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Mucormycosis

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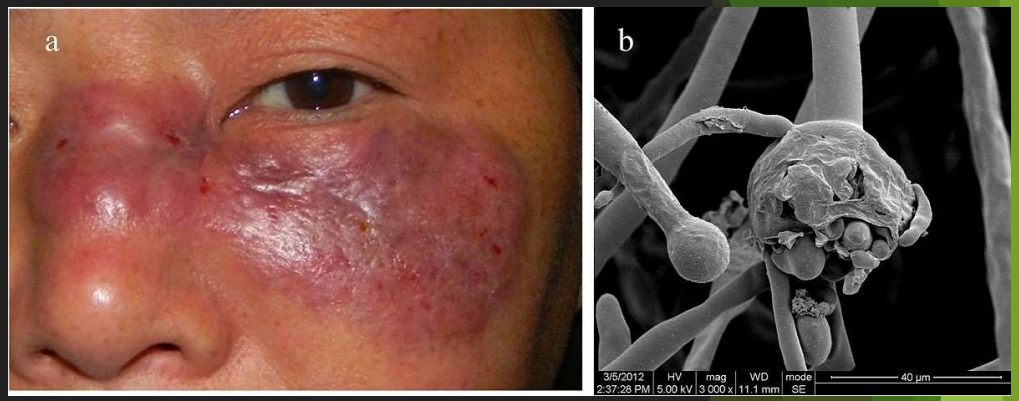
MUCORMYCOSIS

Introduction

- Also known as Phycomycosis
- An infestation caused by:
- - Mucor
- - Absidia
- - Rhizopus



MUCORMYCOSIS

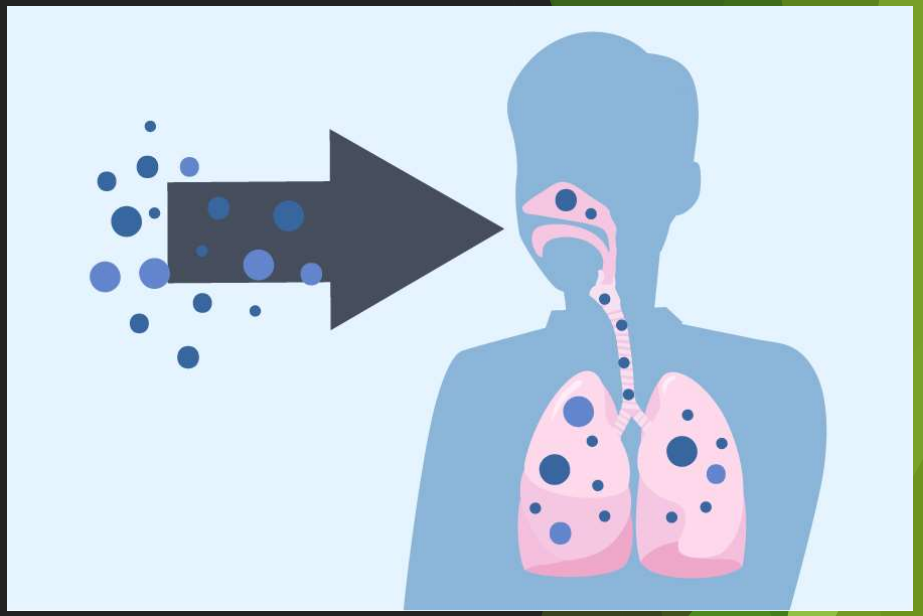
Habitation

- Present in the environment, compost, dung, soil and air, bread moulds
- Saprophytic in nature

MUCORMYCOSIS

Propagation

- Spores through inhalation acts as seeds for germination
- Zinc and Iron act as growth factor (specific nutrient)
- Devitalised, necrosed cells, debris, glucose acts as bed for the growth of fungi



