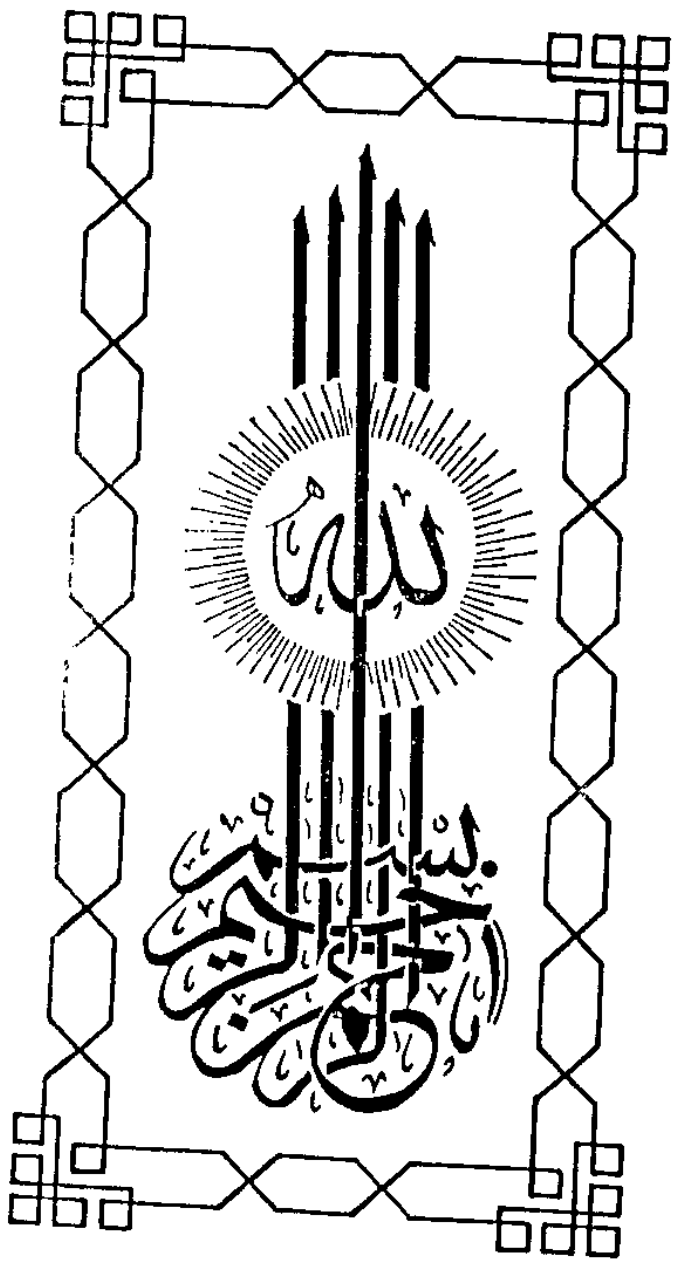


loulds and acute upper respiratory tract ymptomatology in childhood in Ismailia

THESIS

omitted for partial fulfilment of master degree of childhood studies (Medical Dept.)

By

HAMDY AHMED DARWISH

M.B. B. CH.

