

Bilateral lesions on the legs

A 50-year-old woman came to the office for medical advice regarding bilateral erythematous lesions on the inner aspects of both of her legs. She had been aware of the lesions for more than 5 months. She had no other medical complaints, and was not taking any prescribed, over-the-counter, or herbal medications, or using any moisturizers or other medicated topical preparations. She mentioned that she was using a hot water bottle on her legs to keep her warm.

On physical examination, we noted bilateral erythema in a mesh-like distribution on her frontal, inner lower thighs as well as the upper and medial aspects of her calves. There were prominent telangiectatic vessels and “spider

veins” surrounding the erythema, but her skin was otherwise normal. The review of her systems showed no problems. Personal and family histories were not contributory.

Skin biopsy revealed subepidermal separation accompanied by thinning of the epidermis with loss of rete ridges and the presence of dermal edema. There was an increase in the number of elastic fibers with aberrant disruption. Perivascular infiltration of inflammatory cells was also noted.

- What is your diagnosis?
- How would you manage this condition?

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FIGURE 1

Lesions on the legs



Mottled or mesh-like pigmentary changes on the legs of a 50-year-old woman.

FIGURE 2

Close-up



Close-up of figure 1, showing the telangiectatic vessels and spider veins around the erythema.

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FAST TRACK

Patients often do not connect heat exposure to the rash, so you must recognize the local pattern

Diagnosis**■ Erythema ab igne**

Erythema ab igne is characterized by localized erythema, reticulosis, and hypo-/hyperpigmentation, with telangiectasia and skin atrophy appearing in severe cases. This condition is caused by continuous exposure to sources of heat for prolonged periods of time.¹ Patients often do not connect their heat exposure to the rash, so you must recognize the local pattern of erythema ab igne and use your detective skills to identify the source.

History**■ Old disease, modern causes**

Erythema ab igne has been noted for many years, and the sources of heat have changed over time. It used to be seen in women who stayed for long periods in front of open fires or furnaces to cook.^{2,3} Most of the lesions appeared on the medial side of the thigh and the lower leg.

In modern times it is seen on different parts of the body depending on the heat source that initiated the pathology, the angle of the heat radiation, the morphology of the skin, and the layers of clothing.¹ Some of the modern causes of erythema ab igne are repeated application of hot water bottles or heat pads to treat chronic pain, exposure to car heaters and furniture with internal heaters, use of a laptop computer for long periods,⁴ and cook stoves, for restaurant workers who stand for long periods near the heat.³ Ultrasound physiotherapy was also reported as a cause.⁵ Recently, a case caused by frequent and prolonged hot bathing was reported.⁶

Clinical features**■ Mottled pattern clinically, subtle changes**

The pattern of lesions form as a result of multiple exposures to the source of heat. Skin lesions may not appear immediately after the exposure—it might

take a month to show up.⁷ Changes start as a reddish-brown pigmentation distributed as a mottled rash, followed by skin atrophy. Telangiectasias with diffuse hyperpigmentation and subepidermal bullae may also develop.⁸ Some patients complain of mild pruritus or burning sensation, but most patients are asymptomatic.⁹ Erythema ab igne should be differentiated from other diseases with skin changes that mimic its presentation (**TABLE**).

If clinically warranted, perform a biopsy to exclude the possibility of malignant formation. Histopathology results show epidermal atrophy, subepidermal separation, and haziness of the dermoepidermal junction. Dilatation of capillaries and connective tissue disintegration, elastosis, hemosiderin deposition, melanocytosis, and abundance of inflammatory cells are all seen in the dermis.¹⁰ Some of these lesions might progress to actinic keratosis, which could be a precursor for squamous cell carcinoma of the skin.¹¹ In some rare cases, Merkel cell carcinoma has developed in areas of erythema ab igne.¹²

Treatment**■ Eliminate heat source**

The first goal of treatment is to identify the source of heat radiation to avoid further exposure. For mild lesions, no intervention is needed after the heat source is removed; the probability of full resolution is good. In this case, the patient was advised to stop using the hot water bottle on her skin. Over 4 months her lesions started to clear with no further intervention.

■ Topical meds help with cosmesis

Topical retinoids, vitamin A derivatives, hydroquinone, and 5-fluorouracil can be prescribed to treat abnormal skin pigmentation.¹³ Laser therapy has been used to even out the skin color.

TABLE

Differential diagnosis for erythema ab igne

DISEASE	CLINICAL FEATURES
Acanthosis nigricans	Velvety, light-brown-to-black markings usually on the neck, under the arms, or in the groin Most often associated with being overweight More common in people with darker skin pigmentation May begin at any age May be inherited as a primary condition or associated with various underlying syndromes
Livedo reticularis	Reticular cyanotic cutaneous discoloration surrounding pale central areas due to dilation of capillary blood vessels and stagnation of blood Occurs mostly on the legs, arms, and trunk More pronounced in cold weather Idiopathic condition that may be associated with systemic diseases
Poikiloderma atrophicum vasculare	Circumscribed violaceous erythema Occurs mostly in posterior shoulders, back, buttocks, V-shaped area of anterior neck, and chest May be asymptomatic or mildly pruritic May remain stable in size or gradually increase Numerous atypical lymphocytes are observed around dermal blood vessels and some epidermotropism is observed A variant of mycosis fungoides

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