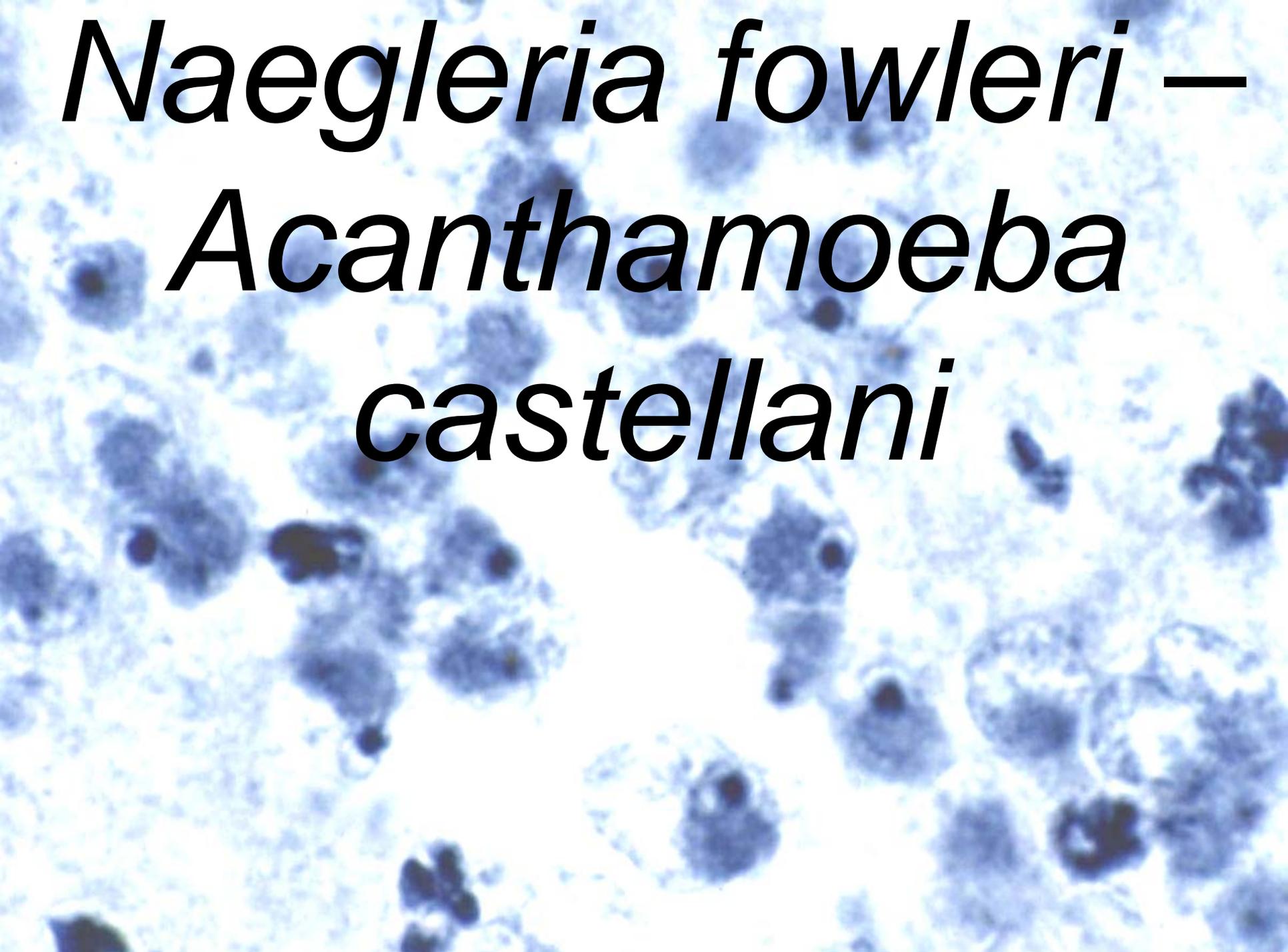


Naegleria fowleri –
Acanthamoeba
castellani

A microscopic image showing numerous cells, likely Naegleria fowleri and Acanthamoeba castellanii, stained with a blue dye. The cells are scattered across the field of view, with some showing distinct nuclei and flagella.

