

Fungal Microbiology

# Mucor

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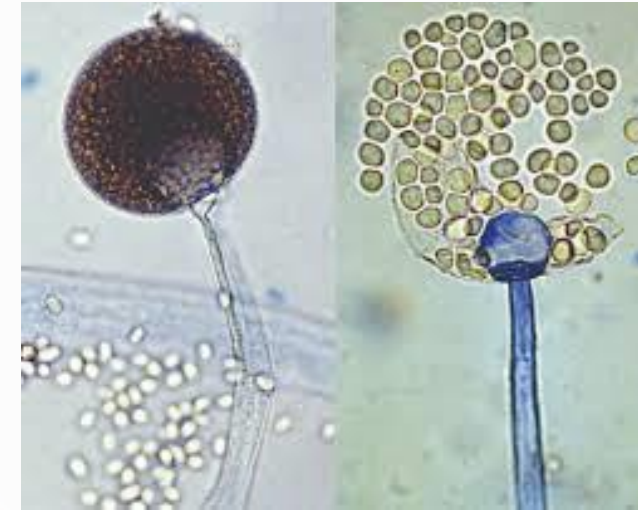
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# Mucor

- Mucor is a microbial genus of approximately 40 species of moulds commonly found in soil, digestive systems, plant surfaces, some cheeses like tomme de savoie, rotten vegetable matter and iron oxide residue in the biosorption process.
- Colonies of this fungal genus are typically white to beige or grey and fast-growing.

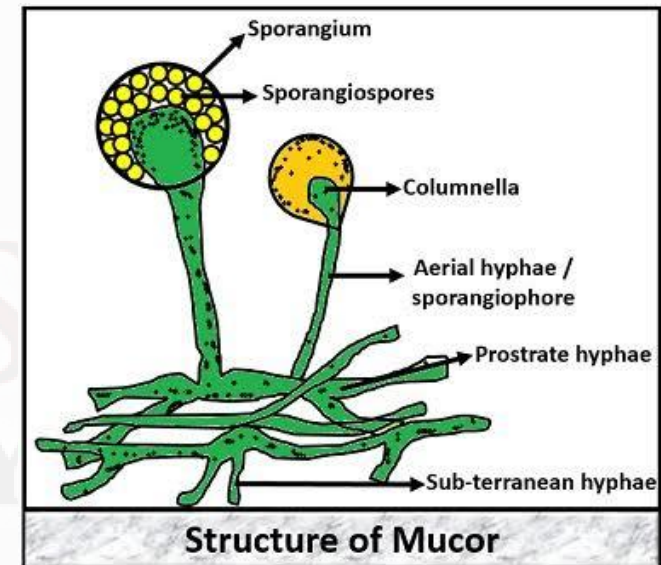


- Colonies on culture medium may grow to several centimetres in height
- Older colonies become grey to brown in colour due to the development of spores.
- Mucor spores or sporangiospores can be simple or branched and form apical, globular sporangia.

- Most of the *Mucor* spp. are unable to grow at 37°C and the strains isolated from human infections are usually one of the few thermotolerant *Mucor*
- Colonies of *Mucor* grow rapidly at 25-30°C and quickly cover the surface of the agar. Its fluffy appearance with a height of several cm resembles cotton candy
- People suffering from diabetes, extensive burns, immunosuppression symptoms associated with AIDS and other afflictions, or those who are intravenous drug users, appear to be most susceptible to *Mucor* infections.

# Structure

- Mucor is a hyphal fungus body structure consists of a fine thin thread like tubular branch colony mass of mycelium.
- Unit structure of mycelium is hyphae.
- A hypha is coenocytic.



