

Subcutaneous mycoses

➤ 1-Mycetoma

➤ 2-Sporotrichosis

➤ 3-Chromoblastomycosis

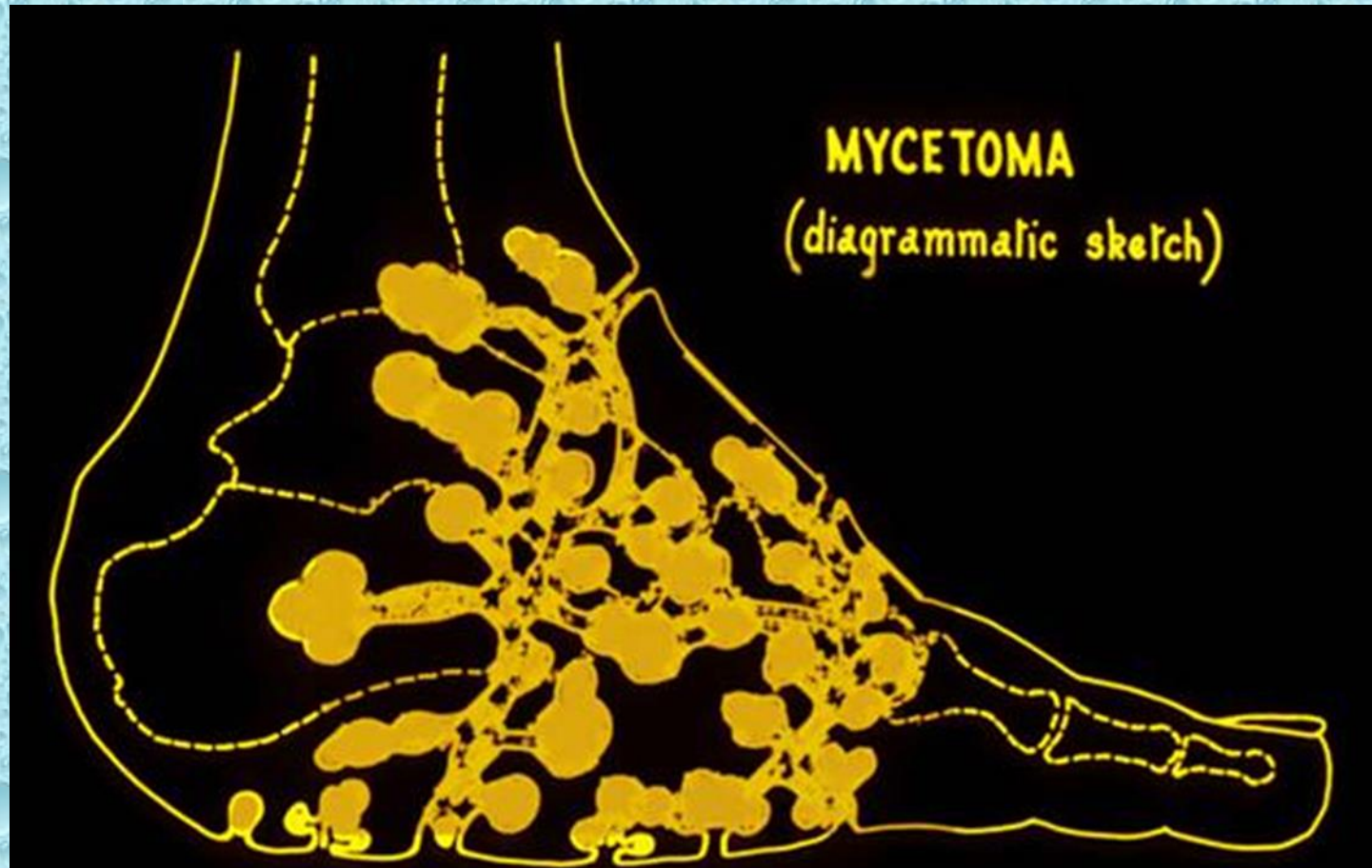
➤ 4-Phaeomycotic cyst

➤ 5- Lobomycosis

➤ 6- Entomophthoromycosis

Mycetoma

Madura foot



1-Actinomycotic mycetoma:

- *Actinomyces israelii*
- *Nocardia* spp.(asteroides)
- *Streptomyces somaliensis*
- *Actinomadura* spp.

2-Eumycotic mycetoma:

- *Scedosporium apiospermum*
- *Aspergillus* spp.
- *Penicillium mycetogenum*
- *Fusarium* spp.
- *Curvularia* spp.
- *Leptosphaeria* spp.
- *Pyrenochaeta romeroi*
- *Neotestudina rosatii* *Acremonium* spp.
- *Madurella* spp.

