Erythema *ab igne*: a case report*
*Eritema ab igne: relato de um caso**

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Abstract: The cutaneous lesion of erythema ab igne is characterized by a reticulate erythema, hyperpigmentation, fine scaling, epidermal atrophy and telangiectasis. Currently the lumbar region is the most affected, due to the use of hot water bottles to relieve chronic pains, and by constant exposure to deep heat in physiotherapy sessions. The authors call attention to a dermatosis that is not often diagnosed, and that may be more prevalent, because of the high frequency with which such physiotherapeutic treatments are performed.
Keywords: Erythema; Physical therapy (specialty); Thermal radiation.

***Resumo**: A lesão cutânea do eritema ab igne é caracterizada por eritema reticulado, hiperpigmentação, descamação fina, atrofia epidérmica e telangiectasias. Atualmente, a região lombar é a mais atingida, devido ao uso de bolsas de água quente, para alívio de dores crônicas, e por constantes exposições a calor profundo em sessões de fisioterapia. Os autores alertam sobre uma dermatose pouco diagnosticada e que talvez seja mais prevalente pela alta freqüência com que são realizados tratamentos fisioterápicos.*
Palavras-chave: Eritema; Fisioterapia (especialidade); Radiação térmica.

At present, erythema *ab igne* (EAI) or erythema caloricum is either rare or infrequently reported.[1-3] It is characterized by reticulate erythema, hyperpigmentation, scaling, epidermal atrophies and telangiectasis, present in areas of prolonged exposure to thermal radiation.[4-6] It is usually asymptomatic, but patients can refer to ardor and pruritus.[6] The lesion is acquired by repeated and prolonged[7] exposure to infrared radiation at temperatures up to 45°C.[4,7,8]

Infrared radiation can be produced by various heat sources, such as hot water bags, braziers, gas or coal ovens and steam radiators.[1,2,7-9] Nowadays, the prevalence of lesions in the lumbosacral region is due to chronic pains in this area and consequent repeated and prolonged use of localized heat to relieve those symptoms.[1,2,10] Imamura et al. have reported that the physiotherapeutic treatments most frequently recommended in the present day, use ultrasound and short wave diathermy to promote (via high frequency mechanical waves) an extremely rapid vibration in the tissues in order to generate heat and consequent dilation of the local veins and provide pain relief.[9]

The histopathological alterations include epidermal atrophy and loss of the dermoepidermal junction with vacuolar alterations in the basal layer.[1,3-5] Collagen fragmentation,[1,3] melanin and hemosiderin deposition occur, and formation of telangiectasis,[1,3-5,8] together with perivascular infiltration of polymorphonuclear leukocytes, lymphocytes and histiocytes.[5] There is also an accumulation of elastic tissue in the superior dermis.[5,6] ASome cases exhibit hyperkeratosis and epidermal dysplasia, similar to actinic keratosis.[3,4,6]

The lesion characteristic of EAI associated to a history of excessive exposure to heat in the area of onset facilitates clinical diagnosis of this disease.[8,10] The duration of the repeated exposure necessary to provoke alterations in the skin varies from months to several years and the damage appears to be cumulative.[7] A rare and late complication is malignant transformation of EAI into epidermoid carcinoma.[4,6-8]

There are reports of good therapeutic response to topical use of 5-fluorouracil cream by inhibiting the metabolism of dysplastic keratinocytes.[7] The simple and early suspension of heat sources is sufficient for spontaneous disappearance of the lesion or a less conspicuous coloration.[10] The lesion can become permanent if exposure to the heat is repetitive.[5]

Female patient, white, 40 years of age, presenting pain in the lumbosacral region with onset one year previously. She was being seen by a physiotherapist.

