

A case of erythema ab igne induced by laptop computer

Murat Ozturk¹, Gokturk Dere²

¹Health Sciences University, Van Training and Research Hospital Department of Dermatology, Van, Turkey

²Mardin State Hospital, Department of Dermatology, Mardin, Turkey

Copyright © 2019 by authors and Annals of Medical Research Publishing Inc.

Dear Editor,

Erythema ab igne (EAI) is a dermatosis caused by prolonged recurrent exposure to infrared radiation and characterized by hyperpigmentation, reticular erythema and epidermal atrophy (1). It has been reported that many heat sources such as heater pads, heated seats, hot water bags, electric blankets and laptops can cause EAI (2). Although the lower extremities may be affected frequently, other body areas exposed to a heater source such as arms, back, lumbar region may also be affected (3). Although EAI is a benign condition, malignancies like Merkel cell carcinoma and squamous cell carcinoma may develop in the affected area of skin (4). Here, we present a recent case of EAI, a disease known to be associated with increased use of laptops.

A 21-year-old male was admitted to the outpatient clinic due to redness of the leg for 1 month. It was learned that he had played 6 hours a day with laptop for a long time. Dermatological examination revealed reticulated brown patches on the anterior face of left thigh (Figure 1).



Figure 1. A reticular brown patch on anterior face of left thigh due to laptop computer

The patient was diagnosed clinically as erythema ab igne. It was recommended to discontinue the contact of the laptop and topical steroid treatment was started.

Erythema ab igne (EAI) usually begins as slightly localized erythema. After repeated exposure to moderate heat, reticular erythema, telangiectasia, hyperpigmentation, desquamation and atrophy may result (5). It is usually asymptomatic, but some patients have reported burning and itching (1). Although its exact cause is not known, it is thought that heat exposure causes destruction in superficial blood vessels and dilatation with hemosiderin accumulation cause reticular distribution (2).

In the past, EAI has been frequently seen in people working in front of the coal mines or sitting close to the fireplace. Since the increase of central heating systems, heating blankets, car heaters, laptops, hot water bags and

warming pads cause EAI. Cirrhosis, internal malignancies, malnutrition, anemia, hypothyroidism and Crohn's disease may cause EAI development (1,2,6). The EAI, which is related to the use of laptop, is characterized by asymmetrical involvement of thigh. The heat source may be the optical drive, the battery, the computer's cooling fan (2). Excessive heat transfer damages the superficial blood vessels and causes the accumulation of hemosiderin (1).

The histopathology of EAI is generally non-specific and not diagnostic, so the diagnosis is made clinically. In histopathology, epidermal keratinocyte atypia, interphase dermatitis, elastosis in the dermis, melanin incontinence and hemosiderin accumulation in the dermis are seen (3,4,5). When a patient with reticulated erythema is evaluated, if there is a history of prolonged heat exposure to the lesion site, erythema ab igne should be considered. Other reticular disorders similar to EAI include livedo racemosa, livedo reticularis, cutis marmorata telangiectatica congenita and cutis marmorata (3,4).

Received: 14.11.2018 **Accepted:** 12.12.2018 **Available online:** 14.12.2018

Corresponding Author: Murat Ozturk, Health Sciences University, Van Training and Research Hospital Department of Dermatology, Van, Turkey **E-mail:** chayacholic@hotmail.com

There are reports of effective results with topical steroids, topical retinoids and 5-Flourourasil cream in the treatment of EAI (2). Although EAI is typically benign and regressed after int errupting exposure to heat source, cutaneous malignancy such as squamous cell carcinoma and Merkel cell carcinoma has been reported in the affected area in the literature. A skin biopsy is necessary if an ulceration or wound that does not heal is seen on an EAI lesion (4).

As a result, this case is presented to remind us that electronic devices such as laptops, which are frequently used today, may cause erythema ab igne and that laptops should be used on flat surfaces.

Competing interests: The authors declare that they have no competing interest.

Financial Disclosure: There are no financial supports

Murat Ozturk ORCID: 0000-0002-4499-3724

Gokturk Dere ORCID: 0000-0003-3057-6871

REFERENCES

1. Doğan NO. A Case of laptop computer-induced erythema Ab igne. Med Bull Haseki 2014;52:291-2.
2. Manoharan D. Erythema ab igne: Usual site, unusual cause. J Pharm Bioall Sci 2015;7:74-5.
3. Aktas H, Benli A, Aydın E, et al. Does bullous erythema ab igne develop easier in diabetics? A case series of four patients. Arch Clin Exp Med 2017;2:79-80.
4. Aria AB, Chen L, Silapunt S. Erythema Ab Igne from heating pad use: A Report of three clinical cases and a differential diagnosis. Cureus 2018;10:e2635.
5. Cil Y, Cekmen S, Yapıcı A. Erythema ab igne induced by a laptop computer. Cumhuriyet Med Jour 2011;33:253-4
6. Nayak SU, Shenoi SD, Prabhu S. Laptop induced erythema Ab Igne. Indian J Dermatol 2012;57:131-2.