



LIST OF ABBREVIATIONS (Cont.)

MRDM:	Malnutrition Related Diabetes Mellitus
MRI:	Magnetic resonance imaging
Na:	Sodium ions
NSB:	Non specific binding
ORS:	Oral rehydration solution
PCM:	Protein-caloric malnutrition
PEG:	Polyethylene glycol
PEM:	Protein energy malnutrition
Pg/ml:	Pico gram per milliliter
Ph:	Phosphorus
Pmol/L:	Pico mol per liter
RIA:	Radio immunoassay
T:	Total counts
UUN:	Urine urea nitrogen
VIP:	Vasoactive intestinal peptide
WHO:	World Health Organization



LIST OF TABLES

Table (1):	Gomez classification of PEM (1956).	6
Table (2):	Jelliffe classification PEM (1966).	7
Table (3):	Garrow classification (1966)	8
Table (4):	Wellcome classification of PEM (1977).	9
Table (5):	Buzina classification of PEM (1980).	10
Table (6):	Mc Laren and Read classification of PEM.	14
Table (7):	Scoring system for severe PEM.	15
Table (8):	Thanagkul scoring system for PEM (1980).	16
Table (9):	Observations that must be reconciled in any theory of the pathogenesis and etiology of KWO.	29
Table (10):	Selective approach to nutritional support.	63
Table (11):	Postulated mechanism for the source of hydrogen.	70
Table (12):	Structures of some of the hormonally active polypeptides secreted by cells of the gastrointestinal tract.	76
Table (13):	Mean age of patients and controls.	99
Table (14):	Epidemiological data of patients and controls.	101
Table (15):	Clinical data of patients included in this study.	102
Table (16):	Nutritional data of patients and controls.	103
Table (17):	Comparison between mean anthropometric parameters among KWO and control groups.	105



جامعة عين شمس
AIN SHAMS UNIVERSITY

LIST OF TABLES (Cont.)

Table (18):	Comparison between mean anthropometric parameters among MKWO and control groups.	106
Table (19):	Comparison between mean anthropometric parameters among KWO and MKWO groups.	107
Table (20):	Comparison between haematological data of KWO and control groups.	110
Table (21):	Comparison between haematological data of MKWO and control groups.	111
Table (22):	Comparison between haematological data of KWO and MKWO groups.	112
Table (23):	Comparison between biochemical parameters of KWO and control groups.	115
Table (24):	Comparison between biochemical parameters of MKWO and control groups.	116
Table (25):	Comparison between biochemical parameters of KWO and MKWO groups.	117
Table (26 I, II, and III):	Comparison between mean fasting serum gastrin of the 3 studied groups.	121
Table (27):	Comparison between mean fasting serum gastrin level in males and females among KWO and MKWO patients.	123
Table (28 I and II):	Influence of epidemiological factors on mean fasting serum gastrin.	124

