ISSN 2473-4799

DERMATOLOGY
OpenJournal

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Case Series

The Dermoscopic "Chromosome Arms Sign" for Terra Firma-Forme Dermatosis

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Article information
Received: May 30th, 2021; **Revised:** July 15th, 2021; **Accepted:** July 16th, 2021; **Published:** July 23rd, 2021

Cite this article
Cutrone M, Van Gysel J, Grimalt R. The dermoscopic "chromosome arms sign" for terra firma-forme dermatosis. *Dermatol Open J.* 2021; 6(1): 18-20.
doi: 10.17140/DRMTOJ-6-146

ABSTRACT

Introduction
Terra firma-forme dermatosis (TFFD) belongs to the group of "dirty dermatoses" and represents a not well-known and surely underestimated skin condition.

Clinical Cases
We present 2 cases of TFFD and present clinical and dermatoscopical findings.

Results
We present specific dermatoscopical findings of TFFD.

Conclusion
We propose the denomination "chromosome arms" sign for Terra firma-forme dermatosis.

Keywords
Terra firma-forme dermatosis; Dirtydermatoses; Dermatoscopy; Chromosome arms; Duncan's dermatosis.

INTRODUCTION

Terra firma-forme dermatosis (TFFD) belongs to the group of "dirty dermatoses" and represents a not well-known and surely underestimated skin condition. Firstly described by Duncan, Tschen and Knox in 1987, it accounts for a few case series in the literature and has a still undefined aetiology.

TFFD might result from delayed keratinocyte maturation, which leads to the retention of keratinocytes/melanin within the epidermis,[1] but not all authors agree with this idea.

When TFFD or Duncan's dirty dermatosis is clinically suspected, clearance of the dermatosis follows rubbing the affected skin with 70% isopropyl alcohol.

As suggested by Errichetti et al[1] wiping the lesions in the clinic may be quite embarrassing for the patients, hence the need of other diagnostic approaches.

We here report the dermoscopic findings in 2 cases affected with TFFD.

CASE SERIES

Clinical Case 1

A 9-year-old girl presented to our clinic with the presence of a not well-defined patch of brownish discoloration on the lateral and frontal part of the neck. The mother stated that the lesions have been present for the last 10-months (Figure 1).

The paediatrician who sends us the patient had the suspect of nevus epidermicus or akantosis nigricans. Insulinemia test was performed and showed normal results.

On clinical observation a reticulated and pigmented not well-defined area was seen.

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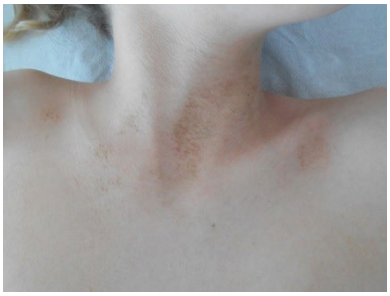
With the idea to perform academical teaching we approached the patient with our dermatoscope.

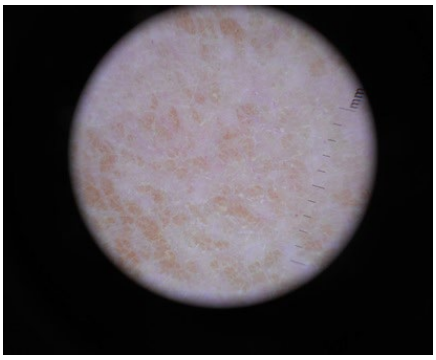
Figure 1. *A Typical Clinical Case of TFF Dermatitis in a A 9-Year-Old Girl*



We used a manual polarized device (DermLite DL3; 3Gen, San Juan Capistrano, CA, USA) without immersion. For the images we adapted a Nikon Cool Pix IV camera

Under the dermatoscope we found a very peculiar aspect (Figure 2) that we believe that clearly resemble chromosome arms.

Figure 2. *Dermoscopy Showed Findings that Suggested Chromosomes so the Proposed Term the Dermoscopic "Chromosome Arms" Sign for Terra Firma-Forme Dermatosis was Coined*



The patient was rubbed using a gauze embedded with a cleansing agent and clinical and dermatoscopial images immediately normalized.

Clinical Case 2

A 11-year-old male presented to our clinic with of a not well-defined patch of brownish discoloration bilaterally present on the retroauricular region (Figure 3). The mother stated that the lesions have been present for the last 6-month and that were resistant to normal shampooing and detergent.

Under the dermatoscope we found a very similar aspect that we like to call it "chromosome arms".

The patient was also rubbed using a gauze embedded with a cleansing agent and clinical and dermatoscopial images immediately normalized (Figure 4).