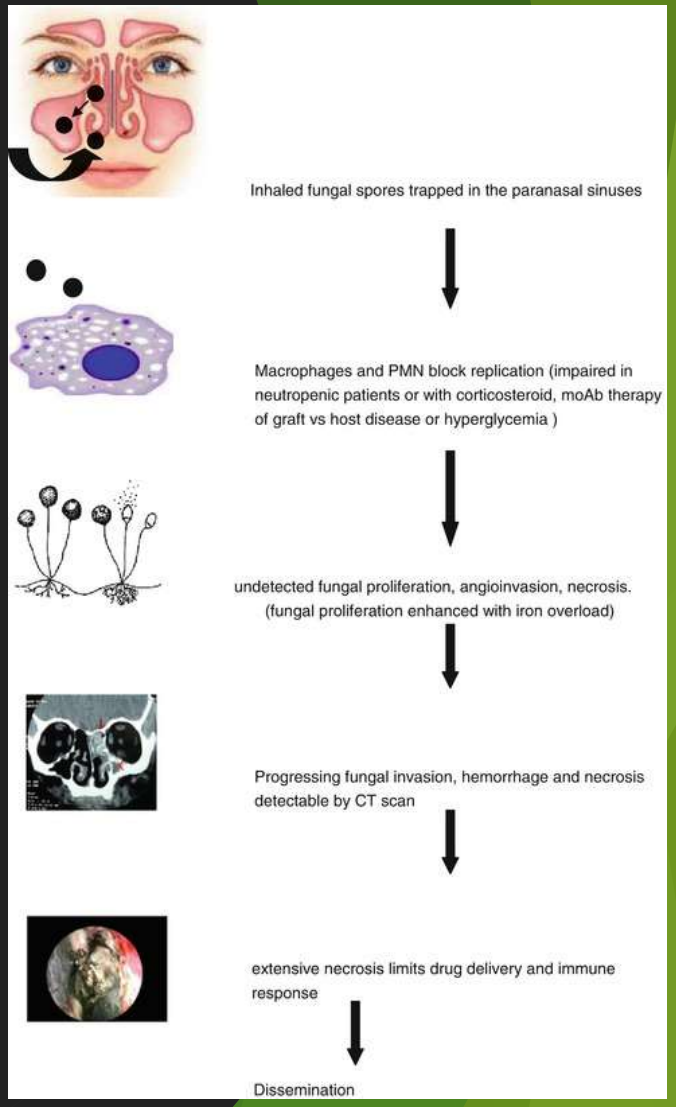
Risk Factors (Predisposing Factors)

- Uncontrolled Diabetes
- Use of Steroids
- Use of Immunomodulators/ suppressor
- Immunodeficiency
- Contaminated Fomites
- Use of high speed/ pressurised oxygen (causing erosion to nasal mucosa)

MUCORMYCOSIS

Pathology

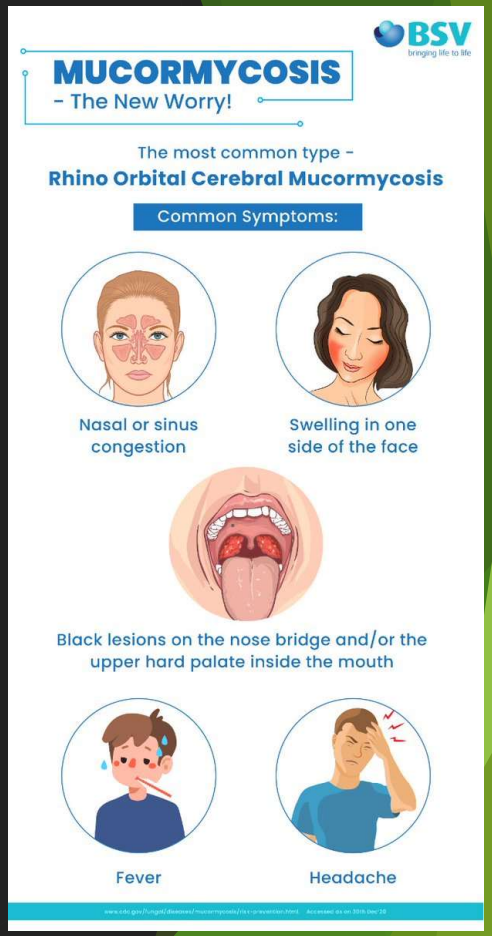
- Characterised by devitalised/ necrosed black tissue in nasal cavity
- Extended to palate, tooth socket
- Follows the root of carotid artery
- Invasion takes place in brain leading to cavernous sinus thrombosis



