

---

# **Mycotic (Fungal) infections in Blood malignancy patients**

Essay

Submitted in partial Fulfillment  
of the Master Degree

in

Clinical and chemical pathology

by

Reham Samir Soliman

MB - BCH

Supervised by

**Dr. Magda Salah El-Din Gabr**

Ass. Prof. of Clinical and Chemical pathology  
Faculty of Medicine  
Ain-shams University

**Dr. Névine Nabil Kassem**

Ass. Prof. of Clinical and Chemical pathology  
Faculty of Medicine  
Ain-shams University

**Dr. Fatma El-Sayed Metwaly**

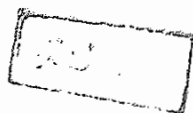
lecturer of clinical and chemical Pathology  
Faculty of Medicine  
Ain-shams University

**Department of Clinical and chemical pathology**

Faculty of Medicine  
Ain-shams University

1998

---



616-07561  
R. S.



60087

---

---

## Contents:

knowledge

of photos

roduction and Aim of the work.....	1
iew of Literature.....	3
*Human mycosis.....	3
*Immunity and fungal infections.....	19
*Fungal infections & Blood malignancies.....	26
*Methods of diagnosing fungal infections.....	44
*Treatment of fungal infections.....	70
mary.....	84
rences.....	86
ic Summary.....	113





---

## ACKNOWLEDGEMENT

First, I thank "GOD" for granting me the power to proceed and to accomplish this work.

I would like to express my endless gratitude to **Dr. Magda Salah El-Din**, Assistant Professor of clinical pathology, Faculty of Medicine, Ain Shams University for her kind supervision and valuable advice.

I also express my utmost thanks to **Dr. Névine Nabil Kassem**, Assistant Professor of clinical pathology, Faculty of Medicine, Ain Shams University for continuous effort during conducting this work.

I'm deeply grateful to **Dr. Fatma El-Sayed Metwaly**, Lecturer of clinical pathology, Faculty of Medicine, Ain Shams University for her patency supervision through out the study.

Finally, thanks to **my whole family** for their encouragement and cooperation.



---

### ist of photos:

- oto 1 : Blastospores from culture stained by gramstain as seen under microscope.
- oto 2 : Chlamydospores formation on rice agar media as seen under microscope.
- oto 3 : Arthro spores formation as seen under microscope.
- oto 4 : Conidiophore and conidia.
- oto 5 : Candida albicans on sabouraud's dextrose agar.
- oto 6 : Aspergillus fumigatus on sabouraud's dextrose agar.





---

### **st of photos:**

- oto 1 : Blastospores from culture stained by gramstain as seen under microscope.
- oto 2 : Chlamydospores formation on rice agar media as seen under microscope.
- oto 3 : Arthro spores formation as seen under microscope.
- oto 4 : Conidiophore and conidia.
- oto 5 : Candida albicans on sabouraud's dextrose agar.
- oto 6 : Aspergillus fumigatus on sabouraud's dextrose agar.



# **Introduction And Aim of The Work**



Invasive fungal infections are increasing in incidence and they represent a major health problem and a major source of morbidity and mortality in patients with Blood malignancies. (*Lortholary et al., 1997*).

Patients with haematologic malignancies and a history of an invasive fungal infections are at high risk of suffering reactivation of the infection during subsequent chemotherapy (*Martino et al., 1997*), those with acute leukemia represent a group that has the greatest risk of deep fungal infections which are responsible for 40% or more of the deaths at some institutions (*Kalinowski, 1996*).

The two most common opportunistic fungal infections are candida and aspergillus groups, studies proved that most candidal infections are endogenous acquired from one's own flora (*Antrum, 1996*). Candida infections include disseminated candidiasis, oral and esophageal infections, focal hepatic abscesses, peritoneal, urinary tract infections and wound infections (*Zervos, 1995*). As for the Aspergillus group it may cause primary cutaneous aspergillosis, pulmonary mycoses, invasive mold sinusitis, invasive oral aspergillosis and osteomyelitis in the jaws of children with blood malignancies. (*Hovi et al., 1996; Myoken et al., 1996; Iwen et al., 1997*).

At the present no standard general recommendation for primary antifungal prophylaxis can be proposed for immunodeficiency host. (*Lortholary et al., 1997*).

## **n of The Work**

The aim of this study is to enlighten the different epidemiologies and pathogenesis of the fungal infections and the different ways of prophylaxis and treatment in patients with blood malignancies; also to emphasize the necessity of identifying, the early clinical feature of fungal infections and to show the importance of the role of doctors in the management of the blood malignancies patients.



# **Chapter 1**

# **Human Mycosis**