Supervised by

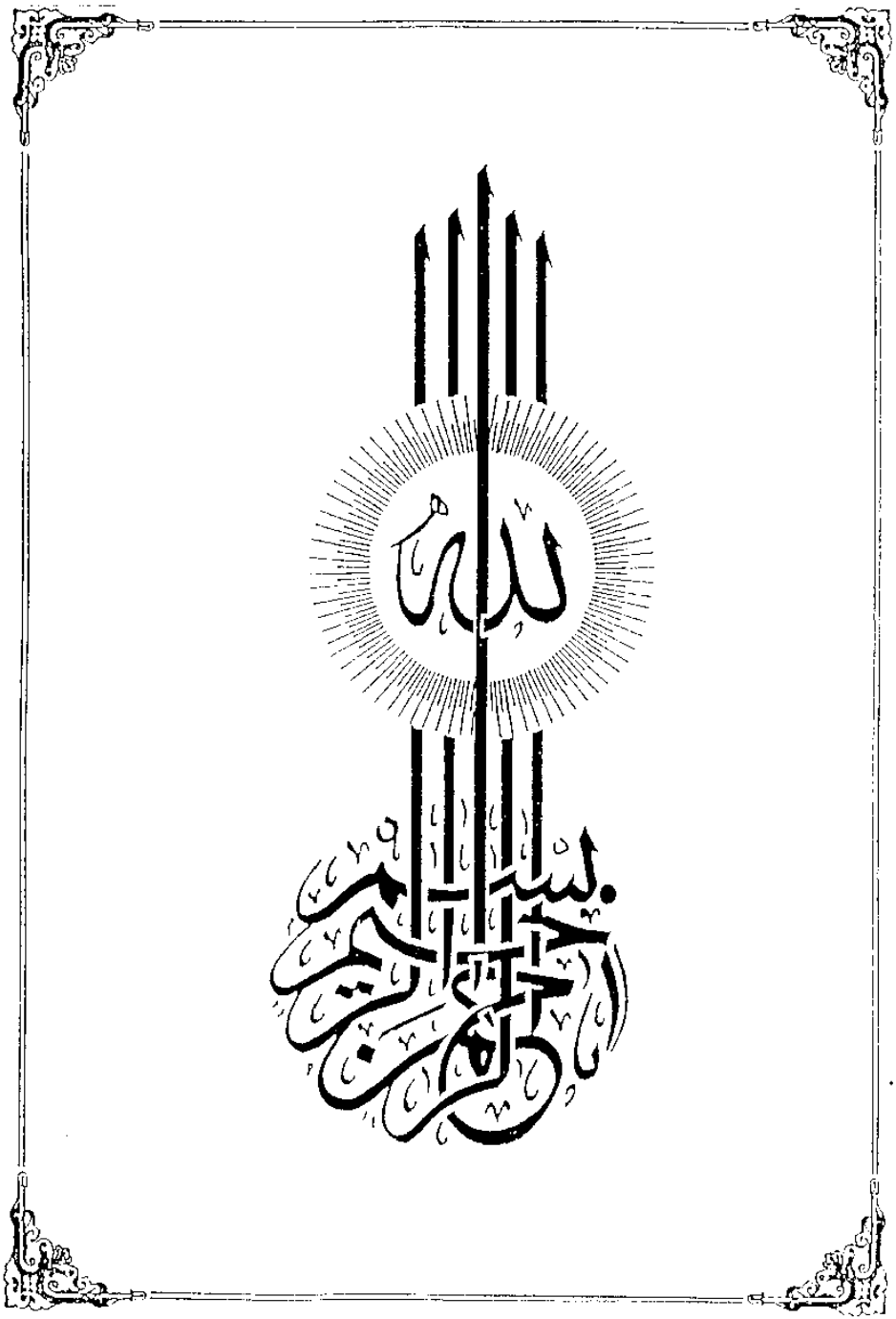
OF. DR. HASSAN MO. YOUSSEF
Prof. of chest dis
Ain Shams University

PROF. DR. EL SAEID ABOU GAMRAH
Prof. of allerg, and clinical immunology
Ain Shams Universit

PROF. DR. HAMDY A. HAMAD
Prof. of M.edicine (Ger.
Ain Shams Universit

PROF. DR. MOUSTAFA EL NASHAR
Lecturer of E.N.T.
Ain Shams Universit

1990



Index

AKNOWLEDGEMENT

AKnowledgement

I wish to express my deep gratituudes to both of :-

* Professeur Doctor Hassan Hosney Youssef professeur of chest diseases Department, Faculty of Medicine _ Ain Shams University.

* Professeur Doctor El Sayid Abou Gamrah _ Professeur of clinical immunology _ Faculty of Medicine _ Ain Shams University.

* Professeur Doctor Hamdy Abdel Salam Hamad _ Professeur of mycology _ Ain Shams University .

and

* Doctor Mustafa El Nashar _ Lecturer of E.N.T. Ain Shams University.

for their continuous supervision and guidance.

CHAPTER 1

INTRODUCTION

Introduction

The Egyptian literature is very deficient in studies concerning upper respiratory tract infection caused by fungi,this could be due to the uncommon hapening of such conditions in Egypt,to the unawareness of the presence of such diseases or to the Unavailabi of well established laboratories to carry out the necessary investigations to diagnose such entities (Youssef, et al 1980).

The infections of the U.R.T. by yeasts is frequently reported to be due to candida albicans (Winner & Hurley 1966) Other species of candida e.g. C. parasilosis & C. guillier mondi may be associated with respiratory affection.

Fungi have long been recognized as the causative organisms of many disease states in man,however it was not until 1896 when.

Oppe reported the first case of primary Aspergillus infection of nose & paranasal sinuses.Gregory (1943) described the clinical triad of Diabetes M.,orbital infection & meningoencephalitis with mucormycosis.Bauer (1955) added the presence of sinusitis (Ahmed,1988).

Many fungal infection of nose and poronasal sinuses have been reported including Drechslera Hawauens Alternaria sinusitis (Young 1978).

hough rare,these infections show an increasing rate of incidence.

This may be an apparent or real increase.Apparent increase is due to improved techniques of identification & some awarness of such disease.The real increase is due to many factors,one of these factors is widespread and occasionally indiscriminative use of broadspectrum antibiotics (Forsgren.1974.),another factor is the tremendous progress in treatment of malignant diseases & the discovery of new drugs especially effective in malignant blood diseases (Krik,1976.).Ihese drugs lengthen the expected life span of the patient who has an attenuated immune system with greater chance of such fungal affection, the immunosuppressive nature of these drugs add to the problem.

