Erythema ab igne in patients with dementia: Implications for caregivers

Zijian Zheng, Sid Danesh

ABSTRACT

Introduction: Erythema ab igne is a benign, asymptomatic skin condition caused by heat exposure. It is an uncommon condition, making it challenging for physicians and healthcare providers to diagnose and follow-up for potential progression to malignancy, especially in patients with dementia.

Case Report: Herein, we present a case of erythema ab igne in a 70-year-old male with dementia, in whom careful history taking from family was required to elicit the cause (a warming blanket) and diagnosis.

Conclusion: Erythema ab igne can be recognized and prevented if physicians have a high index of suspicion and are aware of the history and signs. Patients with dementia require particularly close clinical follow-up.

International Journal of Case Reports and Images (IJCRI)

International Journal of Case Reports and Images (IJCRI) is an international, peer reviewed, monthly, open access, online journal, publishing high-quality, articles in all areas of basic medical sciences and clinical specialties.

Aim of IJCRI is to encourage the publication of new information by providing a platform for reporting of unique, unusual and rare cases which enhance understanding of disease process, its diagnosis, management and clinico-pathologic correlations.

IJCRI publishes Review Articles, Case Series, Case Reports, Case in Images, Clinical Images and Letters to Editor.

Website: www.ijcasereportsandimages.com

CASE REPORT

PEER REVIEWED | OPEN ACCESS

Erythema ab igne in patients with dementia: Implications for caregivers

Zijian Zheng, Sid Danesh

ABSTRACT

Introduction: Erythema ab igne is a benign, asymptomatic skin condition caused by heat exposure. It is an uncommon condition, making it challenging for physicians and healthcare providers to diagnose and follow-up for potential progression to malignancy, especially in patients with dementia. **Case Report:** Herein, we present a case of erythema ab igne in a 70-year-old male with dementia, in whom careful history taking from family was required to elicit the cause (a warming blanket) and diagnosis. **Conclusion:** Erythema ab igne can be recognized and prevented if physicians have a high index of suspicion and are aware of the history and signs. Patients with dementia require particularly close clinical follow-up.

Keywords: Dementia, Erythema ab igne, Squamous cell carcinoma

Article ID: Z01201701CR10749ZZ

doi:10.5348/ijcri-201710-CR-10749

INTRODUCTION

Erythema ab igne is a benign cutaneous disease caused by prolonged heat exposure [1]. Although uncommon, dementia patients are particularly susceptible due to lack of self-care and cognitive impairment. Furthermore, they find the skin condition difficult to monitor, particularly for secondary malignant transformation. Here we report a case of erythema ab igne in an elderly male with dementia to illustrate that a high index of suspicion, close observation, and prompt treatment are required in this vulnerable population.

CASE REPORT

A primary care physician (PCP) referred a 70-year-old Asian male with a history of dementia, chronic heart failure, and back pain to the dermatology clinic due to a three-month history of unexplained leg rash.

Most history was obtained via family members due to the patient's dementia, who reported multiple scaly rounds to oval shaped blisters on the lower limbs. On examination, the patient was alert and not in distress. He was oriented in person, time, and place and vital signs were stable and within normal range. The patient had general dry and loose skin due to aging with multiple verrucous, hyperkeratotic lesions. There were multiple varicose veins on the posterior lower legs and benign nevi on the face, upper trunk, and abdomen.

The lesion of interest was a non-tender violaceous, macular rash resembling livedo reticularis on the right

How to cite this article

Zheng Z, Danesh S. Erythema ab igne in patients with dementia: Implications for caregivers. Int J Case Rep Images 2017;8(1):70–72.

Zijian Zheng¹, Sid Danesh²

Affiliations: ¹Medical student, Des Moines University College of Osteopathic Medicine, Des Moines, IA50312 USA; ²MD, Associate professor, Department of Dermatology, University of Southern California, Los Angeles, CA91776 USA.