MUCORMYCOSIS

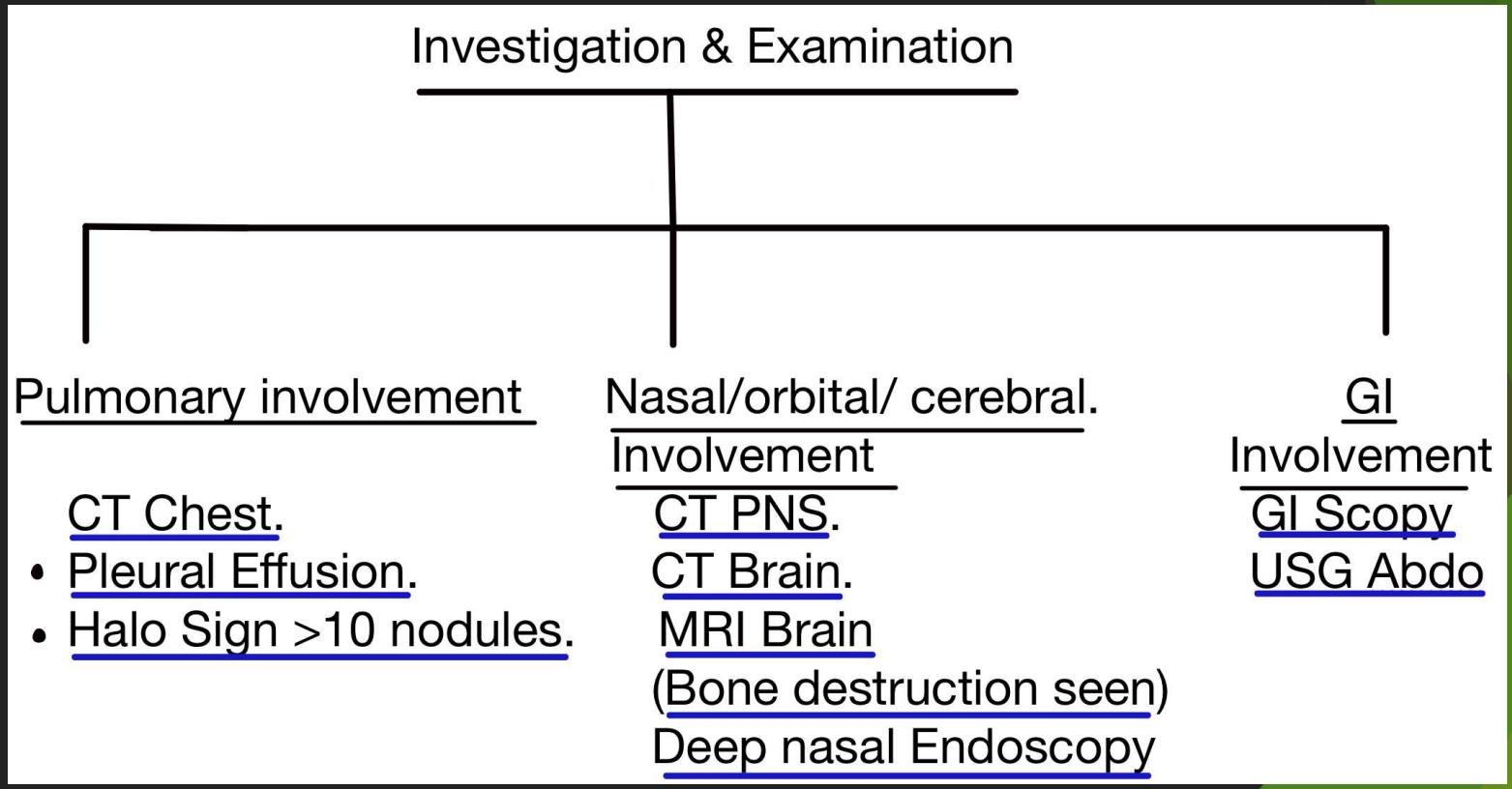
Symptoms

- Pain in side or surrounding nose
- Nose block
- Black / bloody discharge from nose
- Pain on one side of face
- One sided headache
- Swelling or numbness
- Blurring of vision
- Toothache, loosening of tooth
- Convulsion



MUCORMYCOSIS

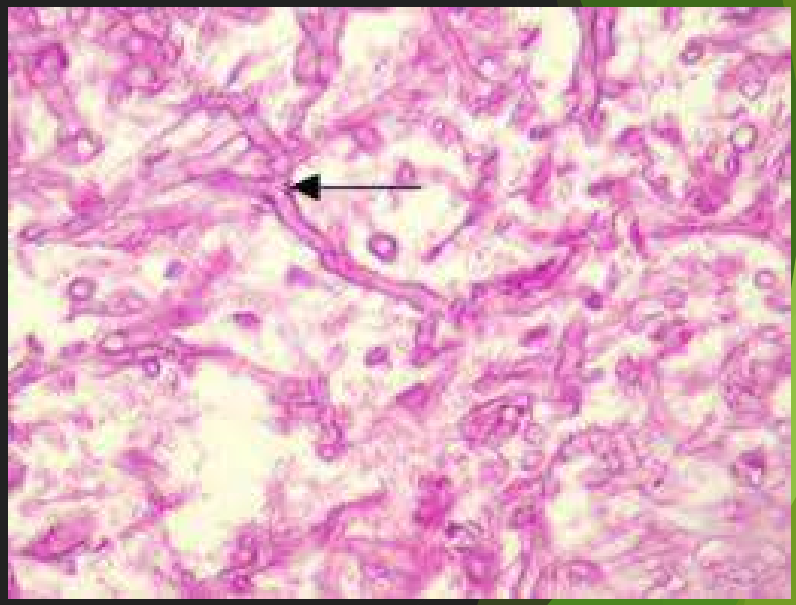
Diagnosis



MUCORMYCOSIS

Laboratory Diagnosis

- Histopathology will show Ribbon like hyphae (Mycelia)
- Bone destruction
- Vessel occlusion
- Culture
  - Routine KOH media growth
  - Cottony white or greyish black colony



MUCORMYCOSIS

Surgical Management

- Local debridement
- Local infiltration of Amphotericin B
- Regular cleaning and dressing
- Post recovery reconstructive Surgery

Medical Management

- Liposomal amphotericin B 5-10 mg/kg/day
- Posaconazole 300 mg BD first day followed by 300 mg OD
- Isavuconazole 200 mg TDS 1st day, 200 mg OD Iv
- Monitor KFT if treated oral or iv

