

Para Summary made by Dr Abdallah Shehata

Naegleria fowleri (Brain Eating amoeba infection)	
Geographical Distribution	Worldwide (mainly warm freshwater bodies)
Morphology	Trophozoite: 15 µm, amoeboid, single pseudopodium; Flagellate: pear-shaped, 2 equal flagella; Cyst: 10 µm, rounded
Habitat	Soil, fresh stagnant water
Infective Stage	Amoeboid trophozoite
Diagnostic Stage	Trophozoite in CSF
Definitive Host	Humans
Reservoir Host	Environment (soil, water)
Mode of Infection	Nasal inhalation while swimming/sniffing contaminated water or air
Pathogenicity	Neurotropic invasion → necrosis, inflammation, hemorrhage
Clinical Features	Acute meningoencephalitis: severe headache, fever, vomiting, stiff neck, seizures, coma
Most Common C/P	Rapid onset fever, photophobia, neck stiffness
Most Common Complications	Death within 3–6 days if untreated
Treatment	IV Amphotericin B, Fluconazole, Rifampicin

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Acanthamoeba castellani	
Geographical Distribution	Worldwide
Morphology	Trophozoite: 20-40 μ m, multiple spiky pseudopodia (acanthopodia); Cyst: 20 μ m, double-walled
Habitat	Soil, dust, stagnant water, contact lens fluid
Infective Stage	Trophozoite & cyst
Diagnostic Stage	Trophozoite & cyst in tissue or CSF
Definitive Host	Humans
Reservoir Host	Environment
Mode of Infection	Through skin/mucosa, inhalation, corneal contact (e.g. contact lenses)
Pathogenicity	Chronic granulomatous inflammation in CNS, cornea, skin, lungs
Clinical Features	Granulomatous Amoebic Meningoencephalitis (GAM), amoebic keratitis, chronic skin ulcers
Most Common C/P	Headache, seizures, stiff neck, photophobia, corneal ulcers
Most Common Complications	Vision loss, brain space-occupying lesion, coma
Treatment	TMP-SMX, Fluconazole, Rifampin

TMP-SMX >> Trimethoprim & Sulfamethoxazole

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Entamoeba histolytica	
Geographical Distribution	Tropical and subtropical regions
Morphology	Trophozoite: 10-60 μm , irregular shape, pseudopodia, central karyosome
Habitat	Large intestine (initial), brain (via blood)
Infective Stage	Mature quadrinucleate cyst
Diagnostic Stage	Trophozoite in tissue/CSF
Definitive Host	Humans
Reservoir Host	Humans
Mode of Infection	Ingestion of cyst in contaminated food/water, feco-oral autoinfection
Pathogenicity	Invasion of CNS from liver or lungs causing brain abscess
Clinical Features	Brain abscess symptoms , mimics tumor (SOL)
Most Common C/P	Headache, vomiting, mental changes
Most Common Complications	Fatal cerebral destruction if untreated
Treatment	Metronidazole or Tinidazole (tissue amoebicides)

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Neurocysticercosis (Taenia solium)	
Causative Agent	Cysticercus cellulosae (larval stage of Taenia solium)
Geographical Distribution	Endemic in Latin America, Africa, India
Morphology	Larval cyst (cysticercus), variable size
Habitat	Brain, subcutaneous tissue, muscles
Infective Stage	Eggs of Taenia solium
Diagnostic Stage	Cystic lesions (imaging) , serology
Definitive Host	Humans (adult worm)
Intermediate Host	Humans (larval stage in neurocysticercosis)
Reservoir Host	Pigs
Mode of Infection	Ingestion of eggs via contaminated food/water; autoinfection
Pathogenicity	Cyst causes inflammation, mimics tumor (space-occupying lesion)
Clinical Features	Seizures , paralysis, intracranial pressure
Most Common C/P	Seizures , headache
Most Common Complications	Hydrocephalus, death
Treatment	Albendazole or Praziquantel with corticosteroids; surgery if needed