Sporotrichosis—A Disease Hazard for Nursery Personnel and Tree Planters

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Nursery workers should be aware of the potential for contracting sporotrichosis and the symptoms of this disease. The author relates his personal experience with the disease and suggests how to avoid infection.

Nursery workers, tree planters, and gardeners should be aware of possible exposure to a potentially serious fungus disease sometimes contracted by those working with soil or, most particularly, with trees packed in sphagnum moss. This disease, called sporotrichosis, is a lymphatic disease in people and animals and is caused by the fungus *Sporotrichum schenckii.* This fungus has been found in soil, on flowers and shrubs, and even on wooden mine props. It is also associated with the sphagnum moss used to keep tree roots moist during shipment and storage.

How or when the moss becomes contaminated is not clear. Attempts to isolate the fungus directly from sphagnum bogs have usually failed, but *S. schenckii* has been recovered from bales of moss newly arrived at a nursery site (*1*). The fungus seems to increase in the moistness of most packing sheds. In one case, a mixture of soil and sphagnum remaining in the shed may have served as a reservoir for the fungus the following year (*2*).

The fungus is found throughout the United States, but it appears to be most common in the Midwest, especially in Wisconsin. Several outbreaks in other States have been traced to sphagnum moss shipped from Wisconsin (*1*). Because of periodic outbreaks of sporotrichosis, the State forest tree nurseries in Wisconsin no longer use sphagnum moss for packing seedlings. Several workers in the USDA Forest Service nursery in Michigan also contracted sporotrichosis and that nursery also discontinued the use of sphagnum moss. No cases of sporotrichosis have occurred at any of these nurseries since they stopped using sphagnum moss as packing material.

Infection occurs when the spores of the fungus are introduced through a small abrasion or scratch in the skin. In 1 to 4 weeks. a small painless blister develops at the entry court. This blister becomes inflamed and slowly enlarges. Other areas may become infected as the fungus spreads through the lymph vessels. Nodules may form along the infected lymph channels, and the lymph glands in the armpit or elbow may become enlarged and sore. If untreated, the disease progresses slowly to the bones, abdominal organs, and uninvolved skin. But diagnosed early, the disease can be adequately treated and is rarely fatal (*1*).

I contracted sporotrichosis several years ago while planting seedlings that had been packed in sphagnum moss. A small blister appeared on my wrist about 3 weeks after I had worked with the moss. This blister broke open in a few days but did not heal. Within the next 2 weeks, the resulting sore enlarged and my wrist became tender. A few days later I noticed a red streak spreading from the infected area toward my elbow. At this point, I had visions of blood poisoning and quickly headed for my family physician. He prescribed antibiotics, but unfortunately they are not effective against fungus diseases. A week later my symptoms were more severe with greater pain throughout my entire arm. I then went to another physician who also had difficulty in diagnosing the problem. Later that same day, a colleague in forest disease research suggested the possibility of sporotrichosis. He had seen a flyer on this disease put out by the Forest Service a few months earlier. Armed with this flyer, I returned to my physician and between the two of us we were able to isolate the fungus on Sabouraud's agar from the open ulcer. At this point I began the treatment for sporotrichosis, which is potassium iodine taken orally several times a day. My lesion healed in about 2 months, but I continued taking potassium iodine for 3 months after healing. This treatment, while cheap and effective, may cause

some discomfort. I endured a perpetual upset stomach while taking potassium iodine and still have some stomach problems today as a result of this treatment. But not all patients have such problems.

Other than the possible side effects of the treatment, the biggest problem with sporotrichosis is delayed diagnosis. Many physicians are not familiar with this disease. In my case, after we had isolated the fungus from the open lesion, my physician sent me to a prominentskin specialist in Minneapolis to confirm our diagnosis. This specialist and his colleague both stated that I did not have sporotrichosis. Nevertheless my physician and I continued the treatment and later the Minnesota State Health Department confirmed our diagnosis.

One way to avoid sporotrichosis is not to handle trees that are packed in sphagnum moss. (This is my policy.) If you must work with such trees, be careful: wash your hands frequently and treat lacerations and abrasions promptly. Nursery workers and tree planters who develop sores that do not heal properly should promptly seek medical attention and tell their doctors about the possibility of sporotrichosis.

Literature Cited

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