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3. Erythema ab igne

On anamnesis, the patient admitted that she usually treated her frequent back pain with a heating blanket, applying it directly to her back, which led us to a diagnosis of erythema ab igne (EAI).

Erythema ab igne is defined as a reticular erythematous hyperpigmentation of the skin caused by repeated skin exposure to moderate heat. The exposure, which need not be of long duration, results in cutaneous hyperthermia in the range of 43°C to 47°C, which, in turn, results in histopathologic changes similar to those seen in sun-damaged skin.

Resultant macules are most often found on the back or on the lower legs of women. With continued episodes of heat exposure, the skin reaction evolves into a hyperpigmented reticulated macular eruption, with dusky erythema, telangiectasia, and epidermal atrophy. Symptoms of burning or itching might be described by patients. Frequency of EAI is increasing owing to the growing use of the laptop computers (which are often propped on the legs, transmitting heat to the area) and heat therapy for chronic back pain; however, there have also been unusual cases associated with metastatic and abdominal tumours, chronic pancreatitis, peptic ulcers, squamous cell carcinoma, and Merkel cell tumours.¹ Historically, EAI was a common condition on the legs of persons who used to sit close to open fires or ovens, or associated with occupational exposure to heat (eg, occurring on the faces and palms of cooks, jewellers, silversmiths, and foundry workers).

Histology usually shows epidermal atrophy, with flattening of the dermal-epidermal junctions, collagen degeneration, and a relative increase in the amount of dermal elastic tissue. The similarities with actinic and thermal keratosis suggest a common etiology based on ultraviolet-induced skin damage.^{2,3} Although rare, there might be a small risk of malignant transformation in the area affected by EAI.³

Clinical diagnosis

Clinically, EAI begins as a mild, transient, reticular pattern of erythema. Repeated heat exposure leads to further hyperpigmentation; later, the affected skin becomes




widely hyperpigmented and atrophic, with only the borders showing a reticular pattern.¹ Erythema ab igne is usually asymptomatic, although mild itching or burning might occur.⁴

Diagnosis of EAI is based on clinical history and physical examination. A biopsy should be performed if there is any evidence of an underlying malignant process.³

The differential diagnosis includes acanthosis nigricans, livedo reticularis, systemic lupus erythematosus, and livedo vasculitis.^{1,4} A particularly important disorder to consider in the differential is livedo reticularis. Livedo reticularis is characterized by reddish-blue mottling of the skin in a reticular pattern. It occurs more often in women. Livedo reticularis can be caused by other disorders, such as vasospastic conditions, connective tissue disorders, and drug reactions. Unless symptoms related to an underlying disorder are present, patients typically have no complaints other than the cosmetic appearance of the skin. In contrast to EAI, however, the skin manifestations of the benign form of livedo reticularis resolve with exposure to heat. In secondary livedo reticularis, the underlying disease process should also be treated.

Treatment

No definitive therapy for EAI is available. The mainstay of treatment is to remove the source of infrared radiation immediately,^{1,5} resolving the lesions within several months. Topical treatment with 5-fluorouracil cream has been reported to clear epithelial atypia.^{2,3} Larger residual lesions (ie, hyperpigmentation and hypopigmentation) can be treated with topical tretinoin or hydroquinone.³

It is important for family physicians to recognize EAI, particularly owing to the increasing application of heat therapy for chronic back pain; this condition might be misdiagnosed and no treatment is really required, apart from avoiding the heat source. 

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Competing interests

None declared

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