Morphology

- Amebic trophozoites and cysts measure 6-10 microns
- Naegleria are usually smaller than Acanthamoeba
- Trophozoites are sluggishly motile and show pseudopodia
- Classification of these amebas is still controversial

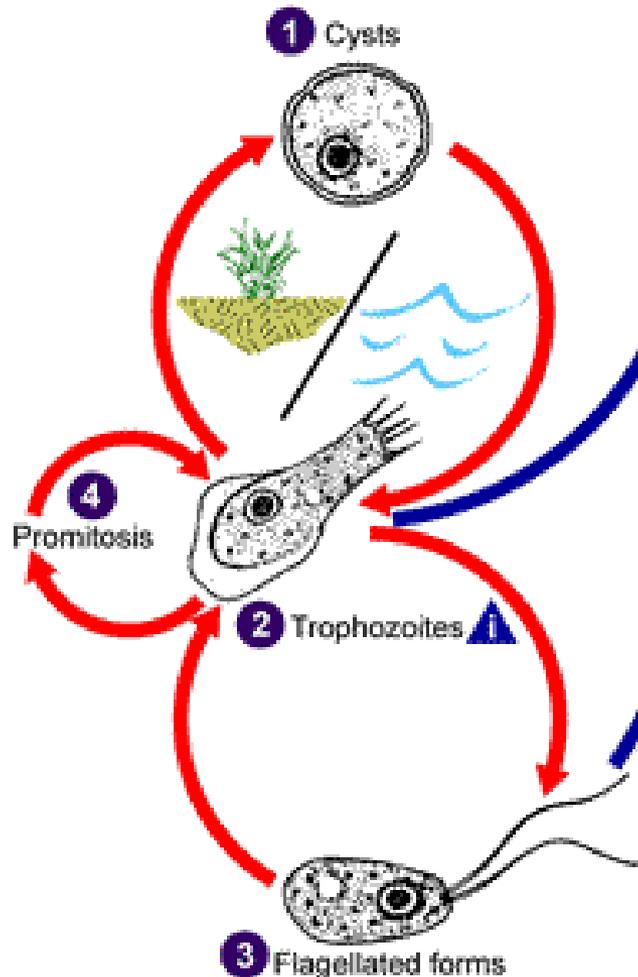
Life Cycle

- Free-living organisms in mud, slow streams, ponds and lakes enter via nasal mucosa and olfactory bulbs in individuals swimming or diving in tepid waters.
- Leads to hemorrhagic purulent meningoencephalitis
- Man is an incidental host
- Older individuals usually with some metabolic or other defect have acquired *Acanthamoeba* sp., but the mechanism of acquisition not known, and swimming has not been a factor

Naegleria fowleri

Enter through the olfactory neuroepithelium causing primary amebic meningoencephalitis (PAM) in healthy individuals

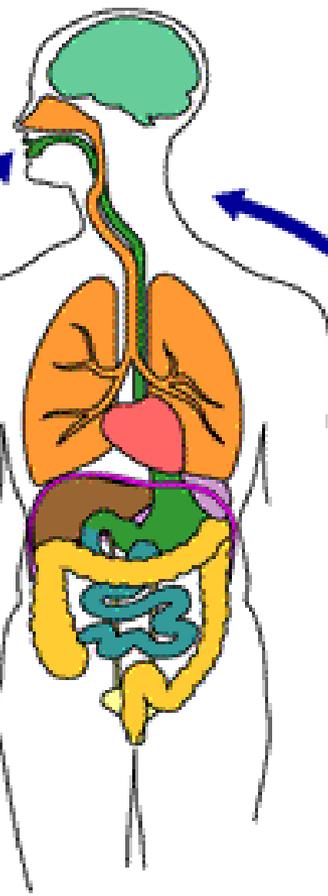
- d** Trophozoites in CSF and tissue
- Flagellated forms in CSF



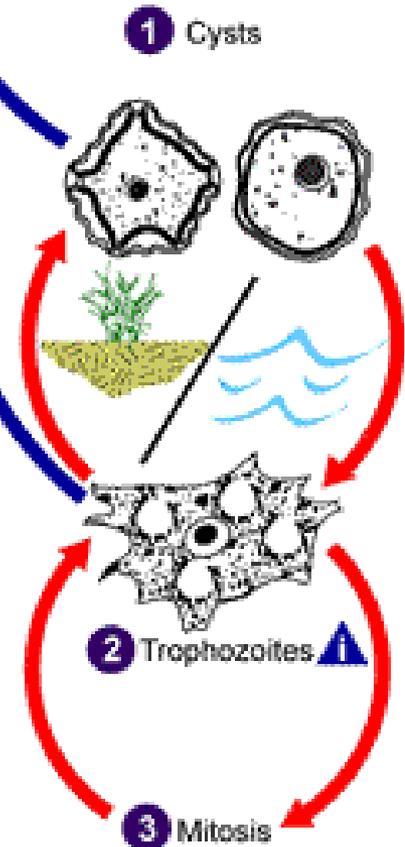
Acanthamoeba spp. and *Balamuthia mandrillaris*

Enter through lower respiratory tract or through ulcerated or broken skin causing granulomatous amebic encephalitis (GAE) in individuals with compromised immune system

