The Strange Case of the Non-Healing Ulcer on a Finger

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Mike O. Bacterium

• 18-year-old with a 3 month history of "a worsening sore on my hand."
• Seen in the E.R. and primary care clinics and prescribed various antibiotics
Mike O. Bacterium

- Started as a small, firm, dusky papule on left first finger that slowly enlarged and ulcerated
- Later (? 1-2 weeks) developed erythematous, minimally painful nodules on left arm.
Mike O. Bacterium (continued)

- Significant PMH:
  - No exposure to: cats, rabbits, cattle, goats
  - Not diabetic
  - No alcoholism - denies drinking
  - Not sexually active
  - Doesn't have sickle cell disease
This happened over the summer prior to starting at a university near his home in Southern California and this has recently caused loss of time at his summer job. Mike’s boss is not very pleased by this.
Physical examination is significant for:

- well-developed 3cm nodule - violaceous + central ulceration + undermined edges + crusting. This is located on his left first finger (see following picture #1).
- 4 minimally tender 2-3 cm. nodular lesions on his left forearm proximal to the lesion described above (see picture #2).
#1. Lesion on finger
#2. Lesions on left forearm
And the answer is...
Did you remember to ask Mike what his summer job was? This might be important as you formulate your differential diagnosis.
Okay... Mike worked for a landscape firm and had been in contact with a variety of plants and mulches for several months prior to this episode.
Okay...

1. Write down your answer.
2. Take a moment and write down your differential diagnosis.
3. The fun part is going through the mental gymnastics of thinking of the possibilities.
Answer: Sporotrichosis

- Dimorphic aerobic fungi - *Sporotrichum schenckii*
- Granulomatous subcutaneous mycoses found in decaying vegetable matter and soil
- Found in roses, sphagnum moss, and marsh hay, as well as other plant materials
Answer: Sporotrichosis

- 3 Forms
  - Lymphocutaneous (most common)
  - Fixed cutaneous
  - Extra-cutaneous
    - Pulmonary
    - Systemic
Lymphocutaneous Sporotrichosis

- Break in skin → infection spreads to regional lymph nodes
- Initial lesion is painless papule or vesicle at inoculation site → induration / purplish-red at site → ulceration
  crusting + seropurulent drainage
  freely mobile, non-tender subcutaneous nodules
- Patients not systematically ill
Sporotrichosis: Differential Diagnosis

- Atypical TB
- Localized Granulomas
- Bacterial DX
- Syphilis
- Cat Scratch
- Leismaniasis

- TB
- Anthrax
- Blastomycosis
- Tularemia
- Nocardia
- Orf
Now take a look at some of the diseases mentioned in the differential diagnosis...
Atypical mycobacterium acquired from a fish tank
Orf - in this case from contact with either goats or cattle
Leishmaniasis from sand fly bite
Leishmaniasis
Lympoocutaneous Nocardia – notice how closely this resembles Sporotrichosis. In this case, however, the culture confirmed the diagnosis... see next slide
Culture positive for Nocardia - from previous patient
Sporotrichosis: Treatment

- Potassium Iodide  SIG: 5 drops P.O. T.I.D. to start; gradually increase to 25 - 40 drops / day - until increased salivation, burning in mouth, or headaches. Continue for 4 - 6 weeks after lesion is resolved
Sporotrichosis: Treatment

- Potassium iodide is the time honored treatment. Imagine how difficult compliance must be in view of the side effects. Read on...
Sporotrichosis: Treatment

Additional RX

- topical burrows solution
- localized heating
- Amphotericin B
Sporotrichosis: Treatment UPDATE.

- Itraconazole used in a pulsed regimen is used by most infectious disease experts as the treatment of choice. I suggest talking to them about the best dosing schedules.
Sporotrichosis: Making the Diagnosis

- Culture draining lesions - fungus rarely demonstrable by scrapings, drainage, biopsy, ? punch biopsy + direct immunofluorescence
- Latex slide agglutination - greatest sensitivity and specificity
References:


References:

Usefulness of itraconazole for sporotrichosis in Japan: study of three cases and literature comparison of therapeutic effects before and after release on the market

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Summary: Potassium iodide, itraconazole (ITCZ), and terbinafine are widely known as oral antifungal agents for the treatment of sporotrichosis. Although potassium iodide has been used as the antifungal agent of first choice in Japan due to its high efficacy, its use is not covered by the health insurance programs. In this report, we present the disease course of 3 patients with sporotrichosis in which ITCZ was remarkably effective. By reviewing cases reported in the past, we found sufficient therapeutic effects of ITCZ against sporotrichosis. We also conducted a simple comparison of the efficacy of ITCZ in clinical trials with that of its post-market release; finding the latter to be lower. This seems to be attributable to the problem of compliance or the administration method.