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Dermoscopic patterns of terra firma-forme dermatosis

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Abstract

Terra firma-forme dermatosis is a relatively common but probably underestimated entity characterized by asymptomatic cutaneous pigmentation resembling dirty skin. Dermoscopy is a non-invasive diagnostic tool used in the diagnosis of many cutaneous conditions. In this study we aimed to reveal dermoscopic patterns of the entity. A total of 10 patients diagnosed with terra firma-forme dermatosis were enrolled. The most common dermoscopic pattern was polygonal brown clods arranged in a mosaic pattern (N=7). The other patterns observed were seborrheic keratosis-like pattern (N=2) and perifollicular hyperpigmentation (N=1). Rubbing with 70% ethyl alcohol resulted in complete resolution of the lesions in all patients.

Keywords: dermoscopy, pigmentation, terra firma-forme dermatosis

Introduction

Terra firma-forme dermatosis (TFFD) is a relatively common but probably underestimated entity characterized by asymptomatic brown to black cutaneous pigmentation resembling dirty skin. Washing the lesional skin with water and soap is ineffective. The etiopathogenesis of TFFD is unknown but it is hypothesized that it may be associated with disordered, retained keratinization [1]. Dermoscopy is a non-invasive, in vivo diagnostic tool used in the diagnosis of many cutaneous conditions. In this study we aimed to reveal dermoscopic patterns of TFFD.

Case Synopsis

This case study included a total of 10 patients with TFFD. Informed consent was received from all participants. The mean age of the patients was 19 years and the majority were male (N=6). The most common localization of the lesions was abdomen (N=7), followed by chest (N=4), neck (N=1), and axilla (N=1). The mean duration of the lesions was 6 months with a range of two to 12 months. In none of the patients did the lesions disappear after being washed with water and soap, ruling out dermatosis neglecta. Rubbing with 70% ethyl alcohol resulted in resolution of the lesions in all patients (**Figure 1**). The dermoscopic images were obtained using a 10× polarized handheld dermoscope (DermLite DL4, 3Gen® Inc, San Juan Capistrano, USA) attached to a



Figure 1. A) Terra firma-forme dermatosis on the abdominal skin. **B)** The lesions resolved after rubbing with 70% ethyl alcohol. **C)** Dermoscopy shows numerous polygonal brown clods (arrows) representing plate like scales arranged together giving a mosaic pattern (oval).

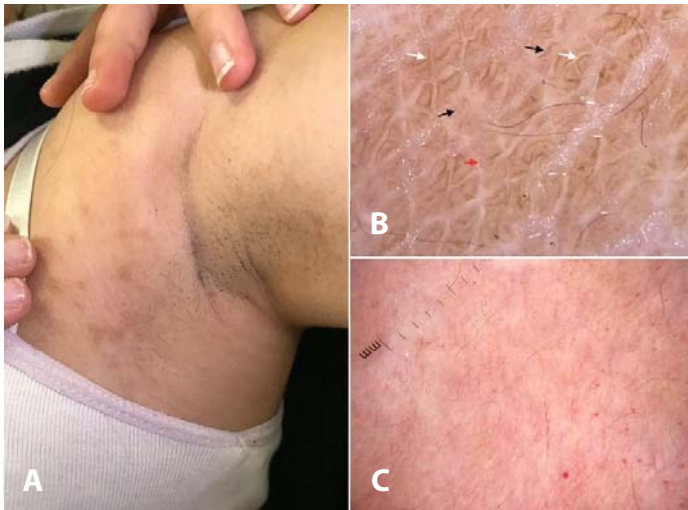


Figure 2. **A)** Terra firma-forme dermatosis on the axillary skin mimicking pityriasis versicolor. **B)** Dermoscopy shows linear structures (black arrows), curvi-linear structures (white arrows) and circles (red arrows) with various shades of brown, resembling the dermoscopic pattern of flat seborrheic keratosis. **C)** The lesions resolved after rubbing with 70% ethyl alcohol.



