Ain Shams University
Faculty of Medicine
Anesthesia and Intensive Care Department

Fungal Infection in Critically ill patients

Essay

Submitted for partial fulfillment for the Master degree In general Intensive Care

By

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كلية الطب
جامعة عين شمس
قسم التخدير والرعاية المركزة

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First and foremost, praise and thanks must be to ALLAH who guides me throughout life.

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Also I am really deeply grateful to ***Dr. Mahmoud Hassan Mohammed*** Lecturer of anesthesiology and general intensive care medicine, Faculty of medicine, Ain-Shams University for his great help, valuable time, careful supervision and continuous advices and his efforts that made this work come to light.

I would like to express my cordial and sincere gratitude to

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I am really thankful to every one who took part in exhibiting this work to light.

Diaa Ibrahim Shehatah

List of Abbreviations

Abbrev	
A	Aspergillus
AFLP	amplified fragment length polymorphism
AmB	Amphotrecin B
BDG	B-D-glucan
BHI	brain heart infusion
BSI	Blood stream infection
BUN	Blood urea nitrogen
C	Candida
CMV	Cytomegalovirus
CSF	cerebrospinal fluid
CVC	central venous catheter
DNA	Deoxyribonucliec acid
EIA	enzyme immunoassay
ELISA	Enzyme linked immunosorbent assay
F	Fusarium
HAART	highly active antiretroviral therapy
HCW	Health care worker
HEPA	High-efficiency particulate absorption
HIV	human immunodeficiency virus
HSCT	haematopoietic stem cell transplant
IA	Invasive Aspergillosis
IC	Invasive Candidiasis
ICU	intensive care unit
IgG	Immunoglobulin G
IL	Interleukin
IPA	Invasive Pulmonary Aspergillosis
L-AmB	Liposomal amphotrecin B
MICs	Minimum inhibitory concentration
NCA	Non Candida albicans
NFI	Nasocomial fungal infection
OPC	oropharyngeal candidiasis
PAS	Periodic acid-Schiff
PCP	Pneumocystis pneumonia
PCR	Polymerase Chain Reaction
RFLP	restriction fragment length polymorphism
SCID	severe combined immune deficiency
SSCP	single strand conformational polymorphism
Th	T-helper
UTI	Urinary tract infection
VVC	vulvovaginal candidiasis

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Aim of the Work

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The aim of this essay is to throw lights on the incidence and epidemiology of fungal infection among the intensive care unit patients as well as the nature of fungal infection regarding its presentation and clinical picture, diagnosis and management.

Introduction

Introduction

Critical care medicine has advanced greatly in the past few decades. Patients with complex medical and surgical disorders are surviving longer due to equally complex medical and surgical interventions. These often involve the "collateral damage" of circumventing the body's normal defense mechanisms ***(Zaragoza et. al; 2006).***

Infections acquired during a hospital stay are called nosocomial infections. These infections can be bacterial, viral, and fungal or even parasitic. Advances in medicine by use of newer technologies and therapies have helped to treat patients suffering from previously devastating or fatal diseases but these successes have resulted in proliferation of a severly ill immune-compromised, hospitalized patient population. These patients are highly susceptible to nosocomial infections caused by organisms such as fungi that were previously considered to be of low virulence or non-pathogenic **(*Garbino et. al; 2004*).**