

# Intensely Pruritic, Painful and Erythematous Weeping Leg Rash in an Adult

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A 25-year-old male presented with a painful pruritic rash on his right leg that began approximately one week earlier after clearing brush from his back yard. The rash, which was located on the anterior shin, began to swell, darken and weep fluid over the previous 72 hours. The patient denies any previous similar rashes.

His past medical history was unremarkable. He denied any history of known allergies or prior allergic reactions, insect bites or stings, reptile bites, or trauma to the leg.

On examination, an erythematous-violaceous plaque with interspersed vesicles weeping yellow serous fluid and a well-demarcated distal border along the sock line was present on the right anterior shin (Figure 1).

## Question

Based on the patient's history and physical examination, which one of the following is the most likely diagnosis?

- A. Cellulitis
- B. Necrotizing fasciitis
- C. Allergic Contact Dermatitis
- D. Pyoderma gangrenosum



**Figure 1:** Erythematous-violaceous weeping plaque with distinct distal border.

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## Discussion

The correct answer is C: Allergic Contact Dermatitis. In the acute form lesions can present as intensely pruritic, erythematous vesicles or bullae and may or may not have associated pain or burning. Lichenification of the skin, with cracks and fissures, is representative of chronic disease. The distribution, shape and surface appearance of lesions can have wide variability. However, lesions often present on exposed areas of the skin, such as the head, face, hands and lower extremities. Lesions with linear patterning, well demarcated borders and distinct angular lines are characteristic [1].

Allergic contact dermatitis is a T cell-mediated delayed type-IV hypersensitivity reaction that occurs in individuals with prior sensitization to an allergen. A common allergen is urushiol from the sap of toxicodendron species of plants (poison ivy, sumac, oak) [2]. Plants brush against the skin of individuals, often leaving linear lesions of pruritic vesicles and erythema. However, larger areas of the body can be affected leading to more severe lesions and discomfort [1].

There is a broad differential and cases can be easily confused with other common diseases such as skin infections, atopic dermatitis, dyshidrotic eczema and inverse psoriasis [1]. Therefore, it is essential the physician take a thorough history to establish the correct diagnosis.

Cellulitis typically presents as an acutely spreading erythematous rash with edema, warmth, tenderness and poorly demarcated borders. In most cases, it presents unilaterally and commonly affects the lower limbs [3].

Necrotizing fasciitis presents as a painful, swollen and erythematous region of skin with rapid progression to bullae formation and skin necrosis within hours to days. Indistinct borders, pain out of proportion to swelling and erythema, pain extending beyond the erythema and rapid progression despite the use of antibiotics are characteristic [4].

Pyoderma gangrenosum characteristically presents as a painful, rapidly progressing irregular ulcer, with violaceous ill-defined borders. It is often associated with systemic diseases such as rheumatoid arthritis, irritable bowel disease and hematological conditions [5].

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