

Erythema ab igne in pediatric patients remote schooling during the COVID-19 pandemic: A case series

Abstract

Erythema ab igne is an uncommon dermatosis characterized by erythematous or hyperpigmented reticular patches that appear after prolonged localized heat exposure. We present three cases of erythema ab igne in pediatric patients who presented in March and April of 2021 and share a history of space heater usage while engaging in remote schooling during the COVID-19 pandemic.

be non-specific and non-diagnostic. The rash consisted of hyperpigmented reticulated patches with focal pink re-epithelialized erosions on the medial left shin and lateral right shin (Figure 2). The patient confirmed she had been remote schooling in her bedroom while sitting near a space heater positioned to the right of her legs.

Based on the clinical findings and confirmatory history of exposure to a localized heat source, a diagnosis of EAI was made in each case.

1 | INTRODUCTION

Erythema ab igne (EAI) is a dermatosis caused by prolonged localized exposure to a heat source.¹ The rash is characterized by reticulated, erythematous, and subsequently hyperpigmented patches on the heat-exposed area.² Most cases are asymptomatic and gradually self-resolve following cessation of the heat exposure, but some may become chronic or rarely progress to cutaneous malignancy.³

The prevalence of EAI declined with a widespread availability of central heating. More recent reports have been linked to the use of heating pads, laptop computers, and space heaters.^{1,4} In this report, we describe three pediatric patients who were diagnosed with EAI during a cold winter in the Midwestern United States while engaging in remote learning necessitated by the COVID-19 pandemic.

Patient 1 is an 8-year-old girl who presented in March 2021 with a one-month history of brown reticulated patches on the right thigh and left medial ankle (Figure 1A). She denied using a laptop or heating pad on the affected areas. On questioning, her parent recalled that she sat near a space heater directed toward her right side every day while participating in remote schooling.

Patient 2 is an 8-year-old boy who presented in April 2021 with a two- to three-month history of brown reticulated patches on the right anterior ankle (Figure 1B). He also confirmed having used a space heater near his feet while remote schooling throughout the winter.

Patient 3 is a 17-year-old girl referred in March 2021 for a “vascular” rash that appeared suddenly on both legs one month prior, associated with a few painless “sores” within the affected area. Rheumatology evaluation had revealed an anti-nuclear antibody (ANA) titer of 1:160 and elevated beta-2 glycoprotein IgG, felt to



FIGURE 1 (A) Brown reticulated patches on the right thigh of an 8-y-old girl. B, Brown reticulated patches on the right anterior ankle of an 8-y-old boy



FIGURE 2 Hyperpigmented reticulated patches with focal pink re-epithelialized erosions on the medial left shin and lateral right shin of a 17-y-old girl

2 | DISCUSSION

Though EAI is uncommon, we identified three cases in a period of less than one month. All three patients had a history of space heater use while remote schooling from home during the winter months of the COVID-19 pandemic. The affected skin locations were consistent with the positioning of the heaters.

Livedo reticularis and livedo racemosa may have similar presentations. Unlike EAI, livedo reticularis occurs transiently with cold exposure rather than chronically with heat exposure, and livedo racemosa is associated with underlying systemic disorders.⁵ Physicians should be aware of EAI and ask about a history of heat exposure to reduce unnecessary laboratory testing and medications.

The required transition to schooling and working from home during the pandemic has had numerous unintended consequences including an apparent increased incidence of EAI.^{2,5} Medical personnel should be alert to changes in routines that may contribute to behaviors that result in conditions such as EAI.

KEYWORDS



connective tissue disorders, dyspigmentation, infection- viral, inflammatory disorders

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DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

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