

الأكاديمية العربية الدولية



الأكاديمية العربية الدولية
Arab International Academy

الأكاديمية العربية الدولية المقررات الجامعية

علم الفطريات الطبية العملي
470 MIC
Practical Medical Mycology

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الجزء البحثي لأمراض الفطريات التي تصيب الإنسان

- موعد التسليم المبدئي بتاريخ ٢١ محرم ١٤٣٩ هـ : ٥ درجات
- موعد التسليم النهائي بتاريخ ٥ صفر ١٤٣٩ هـ : ٥ درجات
- يتم إختيار الموضوع لكل طالبه على حده.

Amal Alghamdi

أنواع الإصابات الفطرية

Types of Mycosis

١. إصابات سطحية Superficial Mycosis
٢. إصابات جلدية Cutaneous Mycosis
٣. إصابات تحت جلدية Sub-cutaneous Mycosis
٤. إصابات جهازية Systemic Mycosis

العناصر التي يجب أن تتوفر في البحث و يدعم بالصور :

- إسم المرض الفطري
- مقدمة تاريخية
- اسم الكائن الممرض وتصنيفه العملي ودورة حياته مع توضيح الطور اللاجنسي والجنسي إن وجد
- العوامل التي تزيد من ضراوة الفطر الممرض والأشخاص الأكثر عرضة للإصابة وقابلية الإنسان للإصابة بالمرض الفطر
- نوع الإصابة
- منفذ الإصابة
- أعراض الإصابة
- طريقة التشخيص
- طريقة العلاج
- يراعي كتابة المراجع بطريقة علمية موحدته في البحث الواحد وفهرسة الصور المستخدمه وعنوانتها.

Mycotic diseases

- Aspergillosis
- Candidiasis
- Cryptococcosis

Opportunistic
pathogens

Antigen &
antibody (?)
detection

- Histoplasmosis
- Blastomycosis
- Coccidioidomycosis
- Paracoccidioidomycosis

True
pathogens

Antigen &
antibody (?)
detection

بعض الأمراض الفطرية والفطر الممرض وطريقة الإنتشار

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TABLE 22.1

Representative Fungal Pathogens, Degree of Pathogenicity, and Habitat

Microbe	Disease/Infection*	Primary Habitat and Distribution
I. Primary True Pathogens		
<i>Histoplasma capsulatum</i>	Histoplasmosis	Soils high in bird guano; Ohio and Mississippi valleys of U.S.; Central and South America; Africa
<i>Blastomyces dermatitidis</i>	Blastomycosis	Presumably soils, but isolation has been difficult; southern Canada; Midwest, Southeast, Appalachia in U.S.; along drainage of major rivers
<i>Coccidioides immitis</i>	Coccidioidomycosis	Highly restricted to alkaline desert soils in southwestern U.S. (California, Arizona, Texas, and New Mexico)
<i>Paracoccidioides brasiliensis</i>	Paracoccidioidomycosis	Soils of rain forests in South America (Brazil, Colombia, Venezuela)
II. Pathogens with Intermediate Virulence		
<i>Sporothrix schenckii</i>	Sporotrichosis	In soil and decaying plant matter; widely distributed
Genera of dermatophytes (<i>Microsporum</i> , <i>Trichophyton</i> , <i>Epidermophyton</i>)	Dermatophytosis (various ringworms or tinea)	Human skin, animal hair, soil throughout the world
III. Secondary Opportunistic Pathogens		
<i>Candida albicans</i>	Candidiasis	Normal flora of human mouth, throat, intestine, vagina; also normal in other mammals, birds; ubiquitous
<i>Aspergillus</i> spp.	Aspergillosis	Soil, decaying vegetation, grains; common airborne contaminants; extremely pervasive in environment
<i>Cryptococcus neoformans</i>	Cryptococcosis	Pigeon roosts and other nesting sites (buildings, barns, trees); worldwide distribution
<i>Pneumocystis (carinii) jiroveci</i> **	<i>Pneumocystis pneumonia</i> (PCP)	Upper respiratory tract of humans, animals
Genera in Mucorales (<i>Rhizopus</i> , <i>Absidia</i> , <i>Mucor</i>)	Mucormycosis	Soil, dust; very widespread in human habitation

*Specific mycotic infections are usually named by adding -mycosis, -itis, or -osis to the generic name of the pathogen.

