

Granulomatous Diseases of the Nose

Department of ENT

KSHEMA

Granulomatous Diseases

Bacterial	Fungal	Unspecified
Rhinoscleroma	Rhinosporidiosis	Wegener's granulomatosis
Syphilis	Aspergillosis	Non healing midline granuloma
Tuberculosis	Mucormycosis	Sarcoidosis
Lupus	Candidiasis	
Leprosy		

Rhinoscleroma

- Syn: *Scleroma*
- First reported in nasal cavity - HEBRA 1870
- Chronic granulomatous disease
- Gm -ve bacillus
- ***Klebsiella rhinoscleromatis* (*Frisch bacillus*)**

INCIDENCE

- Northern India , North Karnataka
- Male = Female
- Any Age

Pathology

- Starts in the Nose



- Nasopharynx
- Oropharynx
- Larynx
- Trachea
- Bronchi

Clinical features

● Atrophic Stage

- *Catarrhal rhinitic stage*

● Granulomatous stage

- Subdermal infiltration of
 - lower external nose & upper lip
- Woody feel – **Hebra Nose deformity**

● Cicatricial stage

- Stage of fibrosis
- Stenosis



DIAGNOSIS

- **Miculikz cells**- large foam cells with central nucleus & vacuolated cytoplasm
- **Russell bodies**- resemble plasma cells with eccentric nucleus & a pink staining cytoplasm

Treatment

- Streptomycin 1g/day
- Tetracycline
 - 2g/day
 - For 4-6 weeks
 - Treatment stopped when two consecutive cultures from the biopsy material - negative
- Steroids – reduce fibrosis
- Acroflavin 2% local application.





