

Table 1. Disease Entities Caused by Black Fungi

Entity	Common Pathogens	Clinical Manifestations	Histopathologic characteristics	Prognosis
Chromoblastomycosis	<i>Fonsecaea pedrosoi</i> <i>Cladosporium carrionii</i> <i>F. compacta</i> <i>Phialophora verrucosa</i> <i>Rhinocladiella aquaspersa</i>	Chronic wart- or cauliflower-like lesions of skin and subcutaneous tissue	Sclerotic bodies ("copper pennies")	Limited infections: cure is possible; Extensive infections: cure is rare
Mycetoma	<i>Madurella mycetomatis</i> <i>M. grisea</i> <i>Pyrenochaeta romeroi</i> <i>Exophiala jeanselmei</i>	Chronic skin and subcutaneous lesions with swelling and draining sinus tracts	Mycotic granules	Worse than chromoblastomycosis; Limited infections: cure is possible; Extensive infections: cure is very rare
Subcutaneous phaeohyphomycosis	<i>E. jeanselmei</i> <i>Wangiella dermatitidis</i> <i>Phialophora</i> spp. <i>Bipolaris</i> spp.	Heterogenous: well-formed cysts; subcutaneous tissue invasion; extensive sinus tracts	Fungi within non-keratinized tissue beneath the dermal layer; no granules or sclerotic bodies	Cystic form: good Non-encapsulated form: fair, depends on extent of tissue invasion; cures less likely in immunosuppressed patients
Dermatomycosis and onychomycosis	<i>Alternaria</i> spp. <i>Hendersonula toruloidea</i> <i>Phialophora</i> spp. <i>Onychocola</i> spp.	Indistinguishable from infections by dermatophytes	Fungi within keratinized tissue with extensive host response and tissue damage	Onychomycosis is difficult to eradicate; dermatomycosis has better prognosis
Keratitis	<i>Curvularia</i> spp. <i>Alternaria</i> spp. <i>Exserohilum</i> spp. <i>Lasiodiplodia theobromae</i>	Nodule progressing to ulcer; feathery, branching pattern in cornea	Superficial or deep fungal invasion of cornea; endophthalmitis rare	Fair: residual visual damage common; 25% require penetrating keratoplasty
Sinusitis: Allergic Sinusitis	<i>Bipolaris</i> spp., <i>Curvularia</i> spp., <i>Exserohilum</i> spp., <i>Alternaria</i> spp.	Chronic sinusitis	Sparse fungi; eosinophil-rich mucoid material (allergic mucin); Charcot-Leyden crystals	Cure is uncommon; frequent relapses
Sinusitis: Fungus ball	<i>Bipolaris</i> spp., <i>Curvularia</i> spp., <i>Exserohilum</i> spp., <i>Alternaria</i> spp.	Nasal congestion; rhinosinusitis	Fungus ball: abundant fungi within inflammatory mass	Good
Allergic bronchopulmonary mycosis	<i>Bipolaris</i> spp., <i>Curvularia</i> spp.	Cough, wheezing	Airway inflammation	Good
Pneumonia	<i>Bipolaris</i> spp. <i>Ochroconis gallopavum</i> <i>Chaetomium</i> spp.	Chronic pneumonia	Granulomas	Immunocompetent pts: good Immunocompromised pts: fair
Central nervous system infection	<i>Cladophialophora bantiana</i> <i>Ramichloridium mackenzi</i> <i>Ochroconis gallopavum</i>	Brain abscess (usually single) Meningitis Encephalitis (rare)	Acute and chronic (granulomatous) inflammation	Poor
Disseminated infection	<i>Scedosporium prolificans</i> <i>Bipolaris</i> spp. <i>Wangiella dermatitidis</i>	Fever, skin lesions, septic shock	Depends on sites of infection	Poor, despite aggressive therapy