**As a result of some recent DNA studies in the organism that causes *Pneumocystis pneumonia* (PCP), the name of the organism is in the process of being changed from *Pneumocystis carinii* to *Pneumocystis jiroveci*. Because this new nomenclature has not been widely accepted, we will refer to this organism as *Pneumocystis (carinii) jiroveci*.

بعض الفطريات الإنتهازية الشائعة وأسباب التعرض للإصابة بها

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TABLE 22.3

Common Opportunistic Fungi and Conditions That Predispose Patients to Them

Pathogen	Associated with
<i>Candida</i>	Antibiotic therapy, catheters, diabetes, corticosteroids,* immunosuppression**
<i>Aspergillus</i>	Leukemia, corticosteroids, tuberculosis, immunosuppression, IV drug abuse
<i>Cryptococcus</i>	Diabetes, tuberculosis, cancer, corticosteroids, immunosuppression
Zygomycota Species	Diabetes, cancer, corticosteroids, IV therapy, third-degree burns

*Antiinflammatory drugs are often given for chronic lung diseases and to transplant patients to prevent rejection.

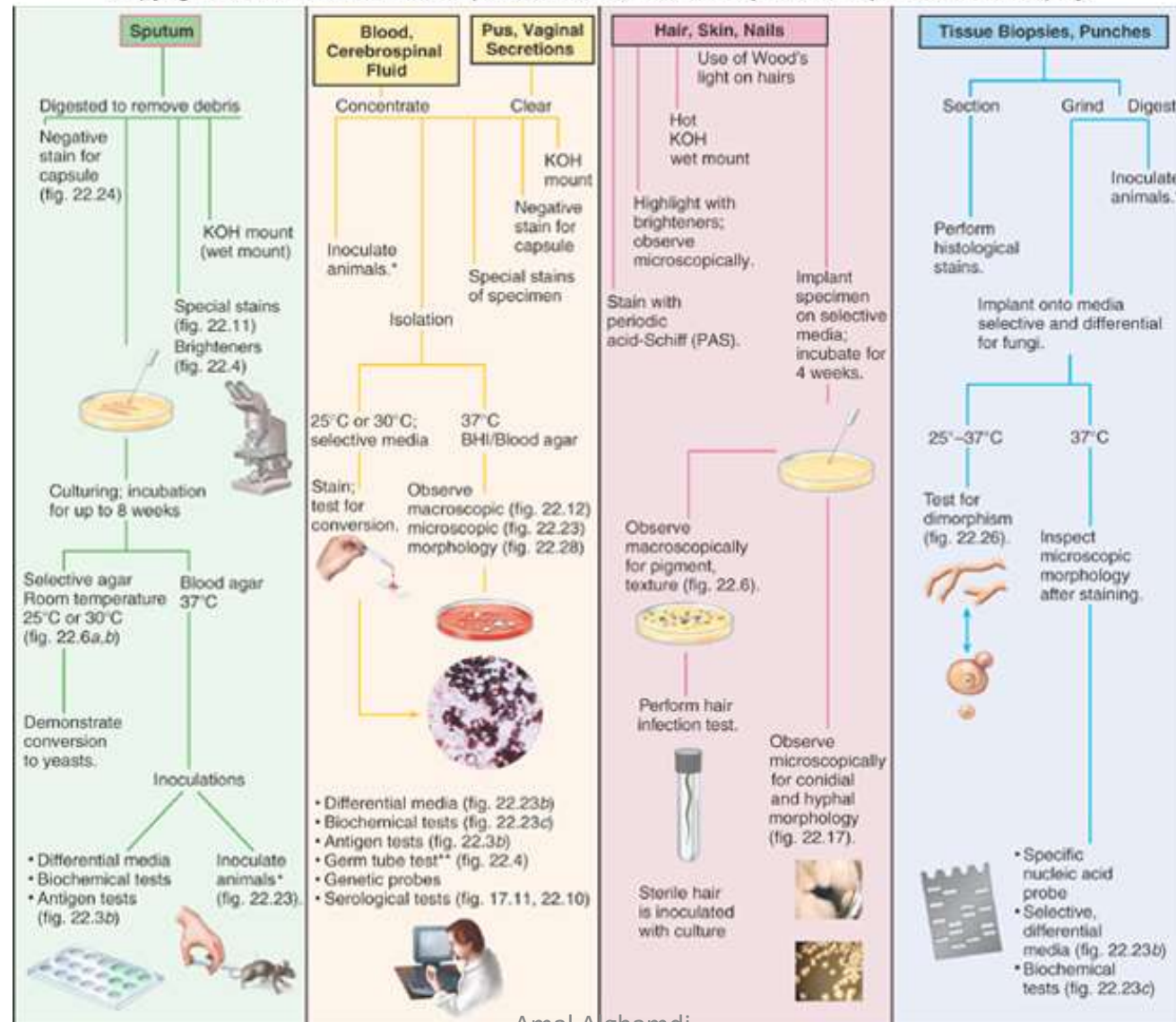
**Includes AIDS, and genetic conditions that compromise host defenses.

