

Reticulated Brownish Erythema on the Lower Back

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A 42-year-old woman presented with an asymptomatic, erythematous, lacelike rash on the lower back of 8 months' duration that was first noticed by her husband. The patient had a long-standing history of chronic fatigue and lower back pain treated with acetaminophen, diclofenac gel, and heating pads. Physical examination revealed reticulated brownish erythema confined to the lower back. Laboratory findings were unremarkable.

WHAT'S YOUR DIAGNOSIS?

- a. cutaneous T-cell lymphoma
- b. cutis marmorata
- c. erythema ab igne
- d. livedo racemosa
- e. livedo reticularis

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The authors report no conflict of interest.

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THE DIAGNOSIS:

Erythema Ab Igne

Based on the patient's long-standing history of back pain treated with heating pads as well as the normal laboratory findings and skin examination, a diagnosis of erythema ab igne (EAI) was made.

Erythema ab igne presents as reticulated brownish erythema or hyperpigmentation on sites exposed to prolonged use of heat sources such as heating pads, laptops, and space heaters. Erythema ab igne most commonly affects the lower back, thighs, or legs¹⁻⁶; however, EAI can appear on atypical sites such as the forehead and eyebrows due to newer technology (eg, virtual reality headsets).⁷ The level of heat required for EAI to occur is below the threshold for thermal burns (<45 °C [113 °F]).¹ Erythema ab igne can occur at any age, and women are more commonly affected than men.⁸ The pathophysiology currently is unknown; however, recurrent and prolonged heat exposure may damage superficial vessels. As a result, hemosiderin accumulates in the skin, and hyperpigmentation subsequently occurs.⁹

The diagnosis of EAI is clinical, and early stages of the rash present as blanching reticulated erythema in areas associated with heat exposure. If the offending source of heat is not removed, EAI can progress to nonblanching, fixed, hyperpigmented plaques with skin atrophy, bullae, or hyperkeratosis. Patients often are asymptomatic; however, mild burning may occur.² Histopathology reveals cellular atypia, epidermal atrophy, dilation of dermal blood vessels, a minute inflammatory infiltrate, and keratinocyte apoptosis.¹⁰ Skin biopsy may be necessary in cases of suspected malignancy due to chronic heat exposure. Lesions that ulcerate or evolve should raise suspicion for malignancy.¹¹ Squamous cell carcinoma is the most common malignancy associated with EAI; other malignancies that may manifest include basal cell carcinoma, Merkel cell carcinoma, or cutaneous marginal zone lymphoma.^{2,12-14}

Erythema ab igne often is mistaken for livedo reticularis, which appears more erythematous without hyperpigmentation or epidermal changes and may be associated with a pathologic state.¹⁵ The differential diagnosis in our patient, who was in her 40s with a history of fatigue and joint pain, included livedo reticularis associated with lupus; however, the history of heating pad use, normal laboratory findings, and presence of epidermal changes suggested EAI. Lupus typically affects the hand and knee joints.¹⁶ Additionally, livedo reticularis more commonly appears on the legs.¹⁵

Other differentials for EAI include livedo racemosa, cutaneous T-cell lymphoma, and cutis marmorata. Livedo racemosa presents with broken rings of erythema in young to middle-aged women and primarily affects the trunk and proximal limbs. It is associated with an underlying condition such as polyarteritis nodosa and less commonly with lupus erythematosus with antiphospholipid

or Sneddon syndrome.^{15,17} Cutaneous T-cell lymphoma typically manifests with poikilodermatous patches larger than the palm, especially in covered areas of skin.¹⁸ Cutis marmorata is transient and temperature dependent.⁹

The key intervention for EAI is removal of the offending heat source.² Patients should be counseled that the erythema and hyperpigmentation may take months to years to resolve. Topical hydroquinone or tretinoin may be used in cases of persistent hyperpigmentation.¹⁹ Patients who continue to use heating pads for long-standing pain should be advised to limit their use to short intervals without occlusion. If malignancy is a concern, a biopsy should be performed.²⁰

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