سامية محمد مصطفى

شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم

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التوثيق الالكتروني والميكروفيلم

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جامعة عين شمس

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قسم

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بعض الوثائق الأصلية تالفة

سامية محمد مصطفى

بالرسالة صفحات لم ترد بالأصل

COMPARATIVE STUDY OF EOSINOPHILIA AND SERUM TOTAL IGE LEVEL IN PARASITIC INFECTION OF CHILDREN WITH AND WITHOUT ALLERGIC MANIFESTATIONS

THESIS

Submitted in partial fulfillment of the requirements of Master Degree in

Parasitology

By

Zeinab Salah Ahmed Shoheib
M.B.,B.Ch.

SUPERVISORS

Prof. Dr.
Ahmed A. Daoud
Prof. and Head of parasitology dep.
Faculty of Medicine
Tanta University

Dr.
Ibrahim Aboul Asaad
Ass. Prof. of parasitology
Faculty of Medicine
Tanta University

Dr.
Nabila A. Yassien
Ass. Professor of parasitology
Faculty of Medicine
Tanta University

FACULTY OF MEDICINE
TANTA UNIVERSITY
1999

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ACKNOWLEDGMENT

First and foremost thanks to ***ALLAH*** whose magnificent help was the main factor in accomplishing this research work .

I would like to express my sincere thanks and deepest gratitude to prof. Dr. **A. Daoud** , professor and head of parasitology department , faculty of medicine , Tanta University for his continuos supervision and kind guidance .

My deepest gratitude and thanks are expressed to Dr. **I.Aboul Assad** , Ass. Prof.of parasitology, faculty of medicine , Tanta University for the helpful instructions and continuous supervision throughout the work .

Thanks are also to Dr. **N. Yassein** , Assistant professor of parasitology , faculty of medicine , Tanta University for the helpful instructions and valuable advises she gave .

I wish to express my sincere thanks and deep gratitude for staff members of parasitology department and for everyone gave me help and advise during research work .

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INTRODUCTION

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Parasitic protozoa and helminths are a diverse group of organisms which together form a major cause of infectious disease in humans and livestock (**Sher and Coffman , 1992**) . The impact of parasitic infections throughout the world is due less to the severity of the disease they cause than to the vast number of people infected (**Allen and Maizels , 1996**) .

Eosinophilia is found in patients with a wide range of parasitic disease . It is remarkably affected by parasitic species (**Arafa et al . , 1986**) . Moreover the level of total serum IgE is considerably elevated in association with several parasitic diseases (**King et al . , 1995**) . It remains unclear whether these two immunological responses including eosinophilia and elevated total serum IgE level are important in the protection immune response to the parasite or are responsible for immuno-mediated pathology or both (**Allen and Maizels , 1996**) .

Eosinophilia and elevated levels of total serum IgE are frequent accompaniment of allergic manifestations such as asthma and atopic dermatitis (**Kojima et al. , 1972**) .

As eosinophilia and elevated IgE levels are frequent findings in both allergic response and parasitic infection , review of literatures has revealed a controversy about the possible relationship between both diseases of them .

REVIEW OF LITERATURE

DIAGNOSTIC TECHNIQUES OF PARASITOLOGY

I) INTESTINAL PARASITES :-

A) Stool examination :-

 # Macroscopic examination of stools :-

According to **American society of parasitologists** ,(1977).

a) Consistency :-

Faecal consistency varies with diet , but certain clinical conditions which are associated with parasite infection, may be suggested by particular consistencies .

Stool should be recorded as :-

i) Formed - normal shape and consistency : Formed stools from which water content has been reabsorbed will contain few trophozoites and principally cyst stages of protozoa .

ii) Semi - formed or unformed soft faeces with no regular shape is more likely to contain trophozoites .

iii) Liquid : note color and any flakes of mucous or blood present. This form is likely to contain trophozoites.

b) Composition :-

The stool may contain blood and mucus as an evidence of ulceration or colitis due to invasive amoeba , bacillary dysentry or inflammatory bowel conditions . There may be occult blood from gastric ulcer or fresh blood due to haemorrhoides . Excessive bulky stools may indicate conditions such as giardiasis .

c) COLOUR :-

Pale yellowish stools are passed in steatorrhoeaic conditions such as giardiasis or tropical sprue . Dark or black stools occur when iron or bismuth is taken or when there is intestinal haemorrhage .

d) Adult parasites :-

Faeces may have adult helminthes or segments present such as *Ascaris lumbricoides* or *Entrobius vermicularis* . Gravid

Taenia segments are frequently motile for several days and may migrate to the top of the container .

Microscopic examination of stools :-

Simple smear method :-

i) Emulsify approximately 2 mg of faeces in a drop of warm saline 37 °c using a wooden applicator . If the stool is liquid less saline is needed .

ii) Apply a 22 mm^2 coverslip . Correct thickness of the suspension (which can be judged by reading print through the slide) to enable trophozoite movement to be observed .

iii) Observe the preparation under the microscope with the condenser lowered and the light intensity adjusted , so that the opaque structure of the trophozoite and cysts can be seen .

iv) Scan the total area of the coverslip using the x 10 objective initially , and the x 40 objective as required .

v) Take note of any trophozoites and their motility and any red blood cells ingested by amoebae . Also

note the presence of cysts , ova , red blood cells , polymorphs and macrophages .

vi) Appropriate stain can be used to aid identification .

vii) Discard the slide directly into disinfectant (dilute hypochlorite solution containing 2500 ppm chlorine) overnight as they may contain infectious material .

This method is not accurate in mild parasitic infections, so , concentration techniques may by needed **(Engels et al. , 1996) .**

Concentration methods :-

The purpose of concentrating faeces is to increase the possibility of finding ova , cysts or larvae in samples , which they may be too scanty to be seen by direct microscopy . Many procedures are available for concentration of parasitic ova and / or protozoa . These procedures may be divided into two general groups , floatation and sedimentation .

a) Sedimentation:- Modified formol-ether sedimentation:

In this procedure , 1gm of stool is emulsified in 7ml , 10% formalin. After straining , 3ml ether are added and mixed in the filtrate , then , centrifuged at 3000 rpm for one minute. The fatty plug and debris