

WHAT'S YOUR DIAGNOSIS?

PEER REVIEWED

What Is This Construction Worker's Spreading, Itchy Rash?

Authors:

Meghan A. Klawonn, MD

SUNY Upstate Medical University, Department of Physical Medicine and Rehabilitation, Syracuse, New York

Amanda Levy, BS

Buffalo Medical Group, Department of Allergy and Immunology, Williamsville, New York

Aries Y. Liu-Helm, MD

Buffalo Medical Group, Department of Allergy and Immunology, Williamsville, New York

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A 28-year-old construction worker presented for evaluation of an itchy, spreading rash that had begun on his arms and legs (**Figure 1**). On examination, erythematous macules and papules were distributed symmetrically on the patient's upper and lower extremities.



Figure 1. Erythematous macules and papules distributed symmetrically on the arms and legs

What's Your Diagnosis?

- A. Psoriasis
- B. Allergic contact dermatitis
- C. Scabies
- D. Pityriasis rosea

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Answer: Allergic contact dermatitis

The symmetrically distributed and persistent pruritic lesions on the arms and legs favor a diagnosis of allergic contact dermatitis.

The patient provided the history that the eruption had begun on his legs shortly after he had purchased new work boots. Many cases of contact dermatitis can be identified by their well-circumscribed localization to an area of contact, as well as the temporal relationship to a new contactant. However, persistent exposure can lead to a generalized distribution that is less obvious, as in our patient's case.

Patch testing was performed, the results of which confirmed allergy to mixed dialkyl thioureas (**Figure 2**).¹



Figure 2. Patch testing revealed a positive reaction at the area where mixed dialkyl thioureas touched the skin.

The patch test series used to identify contact dermatitis contain common allergens that are placed on the back in predetermined amounts in an effort to identify an offending allergen. In our patient, only mixed dialkyl thioureas revealed a strong and relevant reaction. Mixed dialkyl thioureas are a common ingredient used in the manufacture of rubber and are often found in the rubber components of work boots (**Figure 3**), as well as adhesive tape backing, neoprene foam, textiles, elastic, glue remover, industrial detergents, and many other products.³



Figure 3. Work boots often have components containing mixed dialkyl thioureas.

Allergic contact dermatitis is a common problem that often can be missed when not considered in the differential diagnosis.² A symmetric and well-circumscribed distribution is characteristic. If left untreated, lesions continue to spread and may become generalized in what is known as an id reaction (generalized autoeczematization).

Psoriasis vulgaris is associated with thickened plaques on the extensor surfaces, associated with adherent silvery scale.

Scabies is an infestation with a mite. Often other family members and other close contacts are affected. Excoriated lesions are often noted in the genital area and in body fold areas. Sometimes, a burrow from the mite can be identified on inspection

Pityriasis rosea is a self-limited eruption thought to be of viral origin that usually starts with a large oval patch known as a herald patch. Smaller spots spread out in a drooping “Christmas tree branch” pattern. Pityriasis rosea is self-limited and usually resolves over a few months.

Management of allergic contact dermatitis includes avoiding the offending allergen. Alerting patients to other places where mixed dialkyl thioureas can be found in their environment is important. Referencing an up-to-date database is extremely helpful in identifying and helping to avoid sources of contact.³ With allergen avoidance, affected individuals can be expected to have rapid resolution of their skin lesions.

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