Received on August 25, 2003.
Approved by the Consultive Council and accepted for publication on October 29, 2004.
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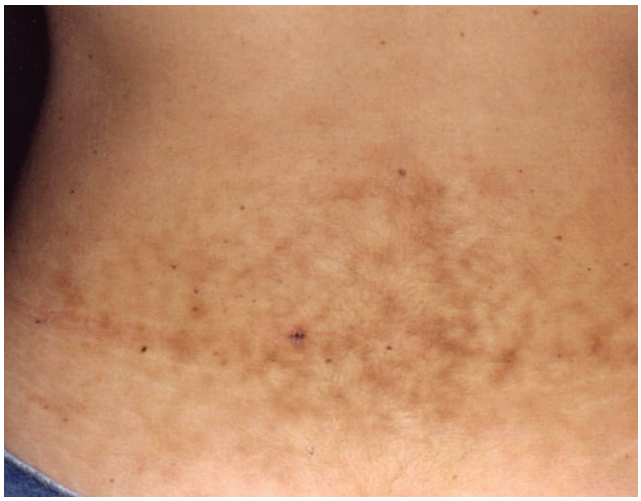

FIGURE 1: Reticulate hyperpigmentation in the lumbosacral region induced by repeated and prolonged exposure to heat

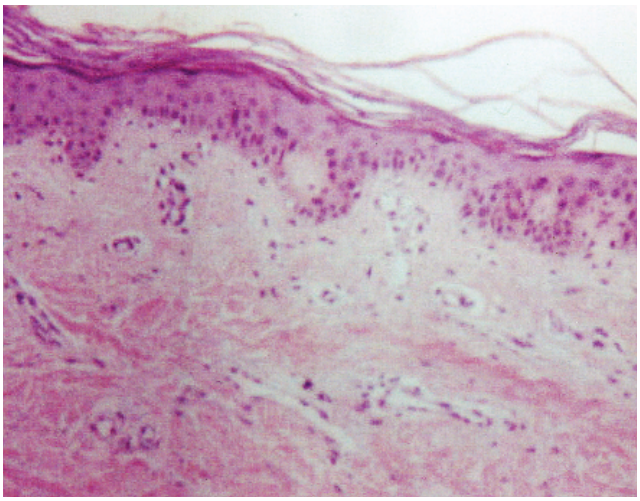

FIGURE 2: Histopathological exam revealed mild perivascular dermal edema with a discrete focal lymphocytary infiltration (HE, 45x)

She sought consultation complaining of an asymptomatic stain in the lumbar region, with a slow course that had appeared six months ago. After the picture of pain began one year ago, she had been applying localized heat on a daily basis using a hot water bottle, together with physiotherapy, comprising cyclical ultrasound and short wave applications. On cutaneous exam she presented a reticulate erythematous-brownish stain, involving the entire lumbosacral region (Figure 1). Histopathological exam revealed discreet dermal edema that was predominantly perivascular with a slight focal lymphocytary infiltration (Figure 2). After diagnosis of erythema ab igne, the patient was counseled to suspend use of local heat and not to apply topical or systemic medicine. On revaluation, three months later, she presented an almost total disappearance of the lesions.

Erythema ab igne is a heat-dependent dermatosis that results in reticulate pigmentation with telangiectasia and atrophy. It is usually asymptomatic, and diagnosis is through the history of exposure to heat in the involved area and by the lesion's morphologic characteristics.

In the case presented here, the location of the dermatosis is coherent with the cases described to date, arising from the ever increasing use of physiotherapy and associated therapeutic procedures, such as ultrasound, short wave diathermy and hot water bottles, thereby characterizing iatrogenic lesions.

Although the histopathology of the case described does not demonstrate significant alterations, a discreet perivascular lymphocytary infiltration was recognized, which is a histopathological characteristic of erythema ab igne.

In this case, the cause/effect correlation could be easily established. The diagnosis, therefore, was essentially clinical. When a spontaneous involution of the picture follows suspension of the heat sources, or in other words, through a therapeutic test, the diagnostic suspicion of erythema ab igne is reinforced.

Patients undergoing physiotherapeutic treatment for a prolonged period should be advised about the onset of stains in the area of heat application. This would facilitate the diagnosis of a dermatosis which has a simple therapeutic solution but that over time can possibly become malignant. ❑

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