

Fungi	Characteristics	Disease	Risk group	Diagnosis	Treatment
Cryptococcus neoformans	<ul style="list-style-type: none"> - encapsulated yeast that inhabits soil around pigeon roosts. - capsule is antiphagocytic. - Reservoir is birds. - Neurotropic 	<ul style="list-style-type: none"> - Infection of lungs leads to cough, fever, and lung nodules. - Dissemination to meninges and brain can cause severe neurological disturbance and death 	AIDS, cancer, diabetes patients, pregnant women	Microscopic: India Ink for capsule stain (50-80% + CSF) culture: -Bird seed agar (selective) -Routine blood culture PCR	
Aspergillus fumigatus	Very common airborne soil fungus	spores germinate in lungs and form fungal balls (aspergilloma) ; can colonize sinuses, ear canals, eyelids, and conjunctiva . Bronchopulmonary allergy or Invasive aspergillosis in preformed cavities can produce necrotic pneumonia, and infection of brain, heart, and other organs .	AIDS, leukemia, and transplant patients		Surgery (antifungal medications are not effective against fungal balls), Amphotericin B and nystatin
Zygomycosis (mucormycosis)	<ul style="list-style-type: none"> - extremely abundant saprophytic fungi found in soil, water, organic debris, and food - main host defense is phagocytosis 	<ul style="list-style-type: none"> - Rhinocerebral mucormycosis: invade the membranes of the nose, eyes, heart, and brain - Very poor prognosis 	diabetes and malnutrition	direct smear and by isolation of molds from respiratory secretions or biopsy specimens.	Control Diabetes ,surgery & amphotericin B
Pneumocystis jirovecii	-initially thought to be parasites	lethal pneumonia in immunocompromised persons	AIDS patients	-finding organisms of typical morphology in appropriate specimens (Sputum, BAL). - can't be cultured in the lab.	TMP-SMX
Histoplasma capsulatum (endemic mycosis)	-Dimorphic fungus with conidia and yeast forms at body temperature and	-asymptomatic /subclinical, benign.. Flu-like syndrome.		- Histoplasmin skin test is significant in diagnosis	

	<p>hyphae & macroconidia in vitro culture.</p> <ul style="list-style-type: none"> - Common in soil enriched with excreta of birds. - Endemic in southern U.S.A, Australia. - not encapsulated - obligate intracellular parasites (phagocytosed by macrophages). 	<ul style="list-style-type: none"> - Few may develop chronic progressive lung disease. <p>Granuloma & fibrosis, chronic cutaneous or systemic disease involve any internal organ.. Fatal systemic disease.</p>		<p>(unique to H. capsulatum)</p> <ul style="list-style-type: none"> - histoplasma antigen found in blood and urine is significant 	
<p>Coccidioides immitis & Blastomyces dermatitidis (endemic mycosis)</p>	<ul style="list-style-type: none"> - soil inhabiting Dimorphic Fungus. - Endemic in south-western U.S.A., northern Mexico and various parts South America (mainly found in desert environments). 	<p>acute infection in healthy (not very significant for C. immitis, but can be fatal for B. dermatitidis).</p> <p>Some individuals the disease may progress to a chronic pulmonary condition or a systemic disease involving the meninges, bones, joints, subcutaneous, cutaneous tissues</p>		<ul style="list-style-type: none"> -Antigen Skin test positive, Not significant in diagnosis. -serology is not significant in diagnosis -C. immitis, when viewed microscopically have an appearance of conidia in a bag, which is unique to it. -SDA (Sabouraud dextrose agar) are used to differentiate based on morphology. 	
<p>Paracoccidioides brasiliensis (endemic mycosis)</p>	<ul style="list-style-type: none"> -thermally dimorphic fungal agent which is confined to endemic regions of Central and South America, can be found in immigrants/tourists in southern USA. 	<ul style="list-style-type: none"> - initial lesions occur in the lung. After a period of dormancy that may last for decades, the pulmonary granulomas may become active, leading to chronic, progressive pulmonary disease or dissemination. - Typical presentations similar to coccidioidomycosis immitis 			

Done by: Leen Hajeer