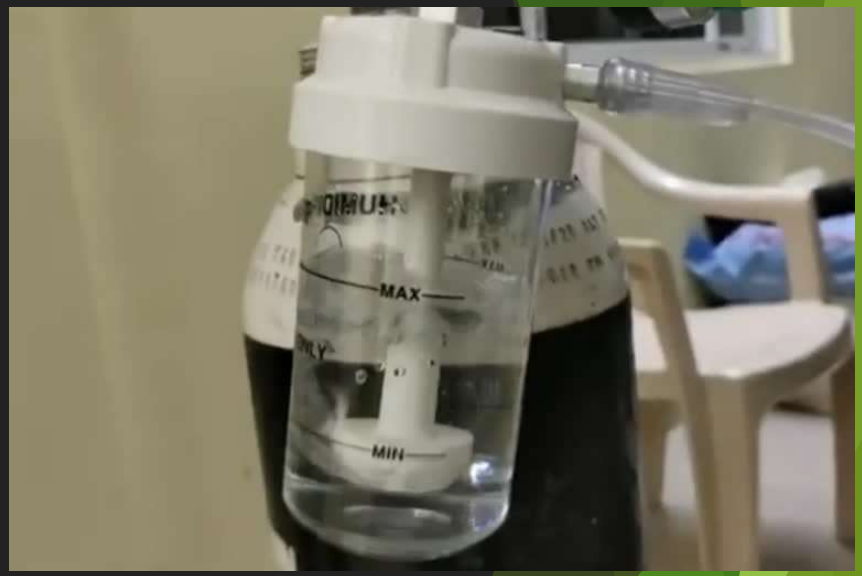
MUCORMYCOSIS

Prevention and control

- Use of Mask
- Hygiene in Intesive Care Unit
- Notification of Disease

Precautions to be taken in use of humidifiers

- Use sterile water
- Prevent use of tap water
- Check water level and keep record
- Change water every day
- Wash with soap, dry before reuse
- Cleaning of all components once a week