3-Botryomycosis



Predisposing factors:

Actinomycotic mycetoma



Actinomycotic mycetoma



Fistule-forming inflammatory nodule

Canine bite 25 years earlier



Actinomycotic mycetoma



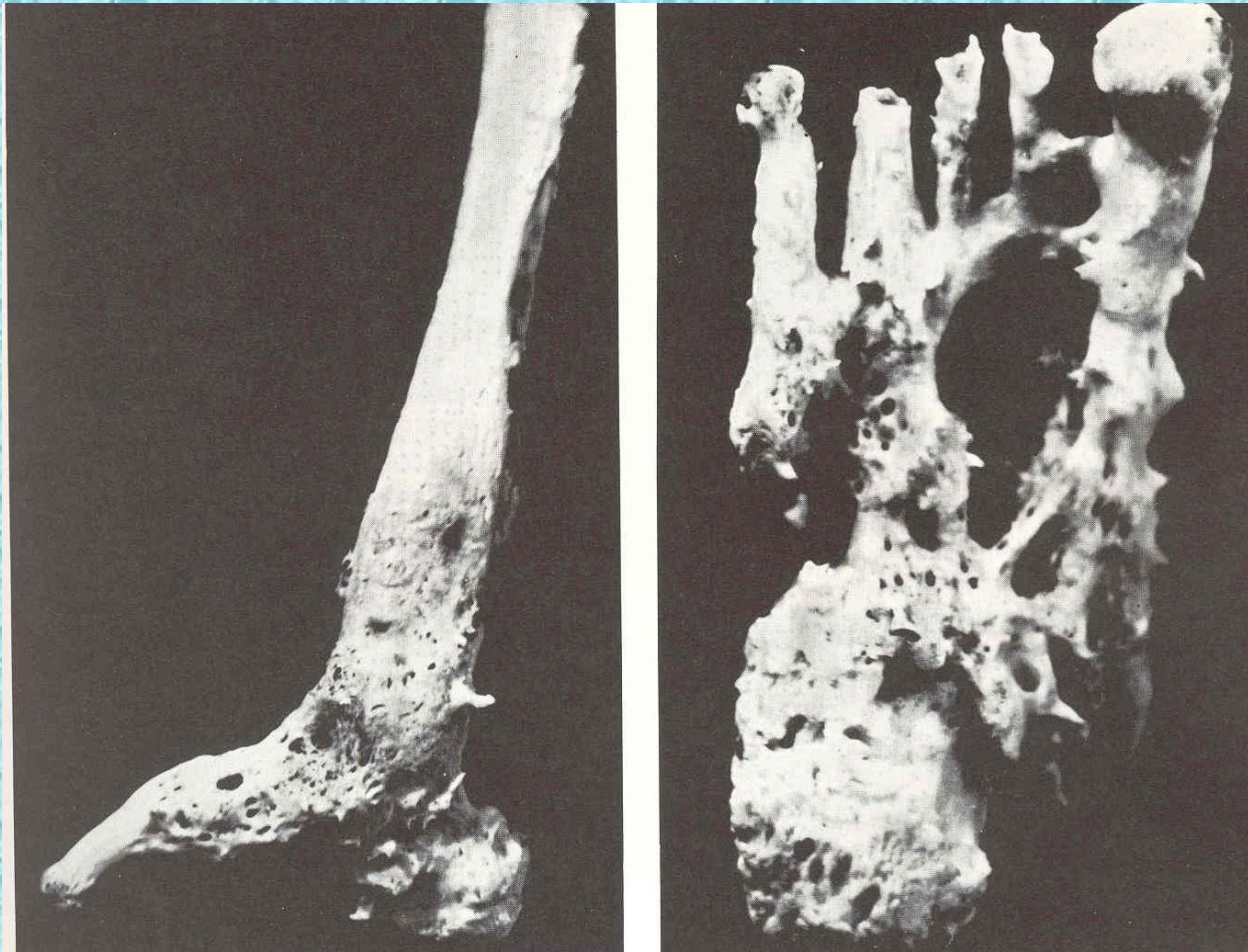
Actinomycotic mycetoma



Black granules (grains)