Lupus Vulgaris





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RHINOSPORIDIOSIS

- Malbran 1892
- **Rhinosporidium seeberi** / Kinealyi
 - ? Fungus



Classification

● BENIGN

● NASAL

- SEPTAL MUCUS MEMBRANE
- FLOOR OF NOSE / SPUR

● NASOPHARYNGEAL

- NASOPHARYNGEAL SURFACE OF SOFT PALATE

● MIXED

- Naso-Lacrimal

● BIZARRE

- Conjunctival
- Cutaneous

● MALIGNANT - Generalized





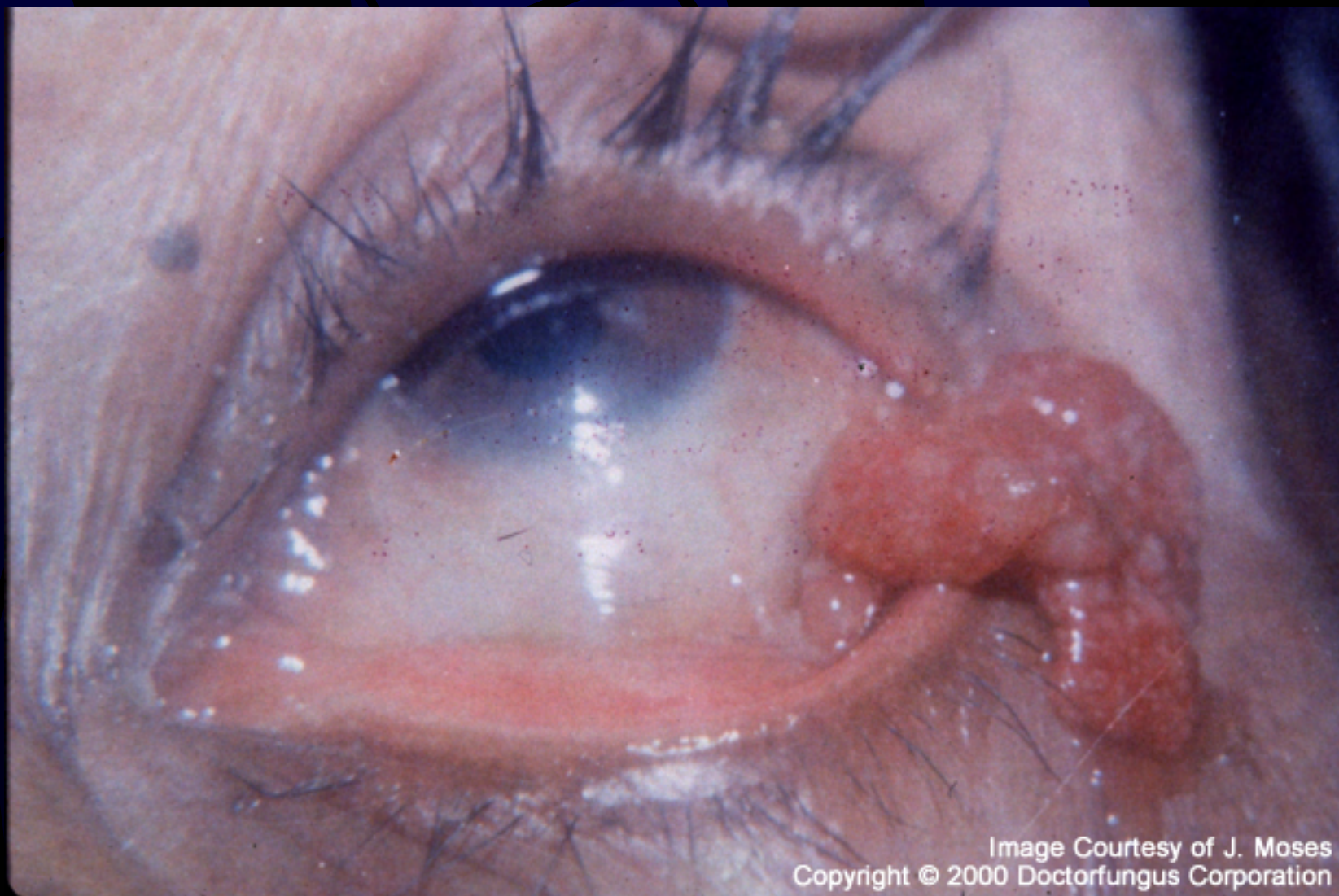


Image Courtesy of J. Moses
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Clinical features

