History of Present Illness: A 24-year-old woman (height 168 cm, weight 62 kg) presents to your walk-in clinic with intense itching all over her body, except for her face and head. She has been using hydrocortisone cream and antihistamines with minimal relief. Physical examination reveals a pimple-like rash between her fingers and excoriations bilaterally up and down her arms. She notes that this has been occurring for about a week and seems to get worse at night, around the time she takes her medications. She notes no major lifestyle or dietary changes, but mentions that she traveled for her job last month, staying at a motel near the airport.

Past Medical History: Complex partial seizures (last seizure was 3 months ago), major depressive disorder

Social History: Infrequent social alcohol use; does not smoke or use illicit substances. Is in a monogamous relationship with her boyfriend with whom she lives in an apartment. Works as a purchaser for a chain of vintage clothing stores

Current Medications: Lamotrigine extended release 250 mg at night; citalopram 20 mg at night; ethinyl estradiol/etonogestrel vaginal ring for 3 weeks, then remove for 1 week; hydrocortisone cream 1% applied topically as needed (has used twice daily for the past week); and diphenhydramine 25 mg three times daily as needed (for the past week)

Allergies: None

Vital Signs: Temperature 98.4°F (36.9°C), heart rate 82 beats/minute, respiratory rate 16 breaths/minute, blood pressure 100/64 mm Hg; height 66 inches (167.64 cm); weight 62 kg

Laboratory Values: Urine human chorionic gonadotropin test – Negative

Procedure Data: Skin scraping sent for burrow ink test

Other Data: N/A

**Question 1**

The physician has given the patient a clinical diagnosis of common scabies. What is the infecting organism associated with this disease?

1. *Cimex lectularius*
2. *Pediculus humanus*
3. *Sarcoptes* mite
4. *Trichophyton rubrum*

Answer: 3. *Sarcoptes* mite

Rationale: *S. scabiei* var. *hominis* is an arthropod that is responsible for common and crusted scabies. *C. lectularius* is commonly known as “bed bugs.” *T. rubrum* is one of the organisms responsible for tinea infections. *P. humanus* is head or body lice.

Citation: Chosidow O. Clinical practices. Scabies. N Engl J Med 2006;354:1718-27.

**Question 2**

The laboratory confirms the physician’s diagnosis of scabies. Which is the most appropriate treatment regimen?

1. Ivermectin orally on days 1, 2, 8, 9, and 15
2. Lindane 1% topically today
3. Permethrin 5% topically today and in 1 week
4. Permethrin 5% topically today and in 1 week PLUS ivermectin orally today and again in 2 weeks

Answer: 3. Permethrin 5% topically today and in 1 week

Rationale: Topical permethrin is the most effective agent against scabies. Combination therapy with oral ivermectin is only warranted for crusted (Norwegian) scabies. Furthermore, given the patient’s history of seizures, ivermectin might potentiate the risk of additional seizures. Lindane is neurotoxic as well and is no longer recommended. In fact, its use is banned in many countries.

Citation: Chosidow O. Clinical practices. Scabies. N Engl J Med 2006;354:1718-27.

**Question 3**

Before the patient leaves the clinic, you are asked to provide some nondrug counseling regarding her disease state. To prevent reinfection, which should be recommended to the patient?

1. Hot-launder linens and only clothing worn in the past 3 days.
2. Shave all body hair below the chin before administering any topical agents.
3. She may not return to work for 2–3 weeks (when the treatment course is completed).
4. Use pyrethrin insecticide spray on all clothing, linens, and furniture in the home.

Answer: 1. Hot-launder linens and only clothing worn in the past 3 days.

Rationale: Because *Sarcoptes* mites cannot survive away from the skin for more than 72 hours, only items touching the skin in the past 3 days need to be laundered. In general, exposure to temperatures above 140°F (60°C) is necessary. Patients may return to work or school the day after the first treatment. Insecticides are not needed and are discouraged by the CDC. Shaving all body hair may cause excoriations and result in greater absorption of topical agents.

Citation: CDC. 2010. Parasites – Scabies: Prevention and Control. Available at www.cdc.gov/parasites/scabies/prevent.html. Accessed January 9, 2017.

**Question 4**

The physician has read recently about scabies reinfection because of failure to treat other close contacts. The patient does not believe her boyfriend has any symptoms, though they do share a bed. What would you tell the clinic physician about treatment of the patient’s boyfriend?

1. He should undergo “watchful waiting” to see if he develops symptoms.
2. They should sleep in separate rooms until treatment is completed.
3. He should receive one dose of permethrin at the same time as the patient.
4. He should receive one dose of permethrin today and again in 2 weeks.

Answer: 3. He should receive one dose of permethrin at the same time as the patient.

Rationale: Asymptomatic close contacts should receive a single dose of a topical agent at the same time as the patient because *Sarcoptes* has a long incubation time (3–6 weeks) before symptoms develop. Despite being asymptomatic, close contacts may still have high levels of infectivity.

Citation: Chosidow O. Clinical practices. Scabies. N Engl J Med 2006;354:1718-27.

**Question 5**

The patient reveals to you that she often babysits for her 6-month-old niece and has done so in the past few days. If this infant also developed symptoms, what should be recommended for her treatment?

1. Ivermectin 200 mcg/kg (compounded into oral suspension)
2. Lindane 1% shampoo
3. Permethrin 1% lotion
4. Permethrin 5% cream

Answer: 4. Permethrin 5% cream

Rationale: Permethrin 5% is recommended for children as young as 2 months and is recommended as the treatment of choice by the American Academy of Pediatrics. The 5% cream should be used; the 1% lotion is only effective for head lice. Ivermectin is not recommended in patients younger than 5 years, and lindane is contraindicated in infants because of neurotoxicity.

Citations:

Chosidow O. Clinical practices. Scabies. N Engl J Med 2006;354:1718-27.

Micromedex® Solutions [Internet database]. Greenwood Village, CO: Truven Health Analytics. Updated periodically.