



## Nocturnally pruritic rash

Quick thinking and fast reflexes during the physical exam led to an identification that confirmed the diagnosis.

A 74-YEAR-OLD WOMAN presented with a 3-day history of an intensely pruritic rash that was localized to her upper arms, upper chest between her breasts, and upper back. The pruritus was much worse at night while the patient was in bed. Symptoms did not improve with over-the-counter topical corticosteroids.

The patient had a history of atrial fibrillation (for which she was receiving chronic anticoagulation therapy), hypertension, an implanted pacemaker, depression, and Parkinson disease. Her medications included carbidopa-levodopa, fluoxetine, hydrochlorothiazide, metoprolol tartrate, naproxen, and warfarin. She had no known allergies. She reported that she was a nonsmoker and drank 1 glass of wine per week.

There were no recent changes in soaps, detergents, lotions, or makeup, nor did the patient have any bug bites or plant exposure. She shared a home with her spouse and several pets: a dog, a cat, and a Bantam-breed

chicken. The patient's husband, who slept in a different bedroom, had no rash. Recently, the cat had been bringing its captured prey of rabbits into the home.

Review of systems was negative for fever, chills, shortness of breath, cough, throat swelling, and rhinorrhea. Physical examination revealed red/pink macules and papules scattered over the upper arms (FIGURE 1), chest, and upper back. Many lesions were excoriated but had no active bleeding or vesicles. Under dermatoscope, no burrowing was found; however, a small (< 1 mm) creature was seen moving rapidly across the skin surface. The physician (CTW) captured and isolated the creature using a sterile lab cup.

- WHAT IS YOUR DIAGNOSIS?
- HOW WOULD YOU TREAT THIS PATIENT?

**FIGURE 1**  
Rash on upper arm



IMAGE COURTESY OF CLAYTON T. WAGNER, MD

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> The mainstay of treatment is the removal of the infested bird, decontamination of bedding and clothing, and the use of antihistamines and topical corticosteroids.

**Diagnosis: Gamasoidosis**

The collected sample (FIGURE 2) was examined and identified as an avian mite by a colleague who specializes in entomology, confirming the diagnosis of gamasoidosis. Also known as *avian mite dermatitis*, gamasoidosis occurs after human contact with infested birds. The true incidence of gamasoidosis is unknown due to the condition being underreported or undiagnosed because of its uncommon origin.<sup>1</sup>

■ **Two genera of avian mites are responsible:** *Dermanyssus* and *Ornithonyssus*. The most common culprits are the red poultry mite (*D gallinae*) and the northern fowl mite (*O bursa*). These small mites parasitize birds, such as poultry livestock, domesticated birds, and wild game birds. When unfed, the mite appears translucent brown and measures 0.3 to 0.7 mm in length, but after a blood meal, it appears red and increases in size to 1 mm. The mites tend to be active and feed at night and hide during the day.<sup>2</sup> This explained the severe nighttime pruritus in this case.

■ **Human infestation,** although infrequent, can be a concern for those who work with poultry, or during the spring and summer seasons when young birds leave their nests and the mites migrate to find alternative hosts.<sup>3</sup> The 1- to 2-mm erythematous maculopapules are often found with excoriations in covered areas.<sup>3,4</sup> Unlike scabies, the genitalia and interdigital areas are spared.<sup>3,5</sup>

**FIGURE 2**  
Avian mite collected during the exam



IMAGE COURTESY OF CLAYTON T. WAGNER, MD

**Differential for arthropod dermatoses**

The differential diagnosis includes cimicosis, pulicosis, pediculosis corporis, and scabies.

■ **Cimicosis** is caused by bed bugs (from the insect *Cimex* genus). Bed bugs are oval and reddish brown, have 6 legs, and range in size from 1 to 7 mm. Most bed bugs hide in cracks or crevices of furniture and other surfaces (eg, bed frames, headboards, seams or holes of box springs or mattresses, or behind wallpaper, switch plates, and picture frames) by day and come out at night to feed on a sleeping host. Commonly, bed bugs will leave a series of bites grouped in rows (described as “breakfast, lunch, and dinner”). The bites can mimic urticaria, and bullous reactions may also occur.<sup>2</sup>

■ **Pulicosis** results from bites caused by a variety of flea species including, but not limited to, human, dog, oriental rat, sticktight, mouse, and chicken fleas. Fleas are small brown insects measuring about 2.5 mm in length, with flat sides and long hind legs. Their bites are most often arranged in a zigzag pattern around a host’s legs and waist. Hypersensitivity reactions may appear as papular urticaria, nodules, or bullae.<sup>2</sup>

■ **Pediculosis corporis** is caused by body lice. The adult louse is 2.5 to 3.5 mm in size, has 6 legs, and is a tan to greyish white color.<sup>6</sup> Lice live in clothing, lay their eggs within the seams, and obtain blood meals from the host. Symptoms include generalized itching. The erythematous blue- and copper-colored macules, wheals, and lichenification can occur throughout the body, but spare the hands and feet. Secondary impetigo and furunculosis commonly occur.<sup>2</sup>

■ **Scabies** is caused by an oval mite that is ventrally flat, with dorsal spines. The mite is < 0.5 mm in size, appearing as a pinpoint of white. It burrows into its host’s skin, where it lives and lays eggs, causing pruritic papular lesions and ensuing excoriations. The mite burrows with a predilection for the finger web spaces, wrists, axillae, areolae, umbilicus, lower abdomen, genitals, and buttocks.<sup>2</sup>

**Treatment involves a 3-step process**

The mainstay of treatment is removal of the in-

fested bird, decontamination of bedding and clothing, and use of oral antihistamines and topical corticosteroids.<sup>1,3,5</sup> Bedding and clothing should be washed. Carpets, rugs, and curtains should be vacuumed and the vacuum bag placed in a sealed bag in the freezer for several hours before it can be thrown away. Eggs, larvae, nymphs, and adults are killed at 55 to 60 °F. Because humans are only incidental hosts and mites do not reproduce on them, the use of scabidical agents, such as permethrin, is controversial.

■ **Our patient** was treated with permethrin cream before definitive identification of the mite. Once the mite was identified, the chicken was removed from the home and the patient's bedding and clothing were decontaminated. The patient continued to apply over-the-counter topical steroids and take oral antihistamines for several more

days after the chicken was removed from the home. **JFP**

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## CASE REPORT

CONTINUED FROM PAGE 318

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