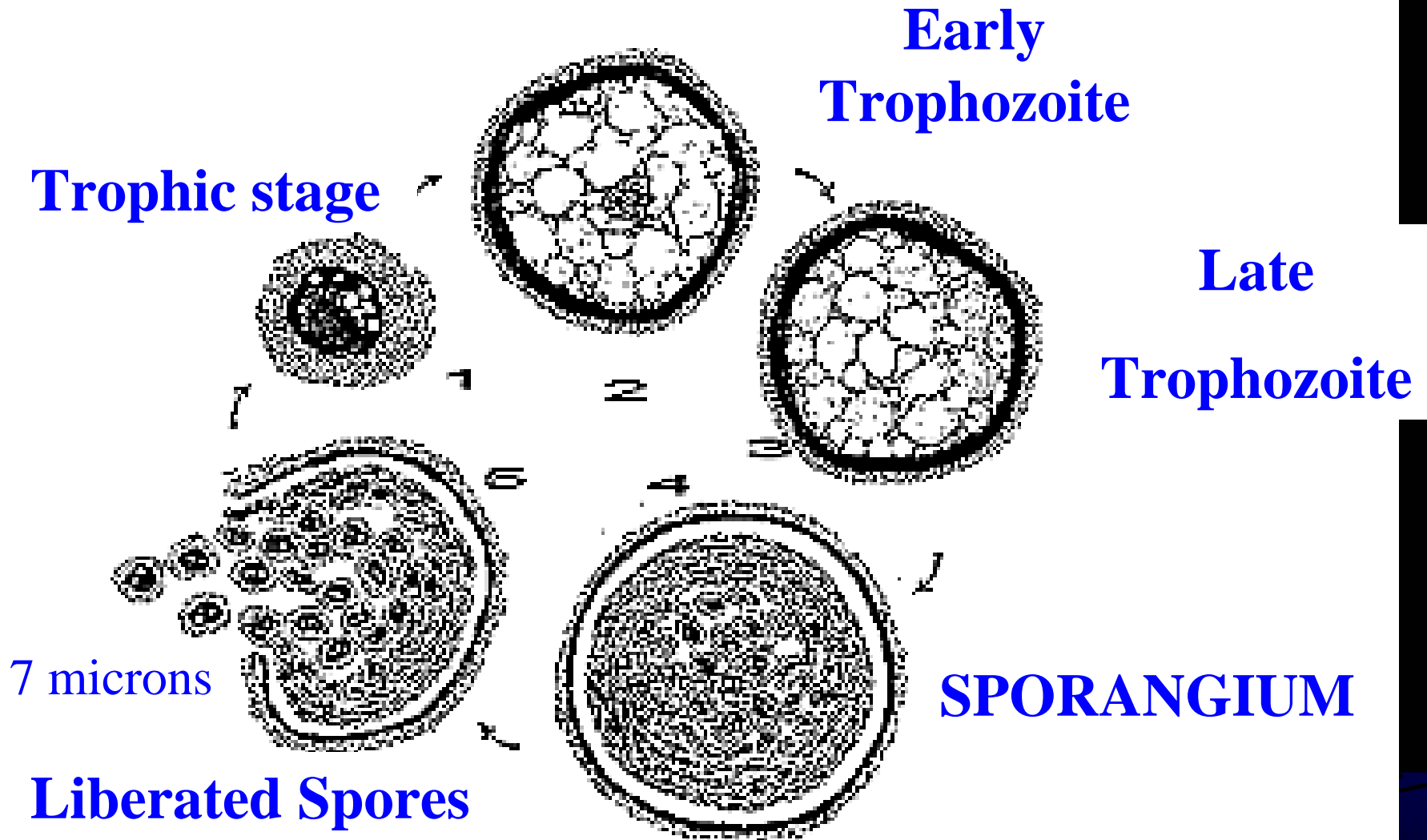
- Nasal discharge
- Epistaxis

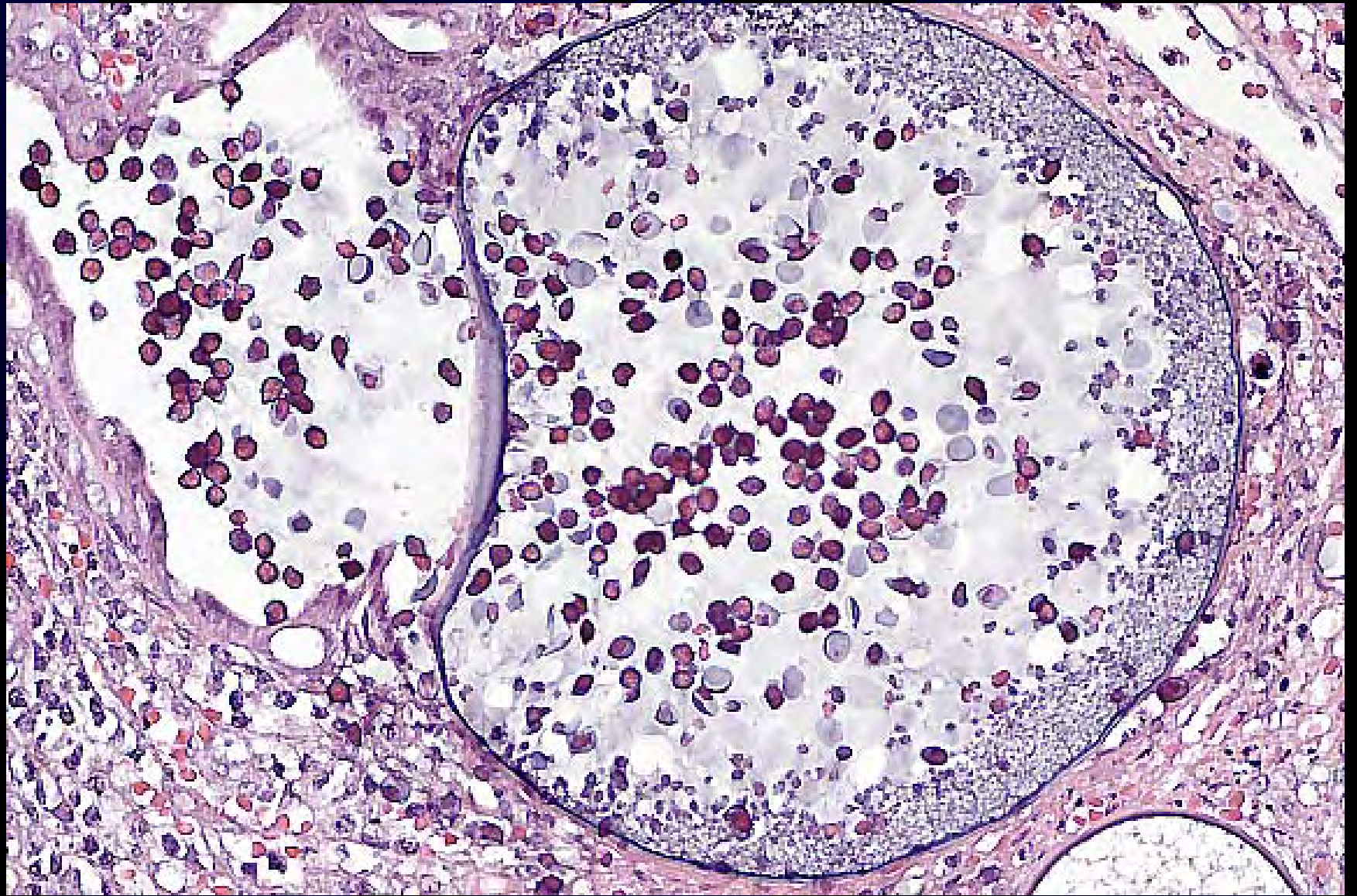
O/E