- d** Cysts and trophozoites in tissue



i = Infective Stage
d = Diagnostic Stage



Epidemiology

- Probably worldwide
- Cases have been reported from California, Texas, Virginia, Florida, Georgia, Pennsylvania, and New York; also reported from Australia, Czechoslovakia, and Britain

Diagnosis

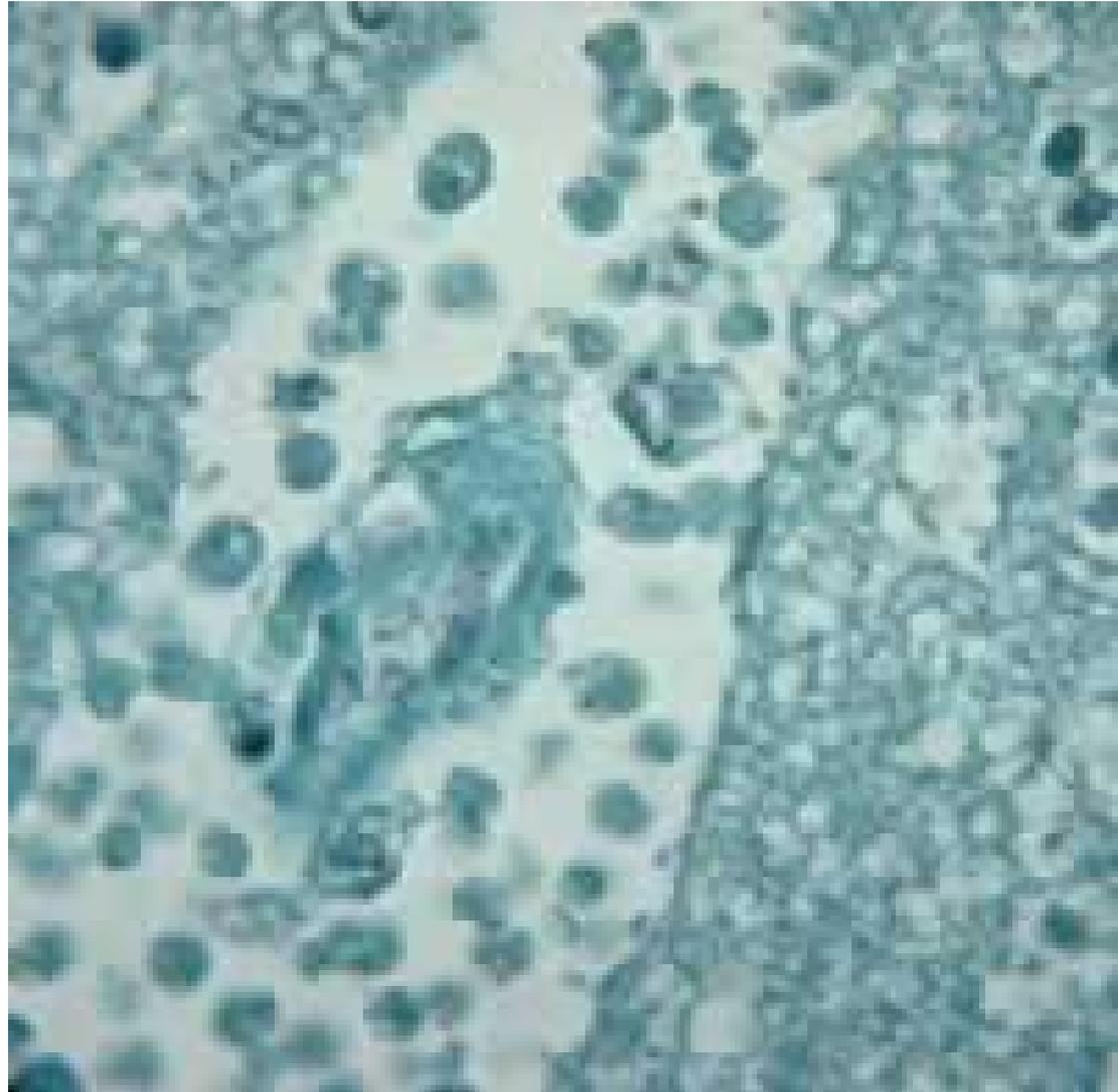
- Recognition of ameba in freshly withdrawn cerebrospinal fluid
- Phase contrast microscopy facilitates diagnosis

Symptomatology

- Headache
- Confusion
- May be preceded by olfactory and taste disturbances.

Treatment

- Amphotericin B (Possibly together with sulfadiazine);
- Miconazole (still experimental)



Prevention

- Avoid swimming deeply or diving into silt in lakes, ponds and brackish waters

