Laptop Computer–Associated Erythema Ab Igne

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A 40-year-old woman presented with an asymptomatic reticulated eruption on the thighs. After an extensive workup, she was diagnosed with erythema ab igne caused by laptop computer use. The eruption ultimately cleared several months after discontinuation of direct placement of the laptop computer on her thighs. Erythema ab igne is becoming increasingly associated with exposure to modern heat sources. A thorough history of patients with suspicious lesions should include questioning for contact with alternative heat sources to avoid an unnecessary workup for this condition.

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Erythema ab igne is an uncommon disorder characterized by mottled reticulated hyperpigmentation associated with chronic low levels of heat exposure. History of exposure to a classic heat source such as a fireplace, space heater, heating pad, heating blanket, hot water bottle, or hot pack, along with characteristic physical findings, are helpful clues to the diagnosis. However, when the patient's history lacks these classic elements, a diagnosis is more difficult to obtain. We describe a case of erythema ab igne associated with laptop computer use.

Case Report

A 40-year-old woman presented with a 2-month history of an asymptomatic, reddish brown, reticulated eruption and a past medical history of prurigo and depression recently treated with oral citalopram hydrobromide. The rash extended over the right anterior thigh in a livedoid pattern. She had been treated with topical steroids without effect. During the 2 months following her initial presentation, the eruption also appeared on the left anterior thigh (Figure). There was no personal or family history of emboli or cerebral stroke. The patient denied applying hot packs to the skin, using a heating blanket, or sitting near a heat source.

Results from laboratory tests, including complete blood count; erythrocyte sedimentation rate; and anticardiolipin antibody, antiphospholipid antibody, myeloperoxidase antibody, proteinase-3 antibody, and antinuclear antibody assays, were negative or within reference range. Histopathologic examination revealed only a superficial perivascular lymphocytic infiltrate with no evidence of vasculitis.

Upon further questioning, the patient revealed that she spent many hours with her laptop computer directly on her lap. The eruption steadily faded during the next several months after discontinuation of this practice.

Comment

Erythema ab igne is a red or hyperpigmented reticulated skin eruption typically associated with chronic use of hot packs or occupational heat exposure. Symptoms may include burning or pruritus. Histologically, this condition demonstrates epidermal atrophy, telangiectases, and melanophages, as well as siderophages. Hyperkeratosis, dyskeratosis, and squamous dysplasia can be noted focally. On occasion, vacuolar alteration with interface inflammation has been reported.[1] The dermis may be thinned, edematous, and/or display an increased number of abnormal elastic fibers reminiscent of solar elastosis.[2] Although most lesions usually appear after prolonged exposure to a mild heat source, one case report suggests that erythema ab igne can appear even after transient heat exposure.[3] The report describes a patient with mental status changes who, while in the intensive care unit, applied a heating blanket to the torso for no more than 5 days. Erythema ab igne appeared in the affected area 2 weeks later.[3]

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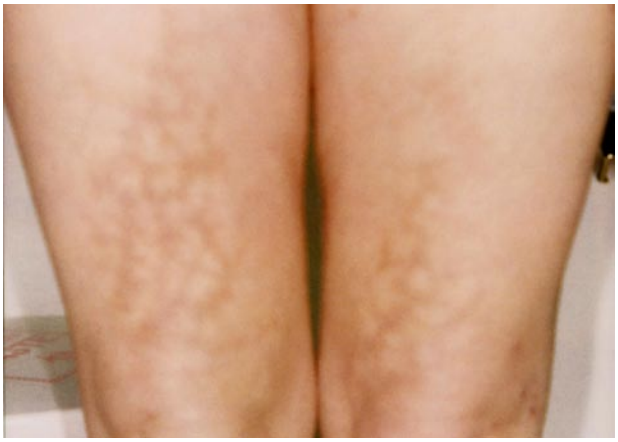

Bilateral reticulated hyperpigmentation on the anterior thighs.

Although the typical appearance of erythema ab igne is that of livedoid hyperpigmented patches, a bullous variant also has been described.[4] Clinically, bullae may appear within a background of reticular hyperpigmentation in an area affected by chronic heat exposure. Histopathologic examination of the bullous variant demonstrates subepidermal separation of the epidermis, along with changes typical of erythema ab igne.[4]

Reports have linked the development of erythema ab igne with heat exposure from nontraditional sources, including laser therapy, car heaters, hot popcorn, hot bricks, infrared lamps, heated reclining chairs, and frequent hot bathing.[5-8] However, at the time this manuscript was accepted for publication, only 3 other isolated case reports described laptop computer–associated erythema ab igne. The first case describes a 48-year-old woman who developed asymptomatic erythema ab igne after working with her laptop computer resting on her thighs for an unspecified period of time.[9] The second case presents a 50-year-old male systems analyst who developed reticular erythema on the thighs 2 weeks after purchasing a new laptop computer.[10] The third case describes a 17-year-old adolescent girl who developed a livedoid lesion on the thighs one year after daily exposure to heat from her laptop computer. The lesions regressed almost completely within 2 months after cessation of heat exposure.[11] In each case, the lesions appeared on the anterior thighs where the laptop rested. The more pronounced areas of hyperpigmentation were reported to have corresponded with exposure to the warmest parts of the computer.[9-11] Diagnoses were made on a clinical basis. Bullous erythema ab igne has not yet been associated with laptop computer use.

As long as laptop computer use remains popular, clinicians will need to recognize this disorder in the context of its modern clinical presentation. Early identification of erythema ab igne and discontinued exposure to offending agents might help to prevent the development of potential sequelae, including squamous cell carcinoma. In our patient, the lesions faded after permanent removal of the offending agent. However, clinicians should advise patients with erythema ab igne to seek clinical attention if suspicious or unusual lesions develop in the affected areas, even if the original lesions have clinically resolved.

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