Actinomycotic mycetoma



Eumycotic mycetoma



Eumycotic mycetoma



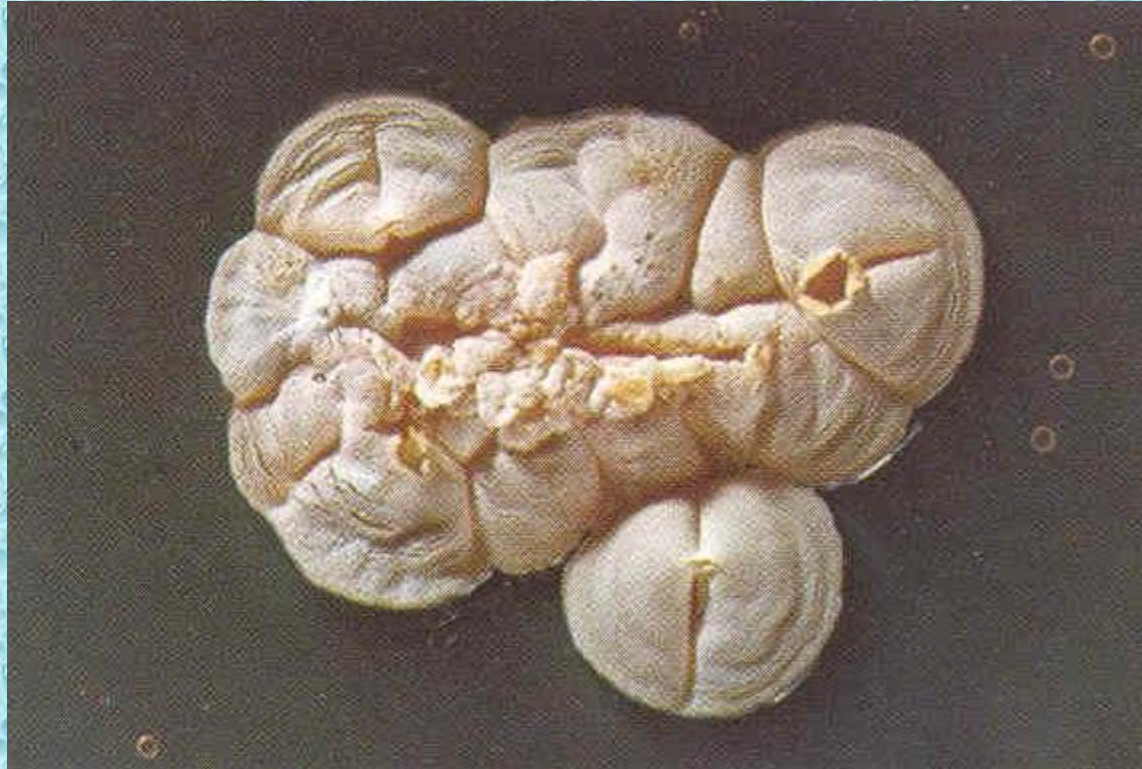
Epidemiology

- **1- Collection of samples**
- Sulphur granules in actinomycosis

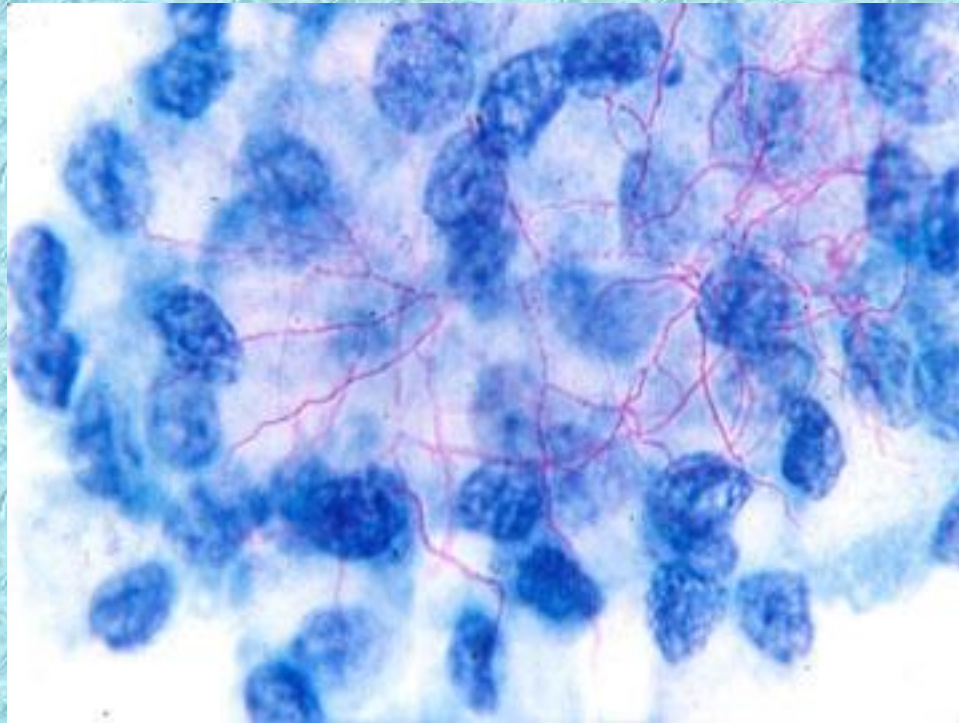


- **2- Direct examination**
(KoH.Gram.PAS...)