Corresponding Author: Zijian Zheng, 616 N Orange Ave, La Puente, CA91744 USA; E-mail: zijian.zheng@dmu.edu

Received: 30 July 2016

Accepted: 13 October 2016

Published: 01 January 2017

lower lateral thigh and upper lateral leg (Figure 1). The lesion blanched with alternating red pigmentation and normal skin. Healing wounds and hyperkeratotic scars were also present. There were no joint effusions or warmth in the lower extremity joints, which had a full range of both active and passive movement. Motor and sensory examinations were normal. Although the patient had difficulty distinguishing present and past events, he reported no pruritus, pain, or bleeding. His family reported no history of bleeding disorders, anticoagulant use, or similar past events. Apart from 81 mg aspirin every other day, he was not on any other prescribed antiplatelet or anticoagulant therapy.

The patient's PCP had recently performed a well adult check that revealed normal hematological and biochemical parameters. Further direct questioning of the patient and family revealed that patient had lower back pain and that he was reluctant to take pain medication. He had instead been using an electrical warming blanket to alleviate his back pain. His family often found him forgetting to turn it off and sleeping with it in place. The patient lay on his left side at sleep.

Given the history and findings, erythema ab igne was diagnosed. The patient was given triamcinolone cream and the lesions had resolved by the next visit. Instructions on prevention of similar symptoms were given to patient and the caregiver.

DISCUSSION

Erythema ab igne describes persistent, blanching erythematous areas that gradually develop into reticulated pigmentation and focal epidermal atrophy due to excessive or long-term heat exposure. The heat is not usually hot enough to cause overt burning in most cases. Hemostasis caused by the heat leads to a mottled appearance and subsequent pigmentation. The pigmentation can be erythematous, violaceous, pink, gold or dark brown. Various heat sources have been reported to cause erythema ab igne including heating pads, heating pans, and even laptops [2]. In our patient, a heating blanket led to his symptoms and signs. In most cases, after removal of the heating source, pigmentation gradually resolves but permanent pigmentation is possible [3].

A skin biopsy should be obtained to rule out other etiologies rather than to confirm the clinical diagnosis of erythema ab igne, which has non-specific histopathologic findings [4]; indeed, the biopsy taken in this case showed only a sparse perivascular infiltrate and non-specific findings. In early disease, epidermal atrophy, lymphocytic infiltrates, and epithelial atypia may be seen with dermal elastin deposition seen in late disease. Epithelial atypia can progress into squamous cell carcinoma, which is preventable with 5-fluorouracil or imiquimod. The use of steroid cream may help to reduce the pigmentation [5].

Livedo reticularis and other vasculitides should form part of the differential diagnosis, but our patient's recent normal laboratory results helped us to rule out any systemic vasculitis. Further, the patient did not have other symptoms such as fever or weight loss.

Close follow-up of patients with erythema ab igne is crucial, not only due to a risk of malignancy but also because it is hard for patients to monitor skin changes on the lower back and at other difficult to see locations. Ulceration and worsening of the lesion warrant biopsy to rule out squamous cell and Merkel cell carcinomas, both of which have been described in association with the condition [6]. Dementia patients in particular need close follow-up since they are less likely to self-monitor and may continue to apply heat. Physicians and other healthcare providers managing dementia patients need to pay close attention to the use of heating sources, and make sure that they are properly used, and need to be aware of the cutaneous manifestations of benign and malignant diseases arising from heat exposure to ensure prompt diagnosis and management.

CONCLUSION

Erythema ab igne can be recognized and prevented if physicians have a high index of suspicion and are aware of the history and signs. Patients with dementia require particularly close clinical follow-up.

Figure 1: Right leg showing erythematous, violaceous maculopapular rashes.

Author Contributions

Zijian Zheng – Substantial contribution to the concept and design, Drafting the article, Final approval of the version to be published

Sid Danesh – Substantial contribution to the concept and design, Drafting the article, Final approval of the version to be published

Guarantor

The corresponding author is the guarantor of submission.

