

CASE REPORT

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Folliculocentric tinea versicolor: a case report

Ruili Jiang^{1†}, Yun Xia^{1†}, Bei Wang^{1,2}, Zilu Qu^{1,2}, Liuqing Chen^{1,2*} and Feng Hu^{1,2*}

Abstract

Background Tinea versicolor is a very common condition. We reported a specific follicular manifestation and proposed that this particular presentation might be related to the patient's history of previous keratosis pilaris.

Case presentation A 46-year-old Asian woman of Han ethnicity presented to the clinic with trunk lesions for over a year. On physical examination: multiple light brown patches of varying size centered on hair follicles in the axillae and trunk, with the patches on the back fusing together and scales visible on the surface of the patches. Finally, through fungal microscopy and pathological examination, the patient was diagnosed with folliculocentric tinea versicolor.

Conclusions Follicular tinea versicolor is a rare type of tinea versicolor. It is still not clear what causes tinea versicolor to become folliculocentric. This case may suggest that patients with a history of keratosis pilaris may have a tendency to develop follicular centration in the course of other diseases.

Keywords Folliculocentric, Tinea versicolor, Keratosis pilaris

Introduction

Tinea versicolor is a very common condition. We reported a specific follicular manifestation and proposed that this particular presentation might be related to the patient's history of previous keratosis pilaris.

Case presentation

A 46-year-old Asian woman of Han ethnicity presented to the clinic with trunk lesions for over a year. The patient had no significant symptoms most of the time, with occasional mild itching. Inquiring about the medical history,

the patient has been in good health with no family history of genetic or psychological diseases. There has been no prior treatment for the trunk lesions. The condition has developed slowly and has minimal impact on daily life. Other physical examinations were unremarkable. On physical examination: multiple light brown patches of varying size centered on hair follicles in the axillae and trunk, with the patches on the back fusing together and scales visible on the surface of the patches (Fig. 1a–c).

Pathological examination revealed mycelium and spores in the stratum corneum (Fig. 1d). Further examination revealed positive staining with Periodic Acid-Schiff (PAS) (Fig. S1) and direct mycological microscopy showed mycelium and spores in a “spaghetti and meatball” pattern (Fig. 1e). Finally, the patient was diagnosed with folliculocentric tinea versicolor. Subsequently, the patient improved after 1 week of oral itraconazole (0.2 g/d), topical application of terbinafine hydrochloride cream, and washing with ketoconazole lotion for 3 weeks. Direct mycological examination revealed no presence of spores. However, brown follicular papules

[†]Ruili Jiang and Yun Xia contributed equally to this work.

*Correspondence:

Liuqing Chen

chlq35@126.com

Feng Hu

hufwhy@163.com

¹ Department of Dermatology, Wuhan No. 1 Hospital, Wuhan 430022, China

² Hubei Province & Key Laboratory of Skin Infection And Immunity, Wuhan 430022, China