Nocardia brasiliensis



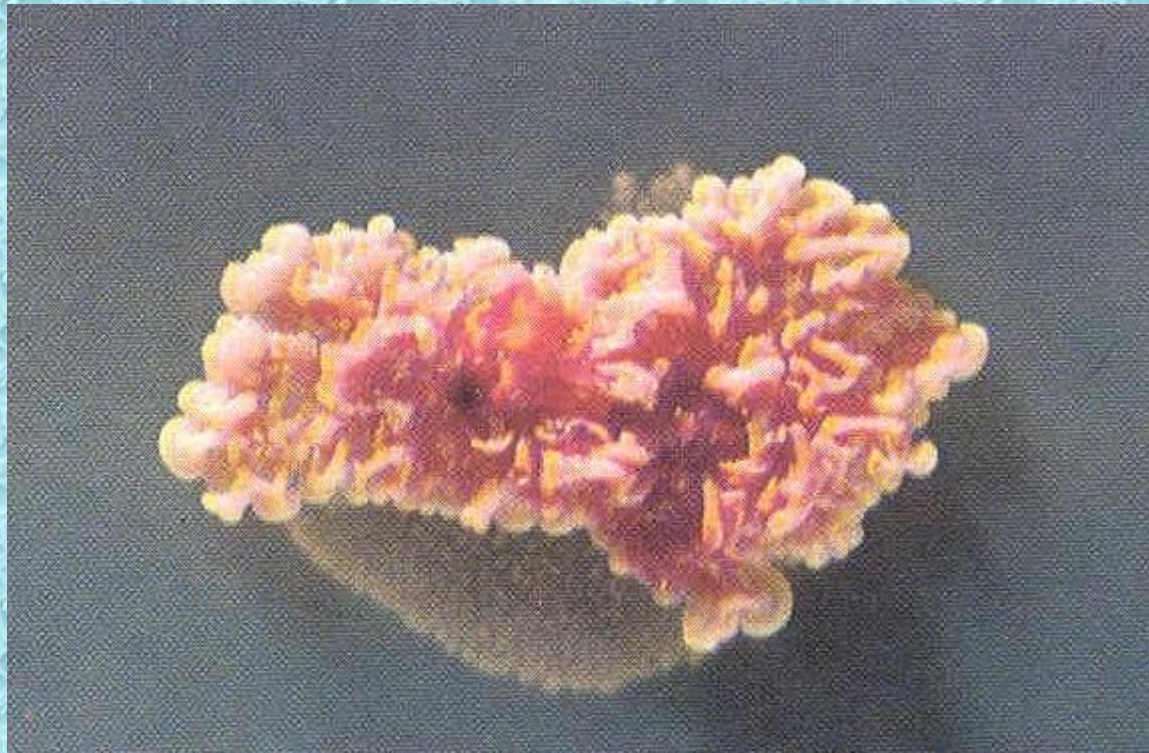
Partially acid-fast in *Nocardia*



Actinomadura madurae



Actinomadura pelletieri



Streptomyces somaliensis



- **3- Culture**
(S-SC-BA-BHI) 25-37

- **4-Serology**
(ID. CIE. ELISA. Western blotting)



Treatment:

Actinomycotic mycetoma:

- 1-Dapsone +
Streptomycin + surgery
- ❖ 10 months

Eumycotic mycetoma:

➤ 1-Itraconazole + Surgery

➤ 2-Alternative:

Ketoconazole

Or

Amphotericin B



Sporotrichosis

Rose gardener's disease

Chronic disease

Agent:

Sporothrix schenckii:

- *Thermal dimorphic*
- *In soil*
- *On decaying vegetation*



Agent:

- Worldwide
- Tropical regions
- Mexico
- Brazil
- France
- USA

Predisposing factors:

- Trauma
- Inhalation (very rarely)
- HIV

1-lymphocutaneous

2-Fixed cutaneous

3-Mucocutaneous

4-Pulmonary

5-Systemic

Primary infection



Lymphocutaneous sporotrichosis





Cutaneous leishmaniasis



Mycobacterium marinum Infection



© 1995, Dermatology, University of Iowa

2-Fixed cutaneous sporotrichosis:



Fixed cutaneous sporotrichosis

verrucous-type sporotrichosis





localized cutaneous type



Fotografia 1. Esporotricosis fija. Placa eritematosa infiltrada úlcero-costrosa.

