

Fragmented Elastic Fibers and Distorted Haphazard Collagen Bundles : An Unusual Presentation of Erythema Ab Igne

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Background

- Erythema Ab Igne (EAI), a type of chronic environmental dermatosis, presents as a reticular rash in skin chronically exposed to mild, external heat sources with temperature of 45 °C or less.^{1,2}
- Reported cases of EAI are often associated with use of small electric heaters, proximity to wood burning stoves or resting laptops on exposed skin.^{3,4}
- Heat induced vasodilation and consequent damage to superficial blood vessels is implicated in the development of the characteristic reticular rash.⁵
- Common histopathological findings of EAI include ectatic dilated vessels, squamous atypia and telangiectasias.

Case Presentation

- A 70-year-old male with a past medical history of myelodysplastic syndrome, stem cell transplant, chronic kidney disease, and rheumatoid arthritis presented to the dermatology clinic for evaluation of a rash on his lower back.
- The patient reported use of a heating pad for many years over the affected area.
- He denied any burning, pruritus or pain as well as any known personal or family history of skin cancer or other dermatologic conditions.
- Physical examination of the lower back revealed a large, triangular, hyperpigmented patch extending from the mid-thoracic region to the lumbar region (Figure 1).
- Hematoxylin and eosin-stained tissue sections (Figure 2) showed a rare angulated blood vessel as well as irregular haphazardly arranged collagen bundles, highlighted on a Masson trichrome stained tissue section (Figure 3).
- A Verhoeff van Gieson stained tissue section showed fragmented elastic fibers (Figure 4).
- The usual findings of Erythema ab Igne such as hyperpigmentation with ectatic dilated vessels, squamous atypia and telangiectasias were not appreciated.

Clinical Image



Figure 1: Clinical Photograph
Physical examination of the lower back revealed a large, triangular, hyperpigmented patch extending from the mid-thoracic region to the lumbar region

Clinical Course

- Although the hyperpigmented patch lacked gross patterns of reticulate erythema, EAI was suspected given patient's reported chronic, repeated heat exposure to the affected area.
- The patient was advised to discontinue heat application to the lower back.
- The patient did not have any other complications or recurrence

Discussion

- Recognition of atypical presentations of EAI can aid dermatologists and other healthcare providers in diagnosis, particularly when an offending agent can be readily identified on patient history.
- Timely diagnosis and prompt intervention is also important given the opportunity for malignant transformation of chronic cases of EAI.
- Without intervention, chronic EAI lesions may develop squamous atypia and loss of maturation within the epidermal layer.⁴
- Long term complications involve malignant transformations including squamous cell carcinoma, Merkel cell carcinoma and cutaneous marginal zone lymphoma^{4, 23, 24, 25}

Histology Findings

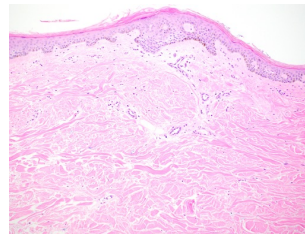


Figure 2: H&E 10X
Rare angulated blood vessel and irregular haphazardly arranged collagen bundles

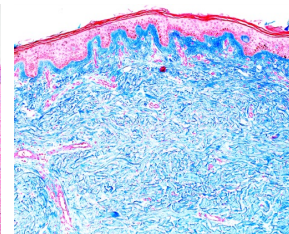


Figure 3: Masson trichrome 10X
Haphazardly arranged collagen highlighted.

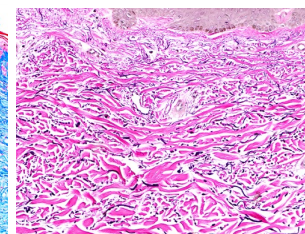


Figure 4: Elastic 20X
Abnormal collagen fibers and increased fragmented elastic fibers

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