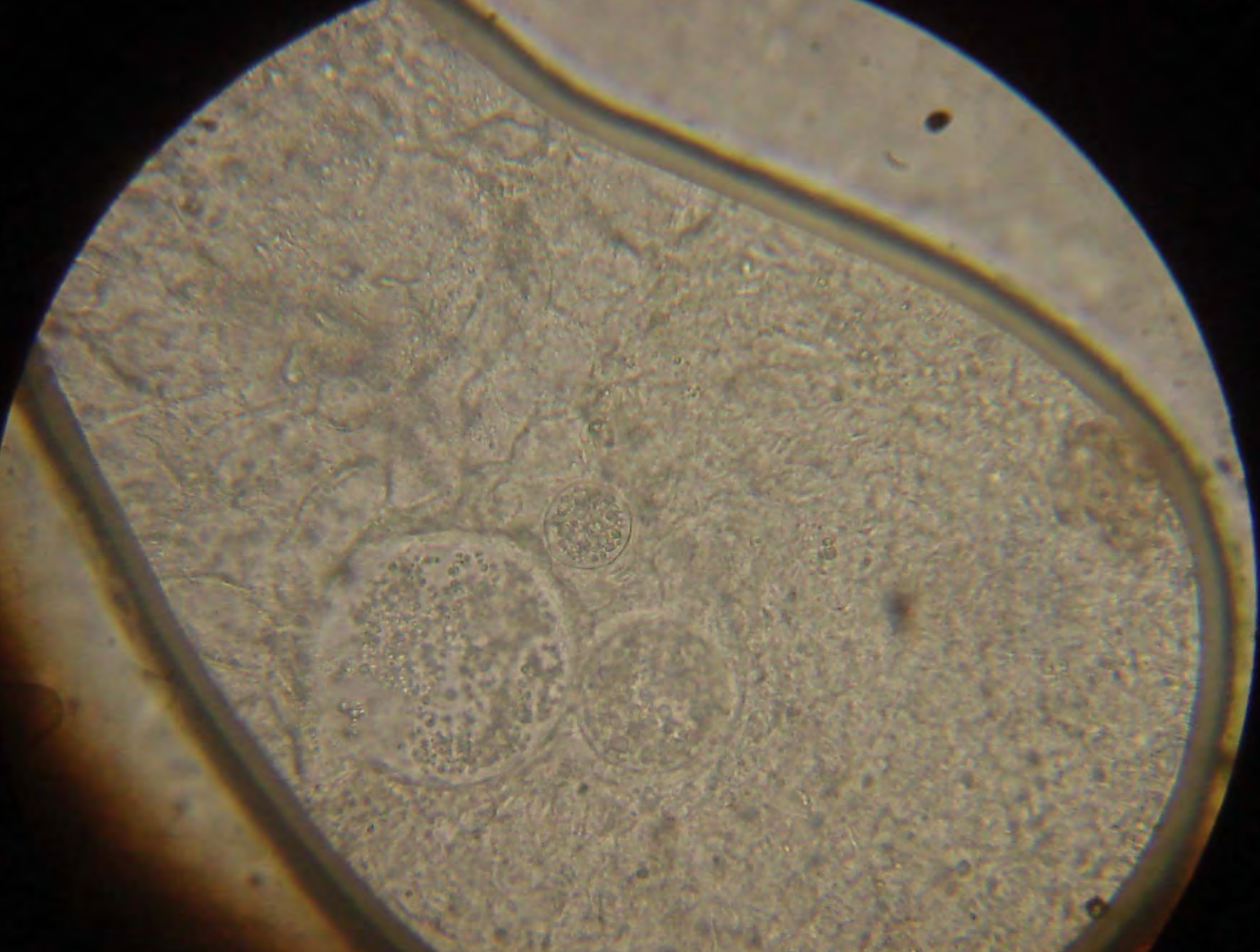
- Leafy , Polypoidal, Pinkish
- Papillomatous
- Vascular- Bleeds on touch
- Studded with white dots

