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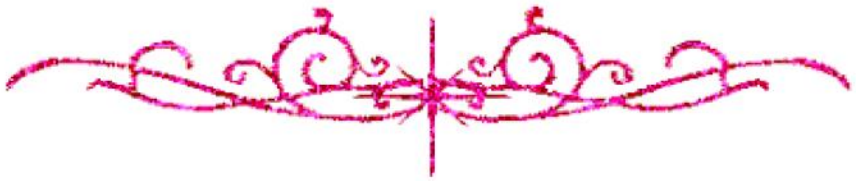

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لم ترد بالأصل

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Insulin-like Growth Factor-1 as a Prognostic Marker in Persistent Diarrhea

Thesis
For Partial Fulfillment of M.D Degree in Pediatrics

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Introduction & Aim Of the Work

Persistent diarrhea, defined as diarrhea persisting ≥ 14 days, is recognized as a major cause of morbidity and mortality in childhood, accounting for 3-20% of all childhood diarrheal episodes, with associated case fatality rates exceeding 15%. (Bhutta et al, 1999)

There is considerable interest in the role of growth factors in postnatal intestinal growth and maturation and the regulation of intestinal adaptation to changes in the nutritional status. (Winesett et al, 1995)

Circulating insulin-like growth factor 1 (IGF-1) is produced mainly in the liver in response to growth hormone, but is also produced in most tissues and the distribution of its receptors is widespread. The intestine is considered to be one of the most responsive target organs for IGF-1 and some regard it as essential for intestinal repair. (Ziegler et al, 1996)

Persistent diarrhea is usually associated with nutritional abnormalities and appropriate nutritional rehabilitation is considered an important cornerstone of treatment. (Bhutta et al, 1996)

There are few data on IGF-1 status and its dynamics during recovery from persistent diarrhea. Hence, the aim of this work is to measure IGF-1 level, before and after management and nutritional rehabilitation, in patients with persistent diarrhea of different causes, and evaluate it as a prognostic marker.

Subjects and Methods

An adequate number of patients aged between 6-36 months, with persistent diarrhea, will be involved in this study.

The patients will be selected from the outpatient clinics and from patients admitted in the pediatric hospital of Ain Shams University.

- **All patients will be subjected to:**

1. Full history-taking laying stress on dietary history, history suggestive of infection, thorough clinical examination, laying stress on signs of infection, signs of nutritional deficiency and anthropometric.

2. Correction of dehydration or electrolyte disturbances if needed.

3. After stabilization, children will follow a diet based on rice, lentil and yogurt, providing at least 100 kcal/kg/day for 3 days. Then, return to a normal diet. Successful response will be defined as weight gain > 5 gm/kg/day and resolution of diarrhea (<5 motions/day).

4. stool analysis searching for:
    - Parasitic infestations.
    - Pus cells (if positive, stool culture will be done).
    - Fecal fat.
    - Fecal alpha 1 anti-trypsin.

5. C-reactive protein (CRP), complete blood count (CBC) and erythrocyte sedimentation rate (ESR) to diagnose infection.

6. **Hydrogen Breath** test for carbohydrates (CHO) mal-absorption.

7. **Dual sugar absorption test** using oral administration of isotonic lactulose and L-rhamnose followed by urine collection for 6 hours at baseline, and repeated on the seventh day to test for intestinal permeability.

8. Measurement of serum **albumin, pre-albumin** and **IGF-1** will be done at baseline and repeated at day seven.

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CONTENTS

List of Abbreviations

≤	Less than equal
≥	More than equal
%	Percent
AIDS	Acquired immunodeficiency syndrome
α-1	alpha-1
BUN	Blood urea nitrogen
°C	Centigrade
C_3	Complement component number 3
Cal	Calories
CBC	Complete blood count
CD_4	Helper T cells
CD_8	Cytotoxic Tcells
CHO	Carbohydrate
cm	Centimeter
CRP	C-reactive protein
DNA	Deoxyribonucleic acid
ECF	Extracellular fluid
E.coli	Escherichia Coli
EIEC	Enteroinvasive Escherichia Coli
ELISA	Enzyme linked immunosorbent assay
EPEC	Enteropathogenic Escherichia Coli
ESR	Erythrocyte sedimentation rate
ETEC	Enterotoxigenic Escherichia Coli
F	Fructose
G	Glucose
GH	Growth hormone