Figure 3. *A 11-Year-Old with a Not Well-Defined Patch of Brownish Discoloration Bilaterally Present on the Retroauricular Region*

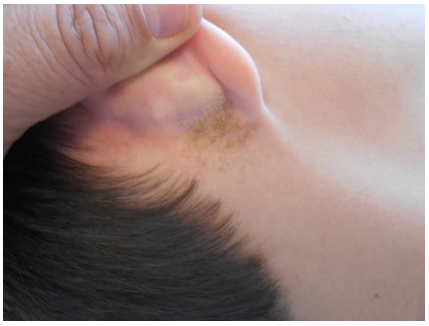
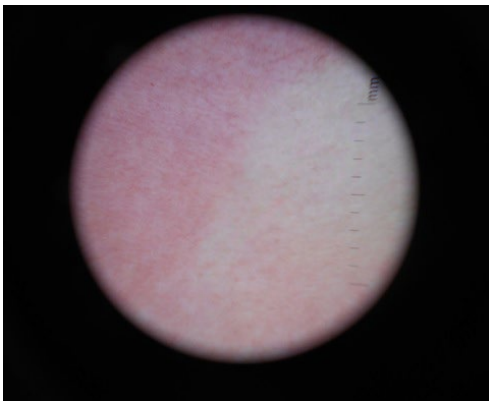


Figure 4. *Dermoscopy after Rubbing the Lesions Using a Gauze Embedded with a Cleansing Agent Shows Resolution of the Problem*



DISCUSSION

TFFD and dermatosis neglecta (DN) both share same clinical findings and for some authors one could be included in the other.[2-7]

From our point of view DN is a different condition not only because the brownish discoloration does not get rid with an alcohol swap but also for the clinical findings.

Usually in DN the lesions show a dirty appearance, secondary to the progressive accumulation of sebum, sweat, corneocytes, and other debris, resulting in hyperpigmented, waxy plaques with cornflake-like scales.

Also under dermoscopy both entities cleary differ.

In TFFD previous reports have described the dermatoscopycal findings as "*large polygonal plate-like brown scales arranged in a mosaic pattern*"[1] and also irregularly distributed cornflake-like dark brown scales.

The cited authors[1] suggest that such a variability could

be explained by the different histological background of these conditions, with papillomatosis, acanthosis, and compact orthohyperkeratosis typical of TFFD[3] resulting in a more regular "polygonal plate-like" scaling pattern and prominent basket-weave hyperkeratosis, along with possible epidermal atrophy and diminution of rete pegs, seen in DN[4] being responsible for a more irregular "cornflake-like" scaling pattern.

The dermoscopic findings detected in our TFFD case are in line with data reported in previous cases,[2-8] thus confirming the reliability of dermoscopy in assisting the diagnosis of this condition by showing this extremely peculiar chromosome arms aspect

In dermatosis neglecta three prior dermoscopic reports have been described in the literature, revealing a pattern similar to that of TFFD.[1] However, the diagnosis of DN in such patients was not confirmed by a positive soap water swab test,[1] thereby not ruling out the diagnosis of TFFD.

In the differential diagnosis we believe that dermoscopy might be useful not only for distinguing between DN and TFFD but also in the confront amb other scalling and brownish dermatosis like pityriasis versicolor often shows fine whitish scaling (commonly localized in the skin furrows) associated with a pigmented network composed of brown stripes or a diffuse brownish pigmentation; confluent and reticulated papillomatosis typically displays fine whitish scaling associated with brownish, homogeneous, more or less defined, polygonal, flat globules separated by whitish/pale striae creating a cobblestone appearance or brownish areas presenting a 'sulci and gyri' pattern; friction melanosis usually features brownish structureless areas arranged in a reticular fashion; and macular amyloidosis commonly reveals a central whitish or brown hub surrounded by various configurations of brownish pigmentation, including fine radiating streaks, dots, leaf-like projections, and bulbous projections.[9]

From our point of view DN is a different condition not only because the brownish discoloration does not get rid with an alcohol swap but also for the clinical findings.

Usually in DN the lesions show a dirty appearance, secondary to the progressive accumulation of sebum, sweat, corneocytes, and other debris, resulting in hyperpigmented, waxy plaques with cornflake-like scales.

The chromosome arms sign is only visible in TFFD.

CONCLUSION

We believe that dermoscopy is getting more and more useful and new and easy to remember signs might be handy for the clinician on approaching doubtful dermatoses like TFFD. Also the need of not embarrassing patients through the swap method of "wiping off" the disease will indeed help our empathically approach to this diagnosis.

Following this observation we hence propose the term the chromosome arms sign for the diagnosis of TFFD without the need of "cleaning" the patient with an alcohol swap.

The pediatrician with no need to send the patient to the dermatologist could properly diagnose this condition. Dermatoscopes are getting more accessible and in each pediatric department, at least one of these devices should be available.

CONSENT

The authors have received written informed consent from the patients.

CONFLICTS OF INTEREST

The authors declare that they have no conflicts of interest.

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