Most of the causative fungi live as saprophytes in the U.R.T., they become pathogenic only under certain circumstances suppressing host's immunity or favouring their growth, hence called " oppotunistic infectibns" (Ahmed,1988).

CHAPTER 2

LITERATURE OF REVIEW

REVIEW OF LITERATURE

The reported incidence of infections due to fungi has increased in recent years. Though relatively uncommon compared with bacterial and viral infections, fungal infections are important since treatment is available for at least some of them and failure to treat may be fatal (El.Bouhi 1981).

Fungal infections have increased in the last few years due to consequent search for fungal infection and increase of longevity in most population .. (El Bouhi (1981)

CLASSIFICATION

The most recent classification of microorganisms was given by Jawetz etal (El Bouhi 1981)

1 : Pratists (Eukaryotic):-

a - Algae (Except blue - green algae).

b - Protozon

c - Fungi

d - Slime molds

2 : Prokaryotes

a - Bacteria

b - Cyanobacteria

c - Archoebacteria

The bacteriae include 2 groups

- The chlamydige (Bedsoniae)

- The Rickettsiae differes from chlamydia in being smaller 2/10 - 5/10 Un. in diameter.

It should be mentioned that viruses are also classified as micro organisms but they differ sharply from all cellular forms of life, a viral particle consists of D.N.A & R.N.A,the viral nucleic acid is the infectious principle inside the host cells.

Physiology :-

They are aerobic, nucleated, achlorophyllous organisms which reproduce sexually & or asexually (El Bouhi 1981), because of lack of chlorophyll they are incapable of photosynthesis so they must exist as saprophytes or parasites. Their number is between 50,000 to 100,000 type, some are aquatic & some are marine but the majority are lerrestrial. Most of them are saprophytic. Because of their many & varied physidogical specializations they have associations with man which range from being helpful to being most catastrophic. They harm man by forming mycotaxins, or by acting as allergens or direct tissue invasion. (Rose et al 1971).

Factors helping in identifying a mycotic disease:-

These factors may include:-

1- A mycotic disease is chroanic i.e. slowly evolving disease that may take months to develop.

2- The history taken is very important (contact with the soil, where was he born, where does the patient live?, because each area has its fungi (El Helaly 1987).

3- Debilitating diseases which predispose to mycosis as diabetes, cancers, alcohols, recent surgery, antibiotics, immunosuppresive agents as cortisones or cytotoxic drugs.

4 - Appearance of organisms in tissue by:-

a - Direct examination: a specimen of 1\2 mm thickness with a drop or 2 drops of Ka OH.

b - Stained histology slides, the most commonly used stains are:-

1 - Periodic acid - Schiff P.A.S.

2 - Gomori's methamine silver G.M.S.

Morphology of mycotics:-

1 - Yeast cells

2 - Sporangie

3 - Hyphae

4 - Granules

5 - Fission bodies

6 - Combination of yeast cells and hyphae.

Distribution in nature

Fungi particularly molds are ubiquitoris in nature. Their spores are present in large numbers in environment and often comprise the greatest portion of suspended biologic materials as plant pollen, actinomycetes, bacteria, mosses and ferns. The particular species represented in the air at any time as well as their concentration depend on many factors including geographical areas, the yearly seasons, the different time of the day as well as other environmental factors such as temperature, wind velocity, relative humidity and rainfall. Altitude and type of vegetation also play an important role in the quantity, quality and viability of airborne fungi in a given area (Kramer and Pady, 1968). The effect of wind direction on the atmospheric counts of spores was studied by Brown and Jakson (1978) in Britain. They found that it is important especially at coastal sites , because the daily counts of spores often showed rises and falls corresponding to off and on shore winds respectively. The dispersal of some spores such as

basidiospores as well as their growth are also markedly affected by atmospheric moisture. These spores are propelled into the atmosphere by a process dependent on the presence of free water and they are known to increase markedly in concentration during periods of rainfall and dampness. (Lopez et al. 1976).

Geographical distribution

Prince and Meyer (1976) classified the fungi which can be found at any location into 3 groups:-

1 - Universal Dominants

2 - Geographic Dominants and

3 - Local Dominants.

The Universal Dominants group is a basic group of dominant molds which can usually be found at any location where air spora have been collected. These include: Alternaria, Cladosporium, Aspergillus, Penicillium, Pullaria, Phoma, Trichoderma, Fusarium, Helminthosporium, Curvularia, Epicoccum and Yeasts (Cryptococcus and rhodoterula).

The Geographical Dominants are molds which occur more