LIFE CYCLE

Rhinosporidium seeberi







TREATMENT

- Cauterization of base and excision of mass
- Revision & Follow up
- Dapsone
 - *Prevents maturation of sporangium*
 - *Promotes fibrosis*
 - *50 mg bid*
 - *3 months pre-op & 6 months post-op.*



Aspergillosis

- *Aspergillus fumigatus* (90%)
- *Aspergillus niger*
- *Aspergillus flavus*
 - Sudan & Saudi Arabia
- Seen in Immunosuppressed

Clinical Features

- Rhino- sinusitis
- Black/ greyish membrane on nasal mucosa
- Pultaceous , cheesy , sludgy blackish mass (Fungal ball)

Forms

- Allergic

- **HORA'S CLASSIFICATION**

- Invasive

- Non-invasive (aspergilloma)

- Fulminant (Angio-invasive / Destructive)

Aspergillus

A high-magnification micrograph of Aspergillus hyphae. The hyphae are stained with Grocott's silver stain, appearing as dark, branching structures against a lighter background. The branching is characteristic of Aspergillus, showing dichotomous branching at a 45-degree angle. The hyphae are septate, meaning they have cross-walls (septa) at regular intervals.

- **Septate Hyphae**
- **Dichotomous Branching at 45 deg angle**
- **Hyphae stained by Grocott's silver stain**