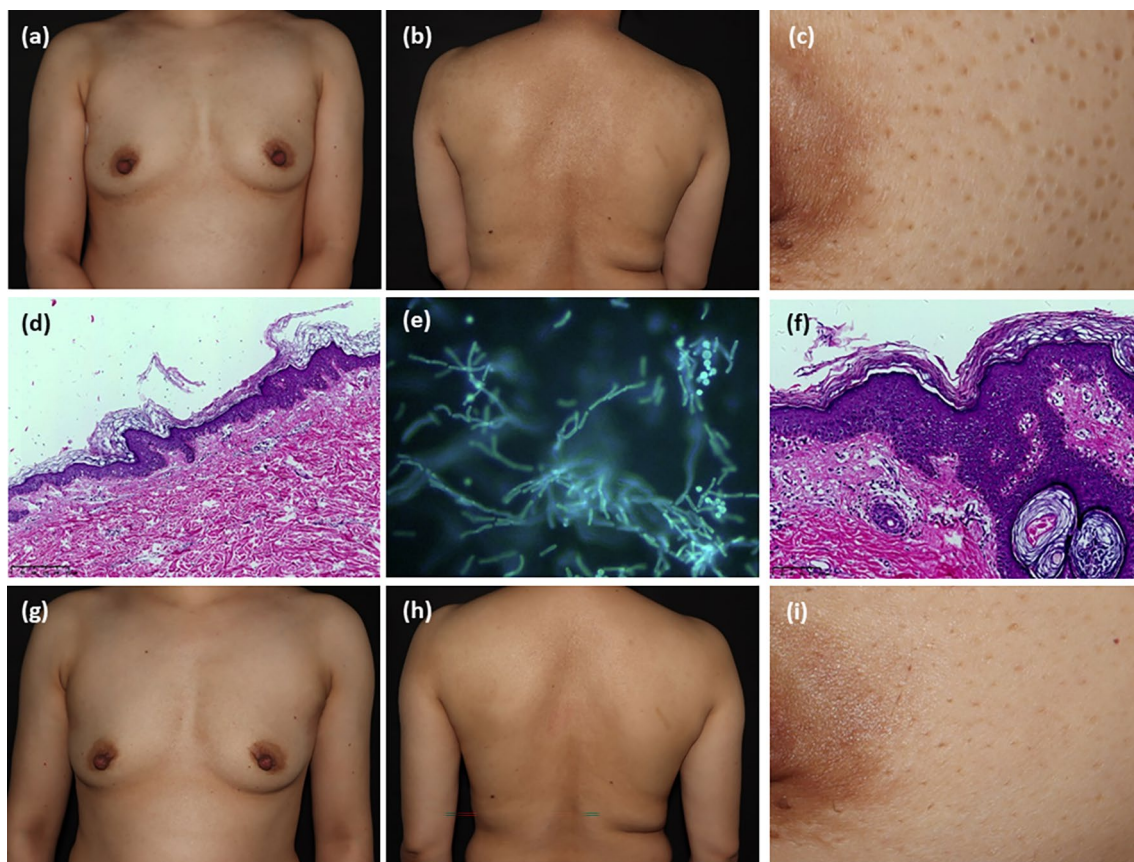


Fig. 1 **a** Lesion on the patient's anterior chest. **b** Lesion on the patient's back. **c** Breast skin lesions. **d** Pathological sections show mycelium and spores in the stratum corneum (hematoxylin and eosin \times 200). **e** Direct mycological microscopy showed mycelium and spores in a "spaghetti and meatball" pattern. **f** The sections exhibited hyperkeratosis, with deeply keratinized hair follicles containing hairs (hematoxylin and eosin \times 200). **g** Skin lesions after 3 weeks treatment on the anterior chest. **h** Skin lesions after 3 weeks treatment on the back. **i** Skin lesions after 3 weeks treatment on the breast.

persisted on the anterior chest (Fig. 1g–i). Additional deeper sections from the initial pathological slides were prepared to include the hair follicle layer. There was a notable presence of hyperkeratosis, with hair follicles that were significantly filled with keratin and contained hair shafts. These observations align with the characteristic pathological features of keratosis pilaris (Fig. 1f).

Discussion and conclusions

Tinea versicolor is a common superficial fungal infection caused by *Malassezia*, commonly presenting as hyperpigmented or hypopigmented patches on the skin accompanied by mild scaling [1], as described in previous literature and not involving the deeper layers of hair follicles. Atrophic types and special site varieties have been reported in the past [2, 3]. Follicular presentation, as reported in this case, is a rare clinical manifestation [4, 5]. Due to its uncommon clinical presentation, it may be misdiagnosed as Darier's disease, poikiloderma of Civatte, follicular mycosis fungoides, or even follicular

psoriasis. Therefore, a fungal examination may be performed to narrow down the diagnosis in patients with similar symptoms. It is still not clear what causes tinea versicolor to become folliculocentric.

After the definitive diagnosis of fungal infection, the disease was treated with antifungal drugs, resulting in a marked improvement of the lesions and a subsequent negative fungal reexamination. The patient's skin lesions have significantly regressed, and there has been no recurrence of the condition as of the submission date. However, follicular papules persisted on the anterior chest. On reexamination of the deep sectioned pathological slides, keratosis-pilaris-like manifestations around the hair follicles were observed. Keratosis pilaris is a common follicular keratosis that is frequently observed on the extensor surfaces of the forearms, thighs, and cheeks. However, generalized forms of keratosis pilaris have also been reported [6]. In the literature, previous reports have described mycosis fungoides, psoriasis, porokeratosis, lichen planus, and ichthyosis with predominantly

hair follicle involvement. However, the literature does not explicitly mention whether the patient has a history of keratosis pilaris. Previous studies have suggested that tinea versicolor may initially appear as small macules centered around hair follicles, but over the course of the disease, they may gradually lose their follicle-centric pattern and develop into larger hypopigmented rashes and plaques [4, 7]. However, we did not observe this trend of change in this patient. Tinea versicolor typically presents with hypopigmented and hyperpigmented patches, and some literature has analyzed the possible causes [7]. However, in this particular case, the patient did not exhibit any changes in skin color. This case may suggest that patients with a history of keratosis pilaris may have a tendency to develop follicular centration in the course of other diseases. However, in patients without a history of keratosis pilaris, the common manifestations prevail. There is a need for further in-depth research into this issue.

Supplementary Information

The online version contains supplementary material available at <https://doi.org/10.1186/s13256-024-04765-z>.

Supplementary Material 1. Figure S1: PAS staining reveals fungal hyphae and spores in the stratum corneum (PAS × 200).

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Author contributions

Jiang RuiLi and Xia Yun managed the patients and wrote the initial draft. Qu Zilu and Wang Bei provided revision suggestions and searched for reference materials. Chen Liuqing and Hu Feng revised the overall content and finalized the version.

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Availability of data and materials

The datasets generated and/or analyzed during the current study are not publicly available to protect patients' personal information but are available from the corresponding author upon reasonable request.

Declarations

Ethics approval and consent to participate

Written informed consent was obtained from the patient for publication of this case report and any accompanying images. It was approved by the Ethics Committee of Wuhan First Hospital.

Consent for publication

Written informed consent was obtained from the patient for publication of this case report and any accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal.

Competing interests

The authors declare that they have no competing interests.

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