



Rash on the thigh

The patient's study habits led to the diagnosis in this case.

A **21-YEAR-OLD** woman presented with a rash on her right thigh of 3 to 4 months' duration. She reported that the patch was asymptomatic. She was not taking any medications and otherwise was in good health. A review of systems was negative. The patient was a student who used her laptop frequently. On physical

examination, a 10×5-cm reticulated, hyperpigmented patch was seen on her right thigh (**FIGURE**).

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

FIGURE

A reticulated, hyperpigmented patch on the right thigh



IMAGE COURTESY OF: HAYLEY GOLDBACH, MD

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> Inquire about possible heat sources in cases of suspected erythema ab igne.

**Diagnosis:
Erythema ab igne**

Erythema ab igne (EAI) is a common dermatosis caused by repeated exposure to infrared radiation, most commonly in the form of low-grade heat (43–47°C).¹ Common heat sources include heating pads, heaters, fire, and battery-charged devices. The distribution of the rash is dependent on the location of the heat source and appears as a hyperpigmented, reticulated rash. The pathophysiology is not well understood, but likely involves changes in dermal elastic fibers as well as the dermal venous plexus.² Though rare, chronic cases of EAI have been associated with cutaneous dysplasia.³

■ **Diagnosis of EAI** is made by a combination of medical history and clinical features. Laboratory tests are not required. Additionally, clinicians should inquire about possible heat sources. In this case, we asked the patient whether she rested anything on her thighs, and she acknowledged that this was where she typically placed her laptop computer.

Differential includes other reticulated conditions

The differential diagnosis of a reticulated patch includes other entities likely sharing vascular pathology. The age, sex, and medical history of the patient offer additional diagnostic clues.

■ **Livedo reticularis** presents with reticulated erythema. It is unrelated to heat exposure, but may be associated with cold exposure. It can be physiologic or can be associated with vasculitis or another obstruction of blood flow.

■ **Erythema infectiosum** is a parvovirus B19 infection that usually presents in young

children. It often results in a lacy reticulated exanthem on the face that resembles a slapped cheek in children. Adolescent and adult contacts often present with a more petechial rash in an acral to periflexural distribution.⁴

■ **Polyarteritis nodosa** is a rare necrotizing vasculitis of small and medium arteries with an incidence of 4 to 16 cases per million.⁴ It usually is painful and can present with nodules, ulcers, or bullae and may be associated with livedo-like reticulated pigmentation.

■ **Livedoid vasculitis** is a hyalinization of blood vessels leading to the obstruction of vessels due to a hypercoagulable state. It can be acquired or congenital and usually manifests in middle-aged women.⁴

Management is straight-forward:

Remove the heat source

EAI typically is asymptomatic, although there are reports of mild pruritus or a burning sensation. Management includes withdrawal of the heat source and patient education. Our patient’s rash went away when she stopped resting her laptop computer on her lap. **JFP**

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