Treatment

- Surgical Debridement
- Itraconazole
- Amphoterecin B

Mucormycosis



Mucormycosis

- Aggressive opportunistic fungus

- MUCORELES

- Rhizopus Oryzae

- Mucor Circinelloides

- Mucor Javanicus

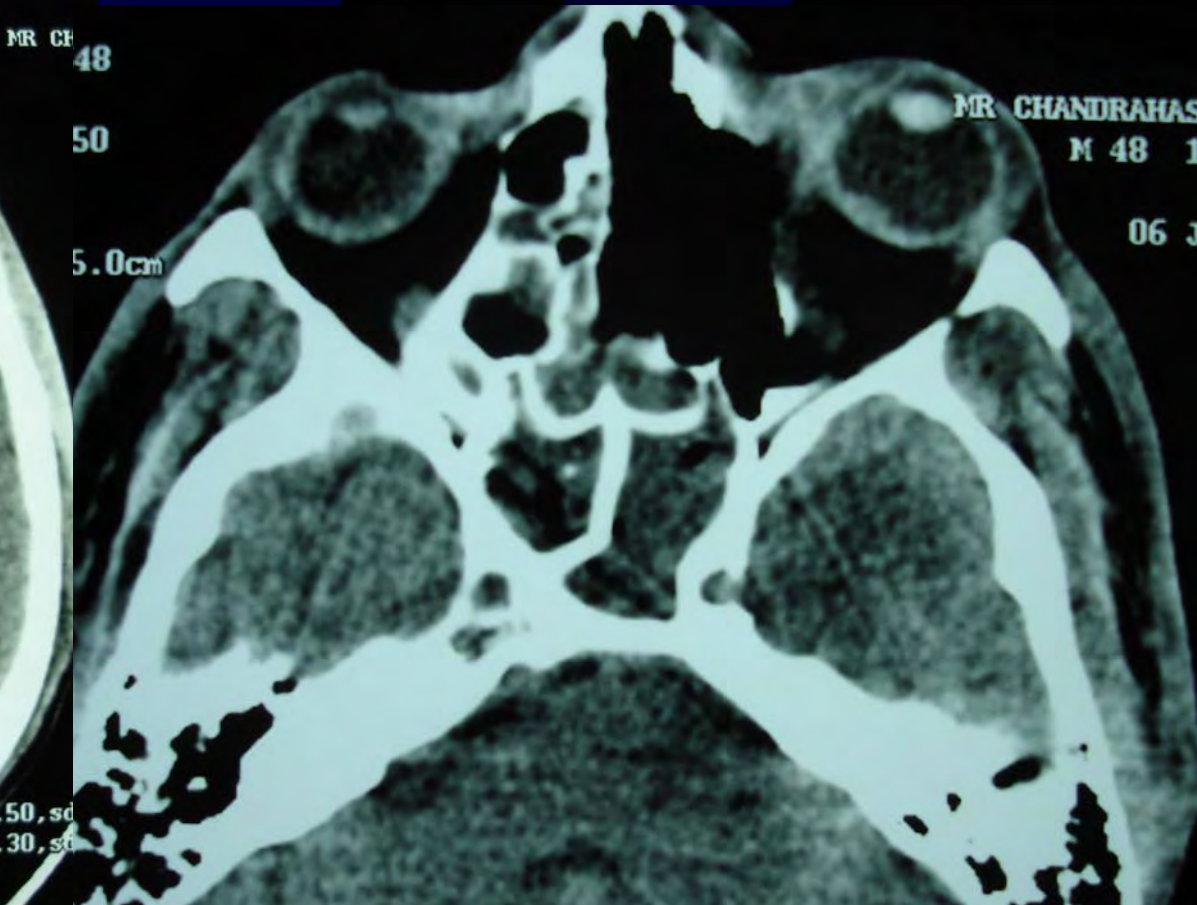
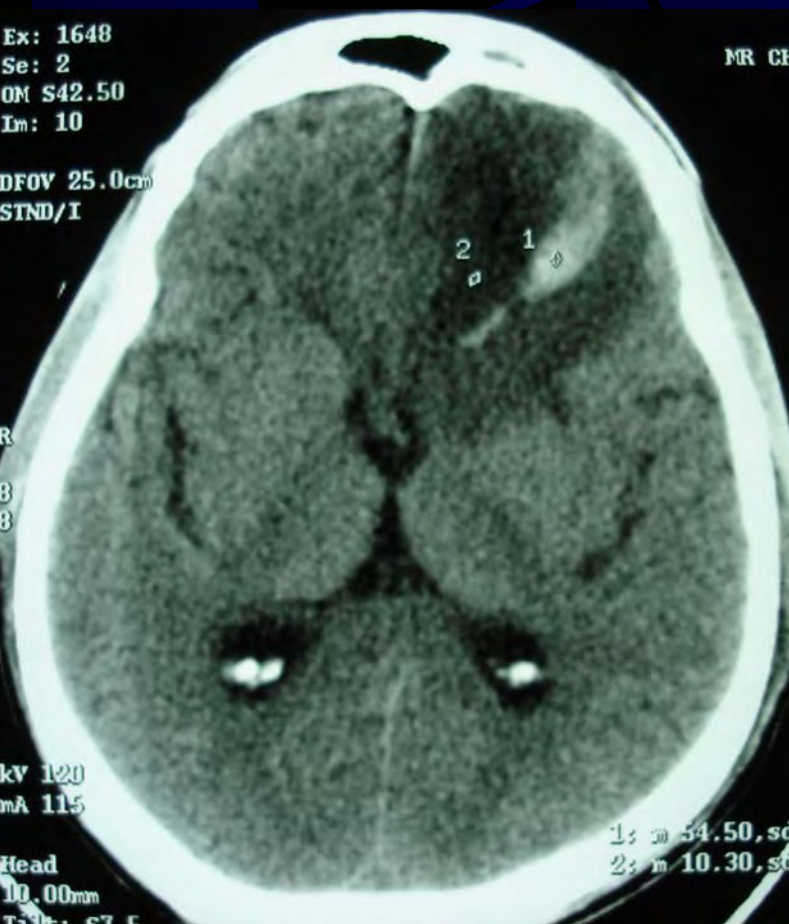
- Immunocompromised Diabetics