Figure 3. **A)** Terra firma-forme dermatosis on the chest. **B)** Dermoscopy shows uniform light brown perifollicular hyperpigmentation (black arrows) sparing skin creases (white arrows). **C)** The lesions resolved after rubbing with 70% ethyl alcohol.

mobile camera phone (iPhone 7 plus, Apple Inc, Cupertino, USA). The most common dermoscopic pattern was polygonal brown clods arranged in a mosaic pattern (N=7), (**Figure 2**). The other patterns observed were seborrheic keratosis-like pattern (N=2), (**Figure 2**) and perifollicular hyperpigmentation (N=1), (**Figure 3**). The demographic, clinical and

dermoscopic patterns of the patients are summarized in the table.

Case Discussion

Terra firma-forme dermatosis, also known as Duncan dirty dermatosis, was first described by Christopher

Table 1. The demographic, clinical and dermoscopic features of the patients with terra firme forme dermatosis.

Age (year)	Gender	Site	Duration (months)	Dermoscopic features
13	Male	Abdomen	5	Polygonal brown clods arranged in a mosaic pattern
28	Male	Abdomen, chest	12	Polygonal brown clods arranged in a mosaic pattern
19	Male	Abdomen	4	Polygonal brown clods arranged in a mosaic pattern
16	Male	Abdomen, chest	3	Polygonal brown clods arranged in a mosaic pattern
24	Female	Abdomen	4	Seborrheic keratosis-like pattern
14	Male	Abdomen	7	Polygonal brown clods arranged in a mosaic pattern
16	Female	Abdomen	10	Polygonal brown clods arranged in a mosaic pattern
18	Female	Chest, Neck	6	Polygonal brown clods arranged in a mosaic pattern
20	Male	Chest	2	Perifollicular hyperpigmentation
21	Female	Axilla	7	Seborrheic keratosis-like pattern

Duncan in 1987 [2]. Hyperpigmented dirt-like papular lesions resistant to washing are the typical presentation of the disorder. There are a few case studies that have reported the dermoscopic features of TFFD and to the best of our knowledge, "polygonal plate-like brown scales arranged in a mosaic pattern" is the only pattern identified for the entity so far [1, 3, 4]. In this study we described two additional patterns including linear and curvi-linear structures (seborrheic keratosis-like pattern) and perifollicular hyperpigmentation. Terra firma-forme dermatosis may strongly imitate many cutaneous conditions including dermatosis neglecta, acanthosis nigricans, confluent and reticulated papillomatosis, ashy dermatosis, pityriasis versicolor, friction melanosis, and macular amyloidosis [1, 5-7]. Dermatitis neglecta is the main entity in the differential diagnosis in which a clinical improvement is achieved after both alcohol swabbing and washing with water and soap [3]. Alcohol swab test is negative for all the remaining conditions in the differential diagnosis. Acanthosis nigricans dermoscopically shows multiple cristae and sulci [5]. Ridges, fissures, whitish structures, greyish globules with brown lines, and V-hairs are the reported features of confluent and reticulated

papillomatosis [8]. Dermoscopy of ashy dermatosis is usually characterized by irregular linear dots and globules [9]. Friction melanosis is characterized by brown structureless areas arranged in a reticular fashion. Macular amyloidosis shows a central white to brown hub surrounded by brown pigmentation [8].

Histopathological examination is usually performed when TFFD is not clinically suspected. Lamellar hyperkeratosis, keratin globules, acanthosis, papillomatosis, and epidermal basal pigmentation are the features reported [10]. None of the patients included in the present series needed histopathological examination.

Conclusion

Terra firma-forme dermatosis should be considered in all patients presenting with dirt-like pigmentation in different locations. Herein, we present additional dermoscopic findings of TFFD.

Potential conflicts of interest

The authors declare no conflicts of interests.

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