

Fungal Diseases

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Special Stains

Organism	PAS/GMS	Mucicarmine
Rhinosporidiosis		
Protothecosis		
Sporotrichosis		
Coccidioidomycosis		
Cryptococcosis		

Answers

Organism	PAS/GMS	Mucicarmine
Rhinosporidiosis	x*	x*
Protothecosis	x	
Sporotrichosis	x	
Coccidioidomycosis	x	
Cryptococcosis	x	x

*Not effective for organisms < 100 um

Dermatophyte Infections

Organism	Endothrix	Ectothrix
<i>T. schoenleinii</i>		
<i>M. audouinii</i>		
<i>T. tonsurans</i>		
<i>T. violaceum</i>		

Answers

Organism	Endothrix	Ectothrix
<i>T. schoenleinii</i> *		x
<i>M. audouinii</i>		x
<i>T. tonsurans</i>	x	
<i>T. violaceum</i>	x	

* Causes favus

Characteristic Histopathology- Correct Associations?

Fungus	Histopathology
Phaeohyphomycosis	Mariner's wheel budding yeast
Mucormycosis	Sporangium up to 300um
Paracoccidioidomycosis	Nonseptate hyphae
Chromoblastomycosis	Dematiaceous mycelia forming fungi
Rhinosporidiosis	Medlar bodies

Answers

Fungus	Histopathology
Phaeohyphomycosis	Dematiaceous mycelia forming fungi
Mucormycosis	Nonseptate hyphae
Paracoccidioidomycosis	Mariner's wheel budding yeast
Chromoblastomycosis	Medlar bodies
Rhinosporidiosis	Sporangium up to 300um

Phaeohyphomycosis-Which is correct?*

- Nondematiaceous strains have increased resistance to fungicidals
- No mycelia formed
- Exclusively in subcutaneous tissue
- History of trauma commonly elicited
- Fontana-Masson stain may identify fungi

*May have more than one answer

Answers

- History of trauma commonly elicited
- Fontana-Masson stain may identify fungi

In distinction from chromoblastomycosis, these causative organisms do have pigmented spores and mycelia. The hallmark is melanin pigment produced by these fungi which appears to confer increased resistance to fungicidals thought to be secondary to melanin scavenging free radicals used by phagocytic cells to kill the fungi. Disseminated disease may occur.

Phaeohyphomycosis vs. Chromomycosis

Organism	Phaeohyphomycosis	Chromomycosis
<i>Alternaria</i>		
<i>Bipolaris</i>		
<i>Cladosporium carrionii</i>		
<i>Exophiala</i>		
<i>Fonsecaea pedrosi</i>		
<i>Phialophora</i>		
<i>Rhinocladiella</i>		

Answers

Organism	Phaeohyphomycosis	Chromomycosis
<i>Alternaria</i>	x	
<i>Bipolaris</i>	x	
<i>Cladosporium carrionii</i>		x
<i>Exophiala</i>	x	x
<i>Fonsecaea pedrosi</i>		x
<i>Phialophora</i>	x	x
<i>Rhinocladiella</i>		x