

*\*\*no patient handout*

# Sporotrichosis

## Synopsis

☐ Sporotrichosis is caused by the dimorphic fungus *Sporothrix schenckii*, found worldwide, but more commonly in tropical and subtropical climates. The organism resides in decaying vegetation, plants, and soil. Cutaneous infection usually results from traumatic inoculation.

The lesions of sporotrichosis may present in 3 different patterns.

- Lymphocutaneous or sporotrichoid pattern – 80% of cases
- Fixed cutaneous – occurs in endemic areas with prior exposure
- Disseminated cutaneous – occurs with systemic involvement

Extracutaneous disease is rare but manifests with osteoarticular involvement in immunocompetent individuals, whereas immunocompromised patients typically present with multi-system involvement. Pulmonary sporotrichosis is associated with alcoholism, tuberculosis, diabetes mellitus, sarcoidosis, and steroid use.

Thorny plants, such as barberry and rose bushes, are the most common source of cutaneous inoculation of sporotrichosis. Other plant exposures include sphagnum moss, straw, hay, soil, and mine timbers. Occupational exposures include farmers, florists, gardeners, and forestry workers. Outside the United States, sporotrichosis outbreaks have been associated with infected cats. Untreated cutaneous sporotrichosis usually waxes and wanes over months to years without systemic manifestations.

## Codes

ICD10CM:

B42.9 – Sporotrichosis, unspecified

SNOMEDCT:

42094007 – Sporotrichosis

## Look For

### Lymphocutaneous

Lymphatic distribution of painless nodules on distal extremities, typically the forearm. Initially, an erythematous papule, pustule, or nodule is seen on the distal extremity at the site of inoculation. New lesions appear along the lymphatics over several weeks. Lesions may eventually ulcerate.

### Fixed Cutaneous

Absence of lymphangitic spread. Fixed lesions present as verrucous or gummatous plaques and are more commonly seen on the face.

### **Disseminated Cutaneous**

Manifests as multiple diffusely distributed papules, nodules, ulcers, or plaques.

## **Diagnostic Pearls**

For lesions presenting with a lymphangitic pattern, a very careful occupational and exposure history is essential. Make sure to ask about water exposure such as aquariums, as *Mycobacterium marinum* causes a similar presentation.

## **Differential Diagnosis & Pitfalls**

- *Mycobacterium marinum* also causes a lymphangitic pattern on the extremity and has a similar pattern of red nodules.
- Cellulitis or erysipelas
- Orf
- The typical pattern of lymphangitic spread can suggest herpes virus infections (HSV and zoster).
- Cat-scratch disease
- Furunculosis
- Superficial thrombophlebitis
- Other infections such as blastomycosis, coccidioidomycosis, nocardiosis, tularemia, cutaneous tuberculosis, leishmaniasis (Old World and New World), and actinomycosis may have a similar lymphangitic spread from cutaneous inoculation. Exposure and travel history are key for diagnosis.
- Sarcoidosis rarely ulcerates or spreads along lymphatics.
- Mycetoma
- Cutaneous lymphoma may have associated fevers and weight loss.
- Bacterial abscess has an acute onset.
- Pyoderma gangrenosum bleeds easily and appears vascular.
- Vasculitis does not usually have an exophytic growth pattern.
- Foreign body reaction to sea urchin spines or barnacles

- Halogenoderma (**bromoderma**, **iododerma**)
- **Anthrax**

## **Best Tests**

A skin biopsy may not readily show the organisms for sporotrichosis. Fluorescent labeled antibodies can improve visualization of organisms.

Diagnosis is confirmed by tissue culture. *Sporothrix schenckii* grows on most media in 3-5 days.

It is important to rule out mycobacterial infections with tissue culture and stains for acid fast bacilli (AFB-Fite stain or Ziehl-Neelsen stain). Other deep fungal infections can be ruled out with methenamine-silver stains (GMS) or tissue culture.

## **Management Pearls**

Consultation with an infectious disease specialist is recommended.

In the United States, sporotrichosis is reportable in the state of Ohio.

## **Therapy**

### **Localized Cutaneous (Fixed Cutaneous or Lymphocutaneous)**

Topical therapy is of no value.

Itraconazole is the treatment of choice because of superior tolerability. Oral potassium iodide solution is also effective in treating localized disease and is much less costly but has multiple side effects.

- Itraconazole 200 mg by mouth daily for 3-6 months (or at least 2-4 weeks after lesions have healed)
- Oral potassium iodide solution, 5 drops 3 times daily gradually increased to 30-50 drops 3 times daily, for 12-16 weeks
- Terbinafine 500 mg by mouth twice daily (for the same duration as for itraconazole)

### **Disseminated Cutaneous / Systemic**

- Amphotericin B IV 0.5 mg/kg/day up to a total of 1-2 gm; after amphotericin B, itraconazole can be continued for 12 months total. For meningeal disease, itraconazole lifelong suppression should be considered.

### **Sporotrichosis in Pregnant Women**

- Amphotericin B, given as a lipid formulation at a dosage of 3-5 mg/kg daily, or amphotericin B deoxycholate, given at a dosage of 0.7-1 mg/kg daily, is recommended for severe sporotrichosis that must be treated during pregnancy (BIII); azoles should be avoided.
- Local hyperthermia can be used for the treatment of cutaneous sporotrichosis in pregnant women (BIII).