Paronychia sporotrichosis



3-Pulmonary sporotrichosis:

- Alcoholic.1:3
- Pulmonary tuberculosis, diabetes mellitus, sarcoidosis, or steroid use.1:3
- Normal.1:3

❖ Occasionally asymptomatic
but usually have:

- A productive cough
- Low-grade fever
- Weight loss

lung radiographs:

- Cavitory lesions
- Pleural effusion
- Hillar lymphadenopathy

bilateral large irregular cavities in
the right and left upper lobes



4-Systemic sporotrichosis

5-Mucocutaneous sporotrichosis

Transmission:

➤ Dog bite

➤ parrot bite

➤ Insects bite

➤ Cases of animal-to-human transmission



Occupational disease:

- Farmers
- Horticulturists
- Timber workers
- Gardeners
- Florists

Laboratory Diagnosis:

1-Collection of samples:

- Drainage from skin lesions
- Exudates
- Pus
- Blood
- Pulmonary secretions
- Tissue biopsy specimens

2-Direct examination

➤ Gram

➤ PAS

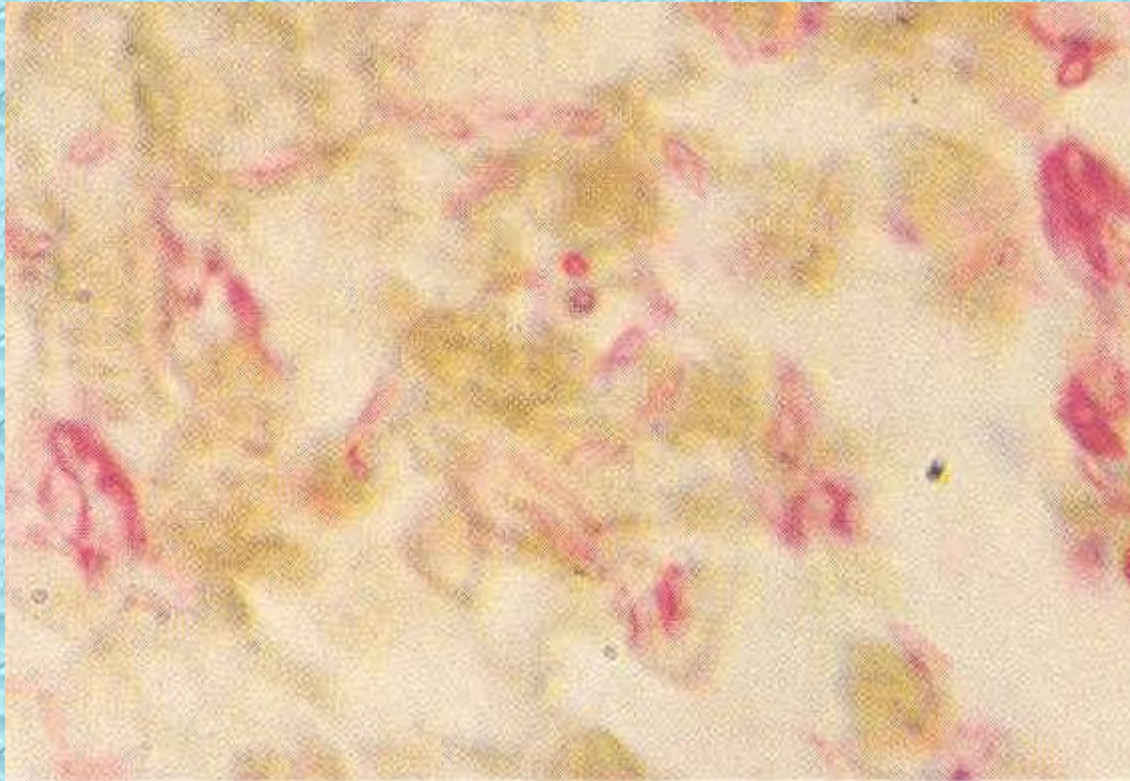
➤ GMS

➤ H & E

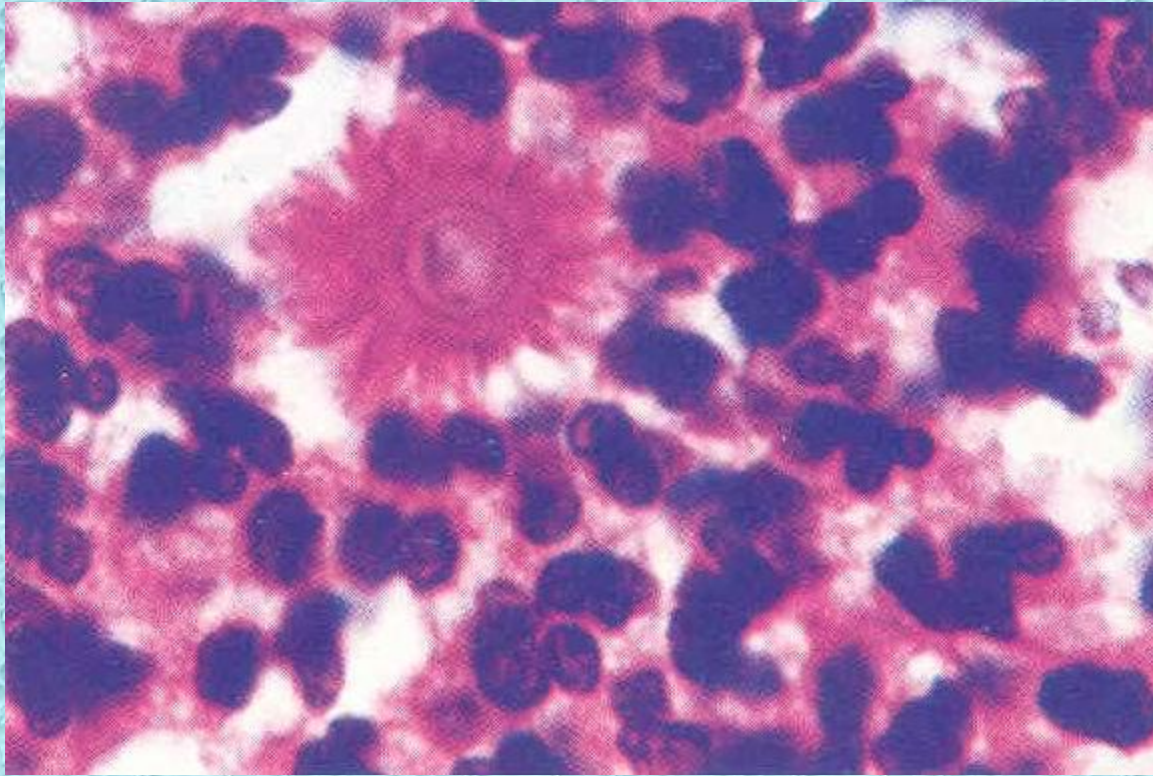
❖ Cells: $2-3 \times 3-5 \mu\text{m}$ (in or out MQ)

❖ Asteroid body: $10 \mu\text{m}$

Finger section: Cigar-shaped yeast cells (1-3 μm \times 3-10 μm) . PAS



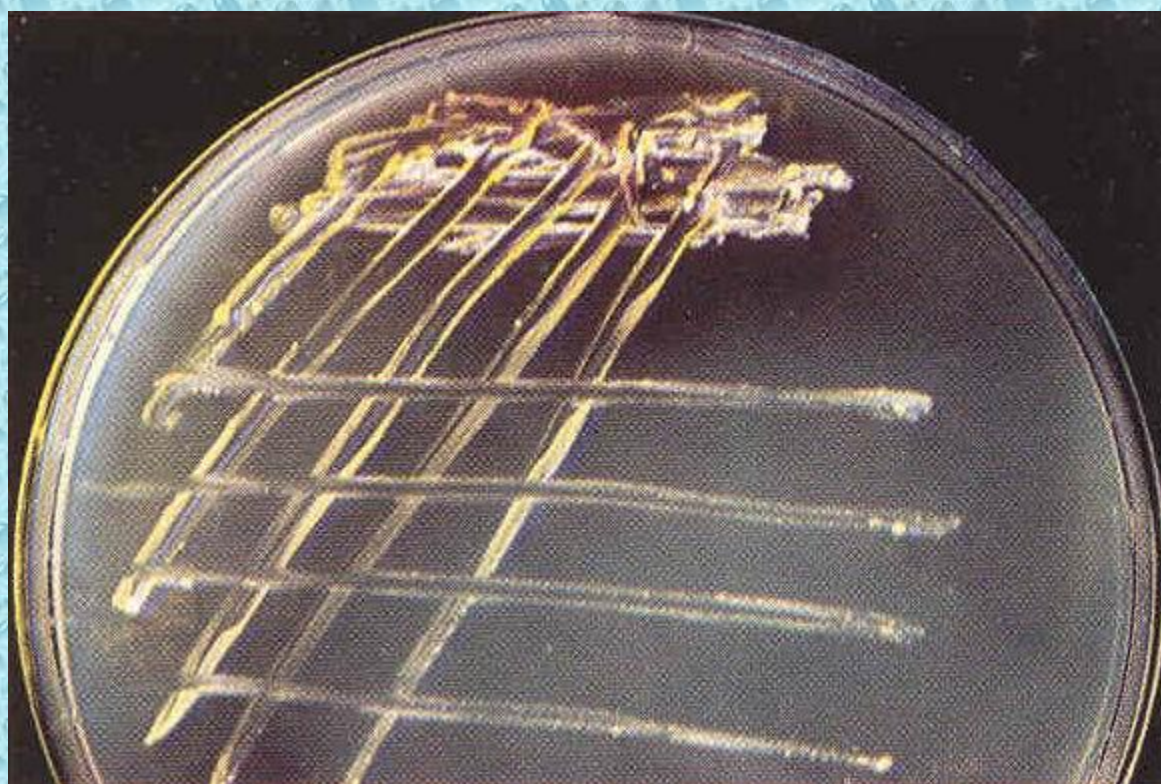
Asteroid body



Culture:

