

Love Hurts

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CASE HISTORY

A 75-year-old male presents to Urgent Care stating that he has had a rash on his hand for two weeks. It is not pruritic, and it does not burn. The patient reports that he usually cuts rose bushes for his wife without gloves and believes that he pricked the fingers of his right hand when removing the thorns with his clippers. He is confident that he completely removed a rose thorn that was stuck inside his middle finger.

The rash has not spread, and he is not having any systemic symptoms. He has been putting topical Neosporin® on the open wounds for what he presumes is an infection, but the discoloration has not significantly improved. The patient describes a history of Raynaud's phenomenon – his fingers blanch when his hands are cold.



Fig. 1. Photo of patient's right hand in Urgent Care setting.

His history is otherwise remarkable for a long record of eczema on his hands for which he uses over-the-counter emollients. A photo of the patient's right hand is taken for the chart (see Fig. 1).

QUESTIONS

1. What is another popular name for this skin infection?
2. What is the most common form of this type of infection?
3. What is usually the first symptom?
4. What is the best diagnostic test for this disease?
5. What is the suggested treatment approach in this case?

ANSWERS

1. Sporotrichosis is also known as “rose gardener’s disease” because it is caused by a fungus that lives in soil and on plant matter such as rose bushes, sphagnum moss, and hay.
2. Cutaneous sporotrichosis is the most common form of this infection, generally on the hand or arm after touching contaminated plant matter. Other forms are lymphocutaneous, pulmonary, and disseminated sporotrichosis.
3. Cutaneous sporotrichosis manifests with small, painless bumps that develop anywhere from one week to three months after exposure to the fungus.
4. The most useful test is culture from tissue biopsy of the infected area. Blood tests can assist in systemic sporotrichosis, but they are not relevant in cutaneous skin infections.
5. Itraconazole 200 mg by mouth daily for three to six months is the most common treatment; supersaturated potassium iodide (SSKI) can be used as well. During pregnancy, infectious disease consult may be warranted; oral terbinafine or amphotericin B can be considered.

DISCUSSION

Sporotrichosis is caused by the fungal genus *Sporothrix*, usually *Sporothrix schenckii*.¹ Cutaneous and subcutaneous infection is common; immunocompromised patients may be at risk for infection in other sites, including the lungs or brain. Activities during which patients may experience inoculation of soil under the skin, such as gardening, put patients at risk for this infection.²

In immunocompromised hosts, the infection can disseminate hematogenously to affect other organ systems (e.g., central nervous system). Extracutaneous forms of sporotrichosis may present in isolation or as a manifestation of more disseminated disease.³ Symptoms of extracutaneous sporotrichosis can be subtle, and diagnosis may be delayed.

Lymphocutaneous sporotrichosis is the most common form seen in clinical practice and presents as nodular lymphangitis. A patient is usually otherwise healthy, with an outdoor job or hobby (e.g., landscaping, gardening).⁴ Days to weeks after inoculation of the fungus, a cutaneous papule develops at the site. This primary lesion may ulcerate or remain nodular and erythematous; drainage from the lesion is rarely purulent and usually serosanguinous and odorless.²

Similar lesions may follow along the lymphatic channels proximal to the first lesion, a finding called sporotrichoid spread or nodular lymphangitis. Pain is generally mild, and there are usually no systemic symptoms. Self-resolution is rare.

When sporotrichosis is suspected, culture from tissue biopsy (gold standard), sputum, body fluids, or aspirated material from a skin lesion should be collected. Growth may take days to several weeks; a positive

culture is diagnostic. Although special stains (e.g., methenamine silver stain) can be performed for histopathology, they are often negative because the number of organisms required to cause disease is small.¹

In a study of 645 patients in Brazil, itraconazole was found to be highly effective at treating cutaneous sporotrichosis.⁵ Six hundred ten patients (94.6%) were cured with itraconazole (50 mg to 400 mg/day): 547 with 100 mg/day, 59 with 200 mg to 400 mg/day, and four children with 50 mg/day. Approximately 20% of patients experienced adverse events, most commonly nausea and abdominal pain.⁵

Thus, patients should be treated with itraconazole 100 mg to 200 mg by mouth daily unless there are contraindications. If patients are not responding, doubling the initial dose to a maximum of 400 mg per day may suffice. Consideration of an infectious disease consultation may be warranted.

Children may follow a similar antifungal regimen of oral itraconazole 6 mg/kg to 10 mg/kg up to a maximum dose of 400 mg daily. If this is not well tolerated, a liquid saturated solution of potassium iodide may be used: one drop in milk or juice three times daily and increased every seven days as tolerated to a maximum of one drop per kg or 40 to 50 drops three times daily, whichever is lower, may be appropriate.

Patients should not use azoles during pregnancy.² Again, an infectious disease consult may be warranted as a lipid formulation of amphotericin B (3 mg/kg to 5 mg/kg per day intravenously) may help. One small case series from Japan demonstrated that pocket warmers and infrared and far infrared rays could help cure cutaneous and lymphocutaneous lesions.⁶

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