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Letter

Facial pigmentation with demodex Mite; a mere coincidence or an association?

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Abstract

Demodex mites may induce inflammatory cutaneous reactions such as papulopustular rosacea and demodex folliculitis; both may lead to post inflammatory pigmentation. A 59-year-old man presented with an asymptomatic, hyperpigmented plaque on his face. Histological and clinical findings displayed Riehl-like facial pigmentation. Multiple demodex mites at the follicular infundibulum in the biopsy material were remarkable. There are limited publications about demodex-associated pigmentation. We report this case to point out that various hyperpigmentation disorders may occur simultaneously with demodex mites.

Keywords: facial pigmentation, demodex

Introduction

Demodex mites have been implicated in the promotion of dermatological conditions such as pityriasis folliculorum, rosacea, and blepharitis [1]. Herein we report a case of a man who showed malar hyperpigmentation and whose histopathological sections taken from the pigmented plaque demonstrated high demodex density.

Case synopsis

A 59-year-old male admitted to the dermatology clinic with a grayish-brown asymptomatic plaque on a slightly erythematous ground on the left malar region for one year (Figure 1a). He mentioned that the plaque had grown in size over time. He had not received any medications for his complaint. There was no history of any other oral drug intake, topical therapy, any cosmetic usage, or any other diseases. A punch biopsy was taken from the lesion with the differential diagnosis of Riehl's melanosis, lichen planus pigmentosus, and discoid lupus erythematosus. Histopathological examination of the material showed dense perivascular and perifollicular mononuclear cell infiltration in the upper dermis, pigment incontinence in the dermis and hydropic degeneration of the basal layer compatible with Riehl-like facial pigmentation. In the biopsy material numerous demodex mites in the infundibula of the follicles were remarkable (Figure 1b). Patch testing showed positive result with nickel sulfate. The patient did not return for follow up and approximately eight months later we learned that the patient had died because of chronic myeloid leukemia.

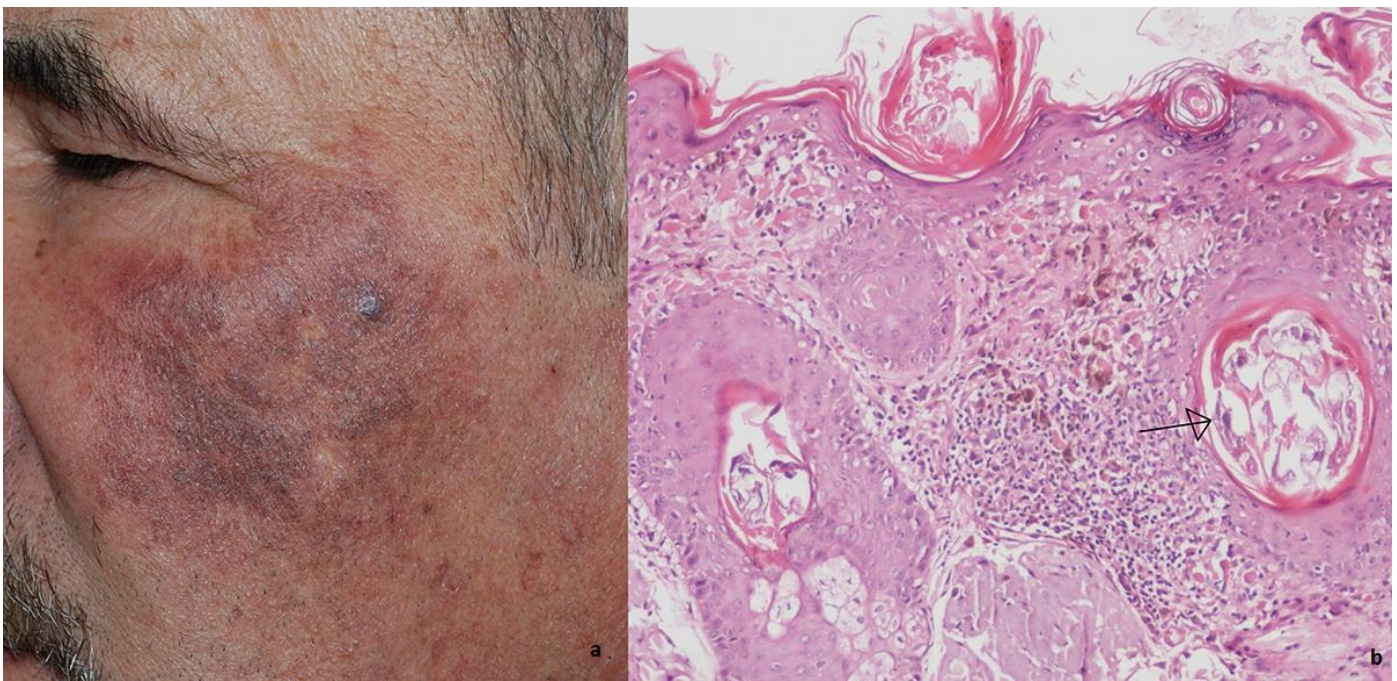


Figure 1. (a) Grayish-brown plaque on slightly erythematous background (b) Perifollicular mononuclear cell infiltration, pigment incontinence in the dermis, and hydropic degeneration of the basal layer; multiple demodex mites (arrow) in the infundibula of the follicles (H&E, x200)

Discussion

Demodex mites have been suggested to exacerbate several chronic inflammatory diseases of the skin. Especially in immunosuppressed patients the clinical manifestations of the parasite are more prominent and more common than in immunocompetent patients [2]. It has been shown that dense perivascular and perifollicular lymphohistiocytic infiltration, numerous demodex mites in follicular infundibula are the histopathological findings of demodicosis [3]. Forton *et al.* hypothesized that noninflammatory or inflammatory demodicosis may occur depending upon the immune response of the patient. Demodex (post inflammatory) pigmentation is one of the subgroups of the inflammatory demodicosis [4]. Smudgy, brownish pigmentation of the face and pigmentation of roots of cilia caused by demodex mites have been reported in the literature. Furthermore, demodex density has been found higher in the hyperpigmented pattern than the other clinical types of demodicosis [1,5]. It is unclear whether the demodex mites have contributed to the pigmentation in our patient. Allergic contact dermatitis is a possibility as a cause for the inflammatory reaction and hyperpigmentation. Positive nickel sulfate reaction was seen on testing, but the patient denied any contact with the products associated with nickel or other common contactants. Developing leukemia in a short time in the patient suggests a potential immune defect in our patient. Dense perifollicular mononuclear cell infiltration and pigment incontinence was exhibited. This may be suggestive of a demodex mite infestation. It is difficult to know whether the pigmentation is secondary to mites, in particular the associated inflammatory reaction. Facial pigmentation and presence of the mites in our case may be independent from each other as a mere coincidence or may be an association. Demodex mites have the potential to induce different variants of hyperpigmented and inflammatory cutaneous disorders.

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