TYPES

- ROWE JONES
 - NON INVASIVE
 - SEMI INVASIVE
 - INVASIVE

- Types
 - Cerebral
 - Occular
 - Pulmonary
 - Superficial
 - Disseminated

Cerebral & Orbital extension



Pathogenesis

- Rapid Spread
- Invasive
- Invade arteries – endothelial damage
- Thrombosis
- Necrotic Mass

Treatment

- Surgical debridement
- Amphoterecin B

Oroantral fistula



RHINITIS SICCA

- Crust forming disease
- HOT, DRY, DUSTY surroundings – bakers, blacksmiths, goldsmiths.
- Pathology:
Ciliated columnar epithelium > Stratified squamous
- C/F: Crusting - anterior 1/3rd of the nose- Septum
- Removal - epistaxis/ ulceration/ septal perforation
- Rx:
 - correction of occupation
 - Application with antibiotic / steroid ointment
 - Alkaline nasal douching.

RHINITIS CASEOSA

- **AKA: Nasal cholesteatoma**
- Chronic inflammation of the nose associated with granulation tissue formation & accumulation of offensive purulent discharge & cheesy material
- Unilateral & Affects males
- Soft tissue of the face - inflammed & abscesses burst out through skin.
- Invg:
 - Radiology(Bony wall destruction)
 - Histopathology (keratinous material, numerous organisms / cholesterol crystals)
- Rx: Debris removal by scooping ,irrigation & free drainage of affected sinus.

Wegener's Granulomatosis

- Systemic disease - UNKNOWN

- Upper airways
- Lungs
- Kidneys
- Skin

- C/F

- Persistent cold
- Crusting
- Granulations
- Septal perforation /saddling

Wegener's Granulomatosis

● Investigations

- Chest Xray – single/multiple cavity
- Serum creatinine, Urine -RBC, casts, albumin +
- C –ANCA ↑↑

● Biopsy

- Epitheloid granuloma
- Necrotizing vasculitis

● Rx : Steroids & Cytotoxic agents

Midline Lethal Granuloma

Synonyms

- Stewart's granuloma
- Non-healing midline granuloma
- Polymorphic reticulosis

Midline Lethal Granuloma

- Slowly progressive
- F > M 5-6th decade
- HPR – suggestive of lymphoma
- 3 stages
 - Prodromal stage (nasal obstruction)
 - Fetor/ ulceration
 - Toxemia
- Rx – Sx + RT



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Definition

- Infestation of the nose by maggots which are the larvae of a fly (genus "*Chrysomia*")



- Synonym:
Maggots in the nose

AETIOLOGY



- Atrophic Rhinitis
- Leprosy
- Large roomy nasal cavities following removal of nasal polyps/ rhinosporidiosis
- Following surgery for ca. Maxilla
- Poor Hygiene
- Poor Nutritional status.

PATHOGENESIS



- Flies (Genus- “Chrysomia”) lays eggs in nasal cavity
- Eggs hatch into larvae (maggots)
- Superadded secondary bacterial infection
- PNS invaded by maggots

- 200 eggs at a time
- Hatch within 24 hrs
- 1.5cm in length



CLINICAL FEATURES

- Nasal Obstruction
- Nasal pain
- Foul smelling nasal discharge
- H/O crawling sensation in the nose
- H/O maggots coming out of nasal cavity
- On Exam – Anterior Rhinoscopy:
 - Maggots seen crawling in / out of nasal cavity.
 - +/- cellulitis of nose & face
 - Fever malaise , headache, toxaemia



TREATMENT

- Removal of maggots with nasal dressing forceps
- Instillation of liquid paraffin in the nasal cavities
- Nasal cavities packed with ribbon gauze soaked in turpentine for 24 hrs
- Antibiotics for control of secondary infection
- Maintenance of nasal hygiene by alkaline nasal douches









RHINOLITH



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DEFINITION

It is a concretion in the nasal cavity formed around a foreign body , clot or inspissated pus. It is the deposits of calcium and magnesium carbonate with phosphate salts