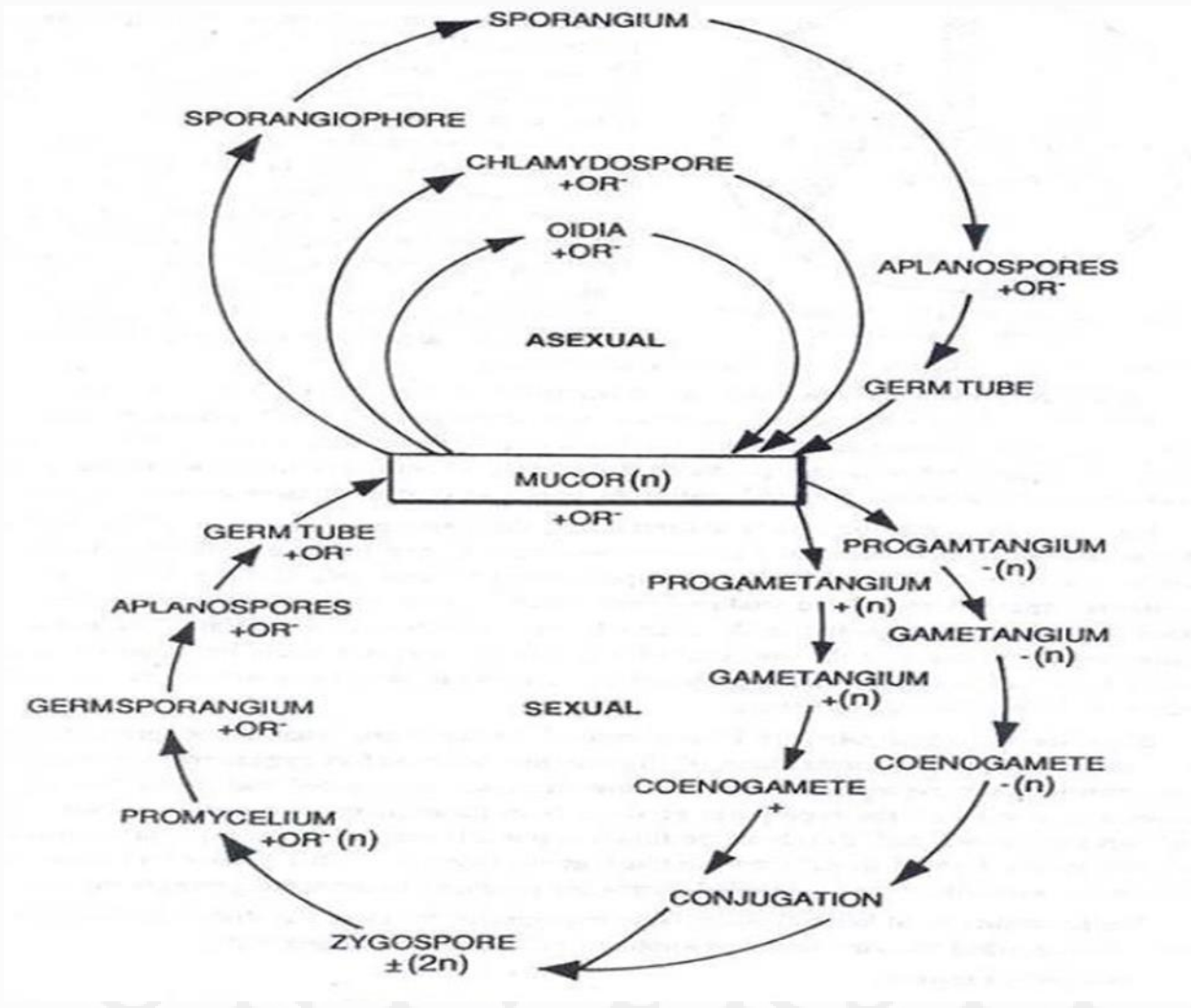
# Reproduction

- *Mucor mucedo* (genus species) uses asexual reproduction. When erect hyphal sporangiophores are formed.
- The tip of the sporangiophore swells to form a globose sporangium that contains uninucleate, haploid sporangiospores.
- An extension of the sporangiophore called the columella protrudes into the sporangium.
- The sporangium walls are easily ruptured to release the spores, which germinate readily to form a new mycelium on appropriate substrates.

- During sexual reproduction, compatible strains form short, specialized hyphae called gametangia.
- At the point where two complementary gametangia fuse, a thick-walled, spherical zygosporangium develops.
- The zygosporangium typically contains a single zygospore. Nuclear karyogamy and meiosis (sexual recombination) occur within the zygospores, which are thought to be long-lived and resistant to adverse conditions.
- They may germinate to form hyphae or a sporangium. Mucor includes both homothallic (self-compatible) and heterothallic species



# Life cycle



Life cycle of *Mucor*

# References:

- Landecker ME (1996). Fundamentals of the fungi, 4th edition, Benjamin Cummings, San Francisco.
- Moore D, Robson GD, Anthony P, Trinci J (2011). 21st Century Guidebook to Fungi, Cambridge University Press, UK.
- <https://www.biologydiscussion.com/fungi/mucor-description-structure-and-reproduction/46572>

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