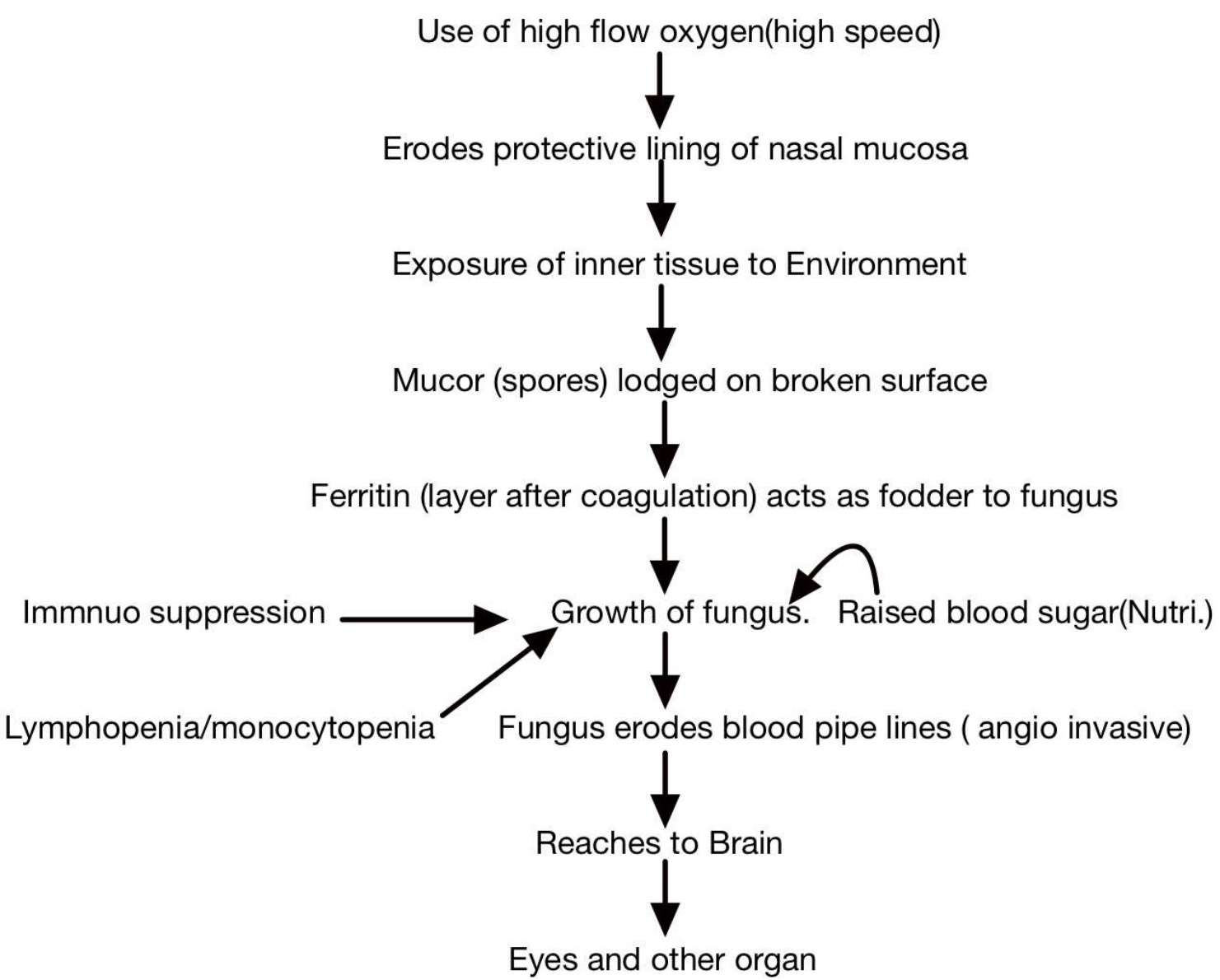
MUCORMYCOSIS

Avoid...

- Steroid abuse
- Use of zinc and iron supplement
- Prolonged ventilator use
- Prolonged oxygen use
- Contamination of fomites
- Use of iron chelating agents (desferrioxamine)

MUCORMYCOSIS

Why Epidemic of Mucormycosis during COVID-19



Other measures

- Avoid sugar (including glucose saline) during Corona
- Change oxygen tube frequently
- Remove dampness in ICU setting
- If no A/C, use good ventilation
- Good sunlight in room
- Frequent changing of bed sheets and clothes once soiled

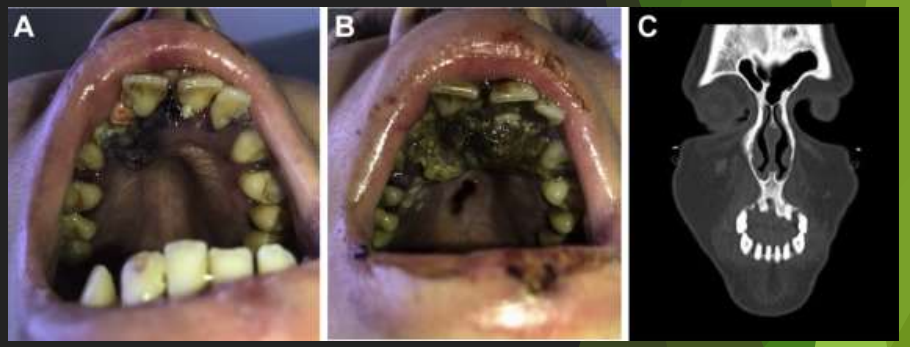
Contagious or infectious?

- It does not spread with skin contact or through respiratory route in normal person

MUCORMYCOSIS

Morbidity and Mortality

- Create disfigurement of face
- Enucleation of eyeball and damage to orbit
- Paralysis due to CNS involvement
- Perforation of Palate
- Mortality reported from 20% to 80% in poorly managed cases



Team work

- Surgeon (maxillofacial) / General
- ENT Surgeon
- Ophthalmologist
- Dental Surgeon
- Microbiologist / Pathologist
- Neurologist if CNS involved
- Epidemiologist

Contributions

- *Dr. Brinda Venkatraman, HOD Physiology for updating the information*
- *Dr. Vijay Baghel for editing the presentation*
- *Mr. Mrityunjay Singh (Super senior) for preparing the presentation*

Thank you