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470 MIC

ملخص لطرق تشخيص الأمراض الفطرية

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* Animal inoculation is performed only to help diagnose systemic mycoses when other methods are unavailable or indeterminate.

** Some yeasts, when incubated in serum for 2-4 hours, sprout tiny hyphal tubes called germ tubes. *Candida albicans* is identified by this characteristic.

(a)

أمثلة لفطريات الإصابات الجلدية
CUTANEOUS MYCOSES
-DERMATOPHYTOSES

- Three genera-Trichophyton, Epidermophyton, Microsporum
- ***Anthropophilic***-reside on the human skin
- ***Zoophilic***-reside on the skin of domestic and farm animals
- ***Geophilic***-reside in the soil
- Transmission from humans or animals is by infected skin scales

الأجناس الفطرية والمرض الفطري الناتج عن الإصابة بها

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TABLE 22.5

The Dermatophyte Genera and Diseases

Genus	Name of Disease	Principal Targets	How Transmitted
<i>Trichophyton</i>	Ringworm of the scalp, body, beard, and nails Athlete's foot	Hair, skin, nails	Human to human, animal to human
<i>Microsporum</i>	Ringworm of scalp Ringworm of skin	Scalp hair Skin; not nails	Animal to human, soil to human, human to human
<i>Epidermophyton</i>	Ringworm of the groin and nails	Skin, nails; not hair	Strictly human to human

الإصابات التحت جلدية

Superficial Mycoses

- Tinea versicolor – caused by *Malassezia furfur*; elicits mild, chronic scaling, mottling of skin; also implicated in folliculitis, psoriasis, and seborrheic dermatitis
- White piedra – caused by *Trichosporon beigelii*; whitish or colored masses develop scalp, pubic, or axillary hair
- Black piedra – caused by *Piedraia hortae*; dark-brown to black gritty nodules, mainly on scalp hairs

أمثلة الفطريات المسببة للإصابات الفطرية الجهازية Systemic Infections by True Pathogens

- *Histoplasma capsulatum*
- *Coccidioides immitis*
- *Blastomyces dermatitidis*
- *Paracoccidioides brasiliensis*

الفطريات الإنتهازية

OPPORTUNISTIC PATHOGENS

Absidia corymbifera

Aspergillus fumigatus

Candida albicans

Cryptococcus neoformans

Pneumocystis carinii

Rhizomucor pusillus

Rhizopus oryzae (R. arrhizus)

الحساسية والسموم الفطرية Fungal Allergies and Intoxications

- Fungal spores are common sources of atopic allergies.
- Seasonal allergies and asthma
 - farmer's lung, teapicker's lung, bark stripper's disease
- Fungal toxins lead to **mycotoxicoses** usually caused by eating poisonous or hallucinogenic mushrooms.
 - **aflatoxin** toxic and carcinogenic; grains, corn peanuts; lethal to poultry and livestock
- *Stachybotrys chartarum* – sick building syndrome; severe hematologic and neurological damage