Media:

- SCC. S...22
- BHI.BA...37



Serology:

❖ In extracutaneous and systemic forms:

✓ LA

✓ Enzyme immunoassay (EIA)

✓ TA



Treatment:

❖ lymphocutaneous:

- Saturated solution of potassium iodine (SSKI); 6-12 weeks
- Itraconazole; 100-200 mg/day, 3-6 months
- Local heat therapy





Chromoblastomycosis

Chromomycosis

Definition:

Chronic disease

Black fungi

Agents:

- *Fonsecaea pedrosoi*
- *Fonsecaea compacta*
- *Phialophora verrucosa*
- *Cladophialophora carrionii*

Phaeomycotic cyst:

Agents:

- *Exophiala jeanselmei*
- *Wangiella dermatitidis*

cyst (black hiphi). surgery

Cerebral Phaeohyphomycosis:

Agents:

- *Xylohypha bantiana*
(*Cladophialophora bantiana*)
- *Wangiella dermatitidis*
- Surgery.5-FC.Amp B

Cutaneous

Phaeohyphomycosis:

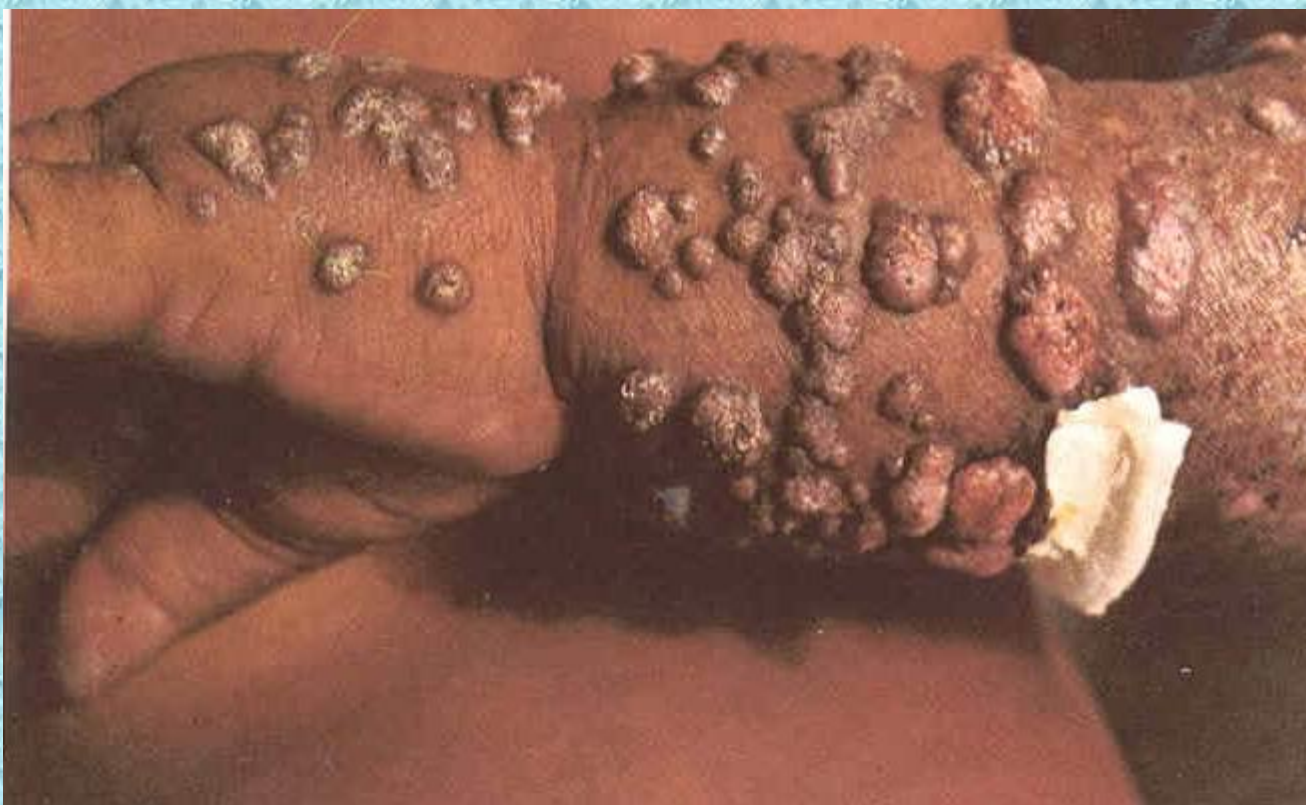
Rara

Agents:

