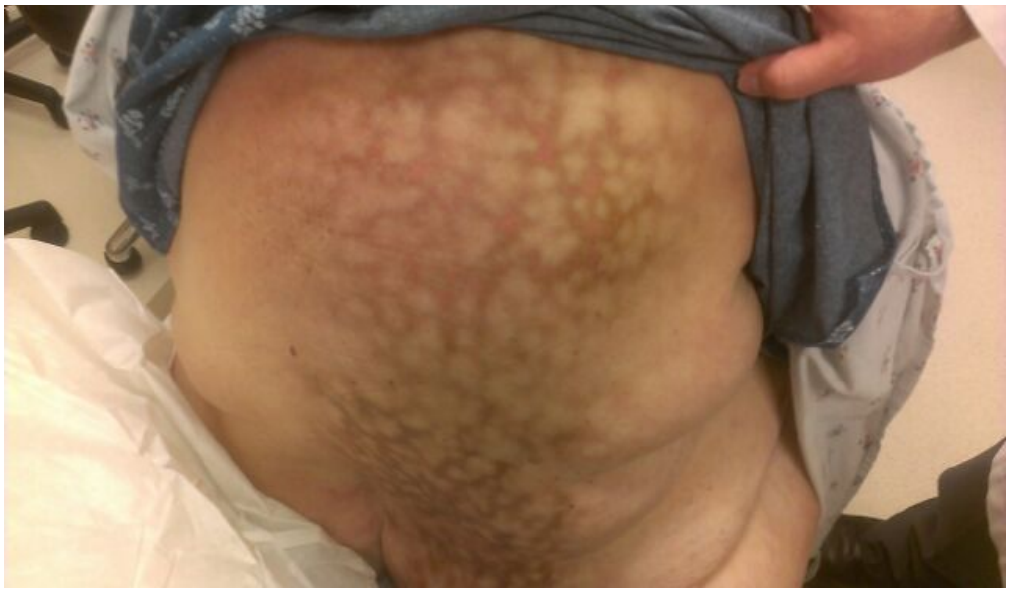
CLINICAL QUIZ

Importance of a Thorough Physical Examination!

Muhammad Imran, M.D., Julian Magadan III, M.D., Mehrdad Maz, M.D.
University of Kansas Medical Center
Department of Internal Medicine
Division of Allergy, Clinical Immunology, & Rheumatology
Kansas City, KS

A 73-year-old white female presented for management of her tophaceous gout, pyoderma gangrenosum, and chronic back pain. On exam, there was an incidental finding of reticular, reddish-brown, non-tender, macular, non-blanching discoloration on her entire back, with a few superficial erosions (see Figure). The patient did not know the duration of her rash. It was neither pruritic nor painful. She denied arthralgia, fever, chills, or other constitutional symptoms. She did not have a history of insect bites, recent foreign travel, falls, or trauma. She frequently used a heating pad to alleviate her chronic back pain. Complete blood count, comprehensive metabolic panel, urine analysis, and inflammatory markers were within normal limits.



What is most likely diagnosis?

A. Vasculitis
B. Livedo Reticularis
C. Erythema Ab Igne
D. Cutaneous Lupus
E. Actinic Keratosis

Correct Answer: C. Erythema Ab Igne

Erythema ab igne (EAI), also known as ephelis ignealis or toasted skin syndrome, is an unintentional, unperceived, and self-induced condition, which occurs in individuals who persistently use topical or conventional heat to relieve localized pain or cold.[1] It is characterized by chronic, localized, erythematous or hyper-pigmented, reticulated, and net-like skin patches in the affected area. It is usually asymptomatic, but burning and pruritus are reported by some patients. While all body surfaces are susceptible, classically EAI develops on the shins and inner thighs of patients who sit close to fireplaces, heaters, or radiators.[2] It also can develop on the lumbar region and abdomen in patients who use heat sources, such as heated reclining chairs, heating pads, blankets, or hot water bottles to treat chronic back and abdominal pains. Although the condition is typically benign, chronic heat exposure can induce dysplasia, and rarely, squamous and Merkel cell carcinoma. The pathophysiology is unclear. Skin biopsy usually is not required since the diagnosis of EAI is usually made on the clinical presentation and corresponding history.[3] The differential diagnoses include livedo reticularis, actinic keratosis, vasculitis, squamous cell carcinoma of skin, and skin hyperpigmentation. Treatment of EAI is the immediate removal of heat source from the skin, which may result in resolution of the lesion. Chronic exposure often results in permanent hyperpigmentation and may increase the risk of malignant transformation. Overall prognosis is good.

The cutaneous lupus rash is found mostly on sun exposed areas and photosensitive. Usually it is erythematous, raised with papules or plaques. In some types like discoid lupus, the rash heals with a scar.[4] Vasculitis rash is due to inflammation of the blood vessels. The rash is commonly palpable purpura but can be macules, papules, plaques, and urticaria and may lead to necrosis. Usually, it is associated with systemic symptoms. Vasculitis is rare, can be mild or disabling but may lead to death.[4] Actinic keratosis (also called solar keratosis) is a precancerous, rough, scaly, or crusty patch of skin, caused by chronic sun exposure.[4] It is more common in fair-skinned people and usually accompanied by solar damage. Untreated lesions have a risk of progression to squamous cell carcinoma.[5] Livedo reticularis is a mottled reticulated vascular pattern which appears as a lace-like purplish discoloration of the skin. This may be a normal finding but may be related to an underlying pathology. It may be aggravated by exposure to cold and occurs most often in the lower extremities.[6]

References

[1] Chan CC, Chiu HC. Images in clinical medicine. Erythema ab igne. N Eng J Med 2007; 356(9):e8. PMID: 17329692.
[2] Dvoretzky I, Silverman NR. Reticular erythema of the lower back. Erythema ab igne. Arch Dermatol 1991; 127(3):405-406, 408-409. PMID: 1998373.
[3] Perry EC. Erythema ab igne. Br J Derm 1900; 12:94-95.
[4] Bolognia JL, Jorizzo JL, Rapini RP. Dermatology: 2-Volume Set. 2nd Edition. St. Louis: Mosby, 2008. ISBN 1-4160-2999-0.
[5] Weedon D. Weedon's Skin Pathology, 3rd Edition. London: Churchill Livingston Elsevier, 2010. ISBN 978-0-7020-3485-5.
[6] Gibbs MB, English JC 3rd, Zirwas MJ. Livedo reticularis: An update. J Am Acad Dermatol 2005; 52(6):1009-1019. PMID: 15928620.

Keywords: erythema, skin rash, hyperpigmentation, vasculitis, livedo reticularis