

## CLINICAL IMAGES

## Erythema ab igne

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A 49-year-old HIV-positive man was admitted with a diagnosis of secondary syphilis. He had a new, reticulated, erythematous patch on his abdomen distributed in a strikingly rectangular pattern (Figure 1). The patch was blanchable and nontender. The patient said that he had used an electric heating pad overnight for comfort. A clinical diagnosis of thermal-induced injury (erythema ab igne) was made. He was advised to stop using the heating pad, and the patch gradually disappeared over the next four days.

“Erythema ab igne,” derived from the Latin, means “redness from fire.” Historically, erythema ab igne was seen on the legs of women who sat next to coal stoves or fires. Thermal exposure to the skin can result in a spectrum of cutaneous changes. Early during exposure to moderate infrared radiation, a transient, blanchable, reticulated erythema develops. The differential diagnosis also includes livedo reticularis, cutis marmorata, port-wine stain and poikiloderma (Appendix 1, available at [www.cmaj.ca/cgi/content/full/cmaj.081216/DC1](http://www.cmaj.ca/cgi/content/full/cmaj.081216/DC1)).

Repetitive and prolonged thermal exposure causes fixed reticulate hyperpigmentation, erythema, epidermal atrophy, scaling and telangiectases.<sup>1</sup> Erythema ab igne has been associated with chronic use of heating pads, hot water bottles, electric blankets, space heaters and other localized heat sources.<sup>2</sup> A modern manifestation of the condition has been seen on the anterior thighs of people who use laptop computers.<sup>3</sup>

Histopathologic findings of thermal-induced injury include epidermal and dermal atrophy, hyperkeratosis, melanin and hemosiderin deposits, and squamous atypia.<sup>2</sup> Skin biopsy is not usually required; it is more commonly reserved to evaluate areas suspected of malignant change.<sup>1</sup>

Squamous and Merkel cell carcinomas are uncommon malignant sequelae of erythema ab igne, developing after decades of heat exposure.<sup>2</sup> Any lesions found during periodic surveillance that are suspicious for malignancy, such as nodules or ulcers, should be biopsied.<sup>1</sup>

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Figure 1: Erythema ab igne on the abdomen of a 49-year-old man.

The most important treatment for erythema ab igne is immediate removal of the source of infrared radiation. The eruption itself is mostly asymptomatic, and treatment is not usually required. Topical treatment with tretinoin and hydroquinone has been used for persistent hyperpigmentation, and epithelial atypia may respond to topical therapy with 5-fluorouracil.<sup>1</sup>

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