- Alternaria
- Aureobasidium
- Curvalaria
- Fungal Colonization
- Surgery.5-FC.Amp B

Predisposing factors:

➤ Traumatic inoculation



Cauliflower lesions with crusts and black dots



Chronic verrucose chromoblastomycosis of the foot





Transmission:

➤ Autoinoculation

Epidemiology:

- Worldwide
- Barefooted agricultural workers
- Tropical and subtropical regions
- $M > F$
- 30-50 years old
- Mexico
- Cuba

In Japan and Australia: Hand

Laboratory Diagnosis:

- 1-Collectoin of samples
- 2-Direct examination
- 3-Culture
- 4-Serology

1-Collectoin of samples:

- Skin.biopsy
- Black dot areas in verrucous lesion

2-Direct examination:

- 10 to 20% KOH
- PAS
- H & E

2-Direct examination:

Muriform cells:

- ❖ 4-12 μm
- ❖ Thick planate, septal walls
- ❖ Singly or in small clusters
- ❖ In macrophages
- ❖ In giant cells
- ❖ Extracellular

2-Direct examination:

❖ Dark brown cells (septate):

➤ Muriform cells

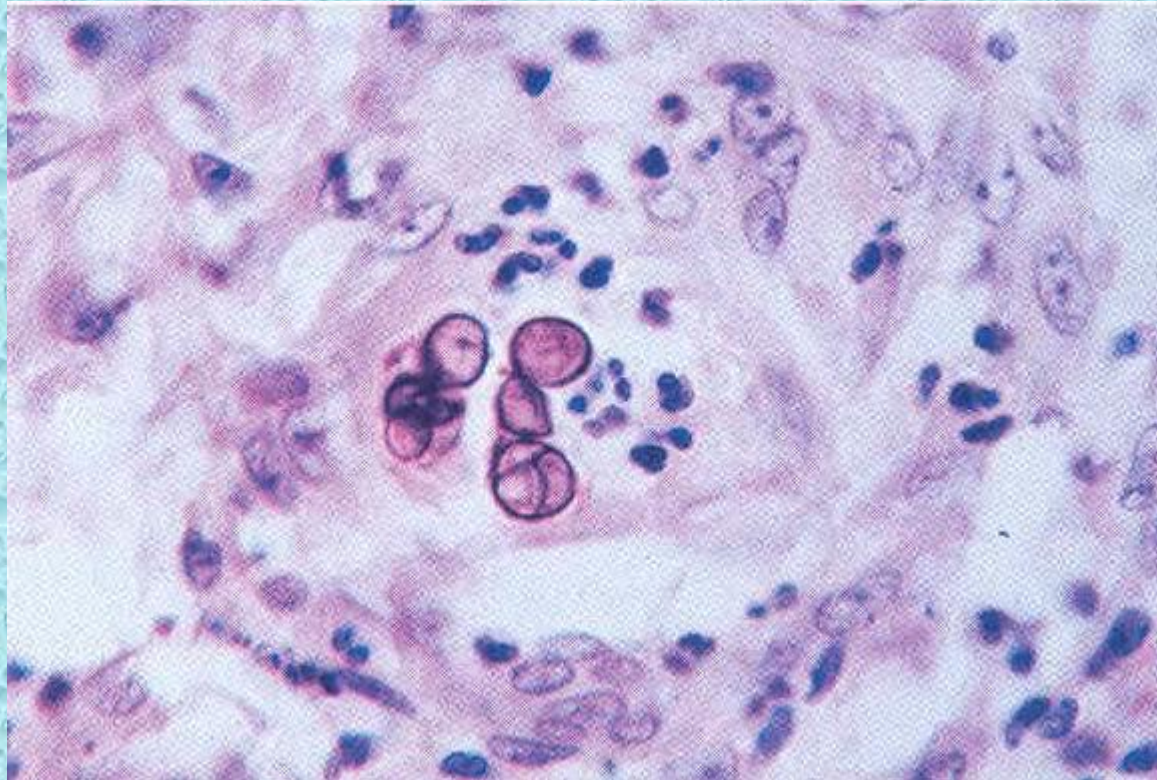
✓ Sclerotic cells (bodies)

✓ Medlar bodies

✓ Copper pennies



Phialophora verrucosa. Skin section. PAS



3-Culture:

➤ SCC

➤ 25°C to 30°C

➤ Cultures should be held at least 4 to 6 weeks

Treatment:

➤ Surgical excision or cryosurgery

+

➤ Oral (5-FC);

➤ Ketoconazole + 5-FC.

➤ Itraconazole + 5-FC.

✓ Voriiconazole

✓ Caspofungin