Conflict of Interest

Authors declare no conflict of interest.

Copyright

© 2017 Zijian Zheng et al. This article is distributed under the terms of Creative Commons Attribution License which permits unrestricted use, distribution and reproduction in any medium provided the original author(s) and original publisher are properly credited. Please see the copyright policy on the journal website for more information.

REFERENCES

1. Riahi RR, Cohen PR, Robinson FW, Gray JM. Erythema ab igne mimicking livedo reticularis. *Int J Dermatol* 2010 Nov;49(11):1314–7.
2. Riahi RR, Cohen PR. Laptop-induced erythema ab igne: Report and review of literature. *Dermatol Online J* 2012 Jun 15;18(6):5.
3. Stulberg DL, Clark N, Tovey D. Common hyperpigmentation disorders in adults: Part I. Diagnostic approach, café au lait macules, diffuse hyperpigmentation, sun exposure, and phototoxic reactions. *Am Fam Physician* 2003 Nov 15;68(10):1955–60.
4. Milchak M, Smucker J, Chung CG, Seiverling EV. Erythema Ab Igne due to Heating Pad Use: A Case Report and Review of Clinical Presentation, Prevention, and Complications. *Case Rep Med* 2016;2016:1862480.
5. James WD, Berger TG, Elston DM. *Dermatoses resulting from physical factors*, 11ed. *Andrew's Diseases of the Skin: Clinical Dermatology*. Philadelphia: Elsevier Health Sciences; 2011.
6. Tan S, Bertucci V. Erythema ab igne: An old condition new again. *CMAJ* 2000 Jan 11;162(1):77–8.

Access full text article on
other devices

Access PDF of article on
other devices

Edorium Journals: An introduction

Edorium Journals Team

About Edorium Journals

Edorium Journals is a publisher of high-quality, open access, international scholarly journals covering subjects in basic sciences and clinical specialties and subspecialties.

Invitation for article submission

We sincerely invite you to submit your valuable research for publication to Edorium Journals.

But why should you publish with Edorium Journals?

In less than 10 words - we give you what no one does.

Vision of being the best

We have the vision of making our journals the best and the most authoritative journals in their respective specialties. We are working towards this goal every day of every week of every month of every year.

Exceptional services

We care for you, your work and your time. Our efficient, personalized and courteous services are a testimony to this.

Editorial Review

All manuscripts submitted to Edorium Journals undergo pre-processing review, first editorial review, peer review, second editorial review and finally third editorial review.

Peer Review

All manuscripts submitted to Edorium Journals undergo anonymous, double-blind, external peer review.

Early View version

Early View version of your manuscript will be published in the journal within 72 hours of final acceptance.

Manuscript status

From submission to publication of your article you will get regular updates (minimum six times) about status of your manuscripts directly in your email.

Our Commitment

Six weeks

You will get first decision on your manuscript within six weeks (42 days) of submission. If we fail to honor this by even one day, we will publish your manuscript free of charge.*

Four weeks

After we receive page proofs, your manuscript will be published in the journal within four weeks (31 days). If we fail to honor this by even one day, we will publish your manuscript free of charge and refund you the full article publication charges you paid for your manuscript.*

Favored Author program

One email is all it takes to become our favored author. You will not only get fee waivers but also get information and insights about scholarly publishing.

Institutional Membership program

Join our Institutional Memberships program and help scholars from your institute make their research accessible to all and save thousands of dollars in fees make their research accessible to all.

Our presence

We have some of the best designed publication formats. Our websites are very user friendly and enable you to do your work very easily with no hassle.

Something more...

We request you to have a look at our website to know more about us and our services.

* Terms and condition apply. Please see Edorium Journals website for more information.

We welcome you to interact with us, share with us, join us and of course publish with us.

Edorium Journals: On Web

Browse Journals

CONNECT WITH US