SPOROTRICHOSIS

- Sporotrichosis is a chronic, pyogenic, granulomatous infection of the skin and subcutaneous tissues that may remain localized or show lymphatic spread.
- It is caused by *Sporothrix schenckii*.
- The disease is worldwide in distribution, but occurs mainly in Central and South America, parts of the USA and Africa, and Australia; it is rare in Europe.
- *S. schenckii* is a dimorphic fungus.
- In nature and in culture at 25–30°C, it develops as a mould with septate hyphae. The yeast phase is formed in tissue and in culture at 37°C, and is composed of spherical or cigar shaped cells (1–3 × 3–10 μm).
SPOROTRICHOSIS

- Chronic inf. involving cutaneous, subcutaneous tissue and adjacent lymphatics characterized by nodular lesions which may ulcerate.
- Infections are caused by the traumatic implantation of the fungus into the skin, or very rarely, by inhalation into the lungs. Secondary spread to articular surfaces of bone and muscle is not infrequent, and the infection may also occasionally involve the central nervous system, lungs or genitourinary tract.
- Aetiological Agents: *Sporothrix schenckii*, commonly found in soil and on decaying vegetation or on plant materials, such as wood and sphagnum moss.

Epidemiology of SPOROTRICHOSIS

- Minor trauma, such as abrasions or wounds due to wood splinters, is often sufficient to introduce the organism.
- Infection occurs mainly in adults, and is more common among individuals whose work or recreational activities bring them into contact with soil or plant materials, such as gardeners and florists.
Clinical features of SPOROTRICHOSIS

• Sporotrichosis presents most frequently as a nodular, ulcerating disease of the skin and subcutaneous tissues, with spread along local lymphatic channels.
• The primary lesion is on the hand with secondary lesions extending up the arm.
• The primary lesion may remain localized or disseminate to involve the bones, joints, lungs and, in rare cases, the central nervous system.
• Disseminated disease usually occurs in debilitated or immunosuppressed individuals.
Tissue morphology of *Sporothrix schenckii*

Section from a fixed cutaneous lesion on the face of a child with sporotrichosis showing round Periodic Acid-Schiff (PAS) positive yeast-like cells, one with an elongated bud. *Sporothrix schenckii* is a dimorphic fungus and this is the typical parasitic or yeast-like form seen in tissue.

*Sporothrix schenckii* when grown on Sabouraud's dextrose agar at 25°C

Microscopic morphology of the saprophytic or mycelial form of *Sporothrix schenckii* when grown on Sabouraud's dextrose agar at 25°C. Note clusters of ovoid conidia produced on short conidiophores arising at right angles from the thin septate hyphae.

*Sporothrix schenckii* (yeast form) when grown on brain heart infusion agar containing blood and incubated at 37°C. Note budding yeast cells
Asperoid bodies of *Sporothrix schenckii* as a diagnostic tool

Histologically, asteroid bodies (AB), a tissue reaction (also known as Splendorei reaction) may be seen. AB are located within abscesses. They consist of a central yeast, surrounded by eosinophilic spicules.

**SPOROTRICHOSIS**

**Causative agent**

- *Sporothrix schenckii*
  - Thermally dimorphic
  - Natural habitat: soil
  - 37°C: Round/cigar-shaped yeast cells
  - 25°C: Septate hyphae, rosette-like clusters of conidia at the tips of the conidiophores
Laboratory diagnosis

- Diagnosis is confirmed by isolation of the causative organism by culture of swabs from moist, ulcerated lesions or pus aspirated from subcutaneous nodules;
- biopsy specimens may be necessary in some cases.
- Direct microscopy is of little value as so few of the small *S. schenckii* yeast cells are present in diseased tissue.
- The mycelial phase develops within 7–10 days on Sabouraud agar or blood agar at 25–30°C;
- the yeast phase develops in 2 days at 37°C. Identification depends on the micromorphology of the mould phase and its conversion to the yeast phase at 37°C.

**SPOROTRICHOSIS**

**Treatment**

**Cutaneous inf.**: Potassium iodide (Topical) or itraconazole  
**Disseminated inf.**: Amphotericin B (IV)
Lobomycosis is a chronic, localized, subepidermal infection characterized by the presence of verrucoid, nodular lesions or sometimes by crusty plaques and tumors.

The lesions contain masses of spheroidal, yeast-like organisms tentatively referred to as *Loboa loboii*.

There is no systemic spread. The disease has been found in humans and dolphins and is restricted to the Amazon Valley in Brazil.

The aetiologic agent *"Loboa loboii"* has not been so far cultured in vitro on artificial media.
**Lobomycosis** showing extensive verrucoid lesions on the legs. The initial infection caused by traumatic implantation. The lesions begin as small, hard nodules and may spread slowly in the dermis and continue to develop over a period of many years. Older lesions become verrucoid and may ulcerate. The disease may be transferred to other areas of the skin by further trauma or autoinoculation. Lesions are usually found on the arms, legs, face or ears. 90% of cases are men, mostly in farmers exposed to various harsh conditions as well as aquatic habitats.

**Grocott’s methenamine silver (GMS) stained tissue section** showing numerous darkly pigmented yeast-like cells, often in chains, 9-12 μm in size typical of *Loboa loboii*.

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**LOBOMYCOsis**

**Treatment**

- **Surgery**: Surgical excision is often curative in *L. loboii* infections;
- **Clofazimine**
- **Amphotericin B**
- **Sulphonamides**