AETIOLOGY

- Foreign body
- Inspissated pus
- Blood clots
- Inspissated mucus



CLINICAL FEATURES

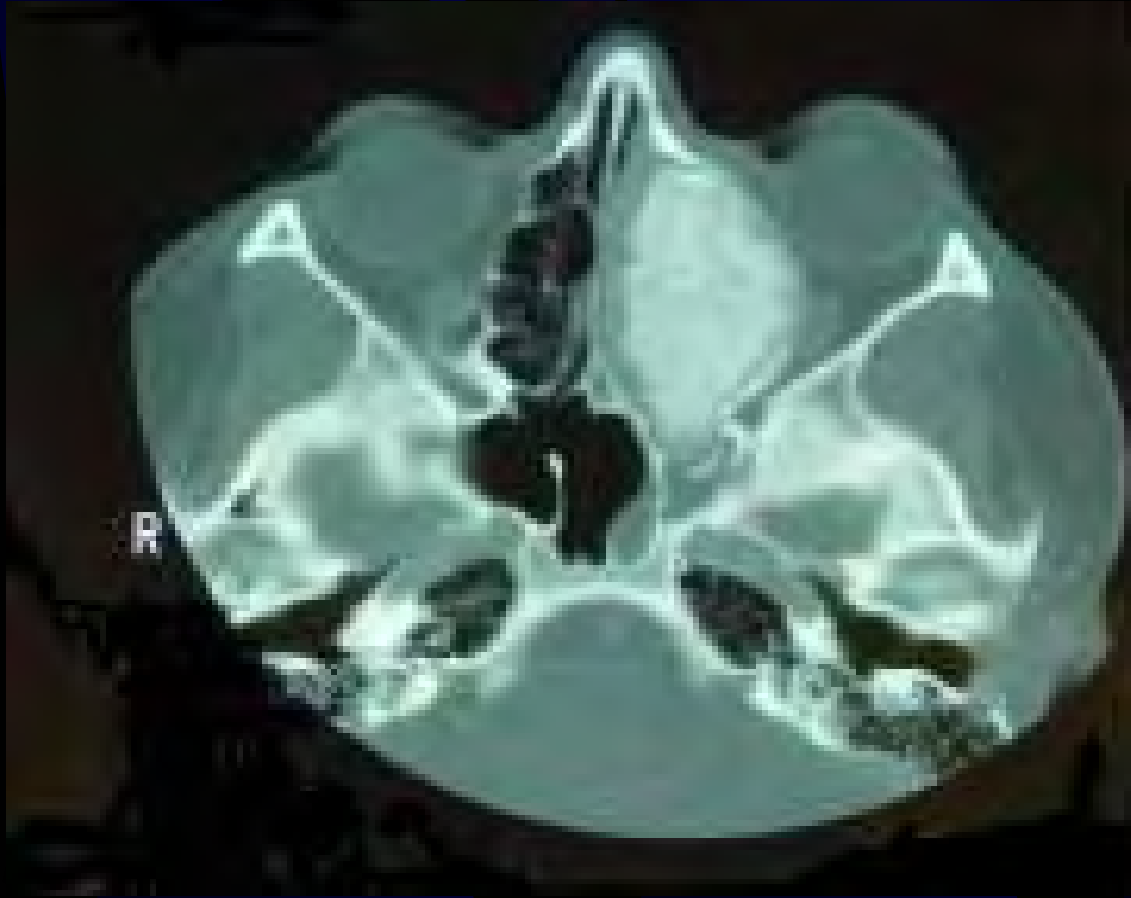
- Nasal obstruction- unilateral
- Rhinorrhea – unilateral, foul smelling and blood stained
- Anterior rhinos copy – brownish / blackish mass obstructing one nasal cavity
- Probing reveals a stony hard mass

PATHOLOGY



- Occurs due to deposition of layers of carbonates and phosphates of calcium and magnesium around the foreign body
- The rhinolith is usually becomes hard and sometimes friable

INVESTIGATIONS



TREATMENT

- Removal of the entire mass under GA
 - Either as a whole or in piece meal
 - Usually by trans-nasal route
 - Rarely through lateral rhinotomy , if too large



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THANK YOU