

# Sporotrichosis

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# Sporotrichosis

## Etiology

Sporotrichosis is only caused by the mould, *Sporothrix schenckii*. It is an exosaprophyte on plants, wood and in the soil (peat moss). *S. schenckii* is a dimorphic mould. At 37°C and on rich nutrient media the yeast phase is obtained with oblong yeast cells.

## Clinical aspects



Sporotrichosis lesions with spread via the lymphatics. Copyright Alexander von Humboldt Institute, Peru

The classic presentation is the lymphocutaneous form. After an initial lesion, the inoculation chancre, subcutaneous nodules appear followed by ascending lymphangitis. The nodules progressively penetrate the skin and ulcerate. The most common localisations are the hand and the forearm. In addition to this typical lymphocutaneous form there is also one with disseminated skin lesions, a local cutaneous form, often on the face which according to some authors occurs in re-infections and extracutaneous sporotrichosis with involvement of the mucous membranes, bone, muscles, lungs or systemic infection. Pulmonary localisations without involvement of other organs occur in endemic areas (South America) probably more than is thought. This chronic pulmonary disease is often mistaken for smear-negative tuberculosis or chronic pulmonary aspergillosis.

### **Differential diagnosis:**

1. *Sporothrix schenckii*
2. *Blastomyces dermatitides*
3. *Coccidioides immitis*
4. *Cryptococcus neoformans*
5. *Histoplasma capsulatum*
6. *Mycobacterium marinum*, *M. chelonae*, *M. abscessus*, *M. kansasii*
7. *Nocardia brasiliensis* and *N. asteroides*
8. *Leishmania* sp (mainly *L. guyanensis*).
9. *Francisella tularensis*
10. *Staphylococcus aureus*
11. *Streptococcus pyogenes*
12. *Bacillus anthracis*
13. *Burkholderia pseudomallei* (melioidosis)

## **Diagnosis**

In contrast to all other mycoses, the diagnosis of sporotrichosis is based not on the detection of the pathogen by direct or histological examination, but solely on culture. It involves collecting a small quantity of the milky pus from ulcerated lesions after the removal of the superficial crusts and then inoculating it onto a Sabouraud nutrient medium. Growth is obtained after a few days of incubation at 25°C and the typical asexual spore formation is easily identified.

## Treatment

For cutaneous forms, oral potassium iodide (saturated solution 1g/ml) can be used. As an alternative, terbinafine 2 x 250 mg/day for maximum 32 weeks can be used. Cure can be expected after 8 weeks. Local heat therapy (I.R. or compresses) is sometimes used. The killing rate of the fungal cells is markedly higher at 40°C than at 37°C. Itraconazole and terbinafine can be used of for small lesions, as well as for systemic cases. Amphotericin B (liposomal formulation is preferred) is preferred for severe cases. Posaconazole (Noxafil) has good in vitro activity against *S. schenkii*, but more clinical data are needed. Fluconazole (Diflucan), voriconazole (Vfend) and ravuconazole are ineffective in sporotrichosis.

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