



Pigmented, Rough Plaques

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A healthy, 17-year-old female presented with asymptomatic, pigmented, rough plaques on her neck and anterior chest. These lesions were resistant to cleaning with soap and water but were removed easily with rubbing alcohol (70% isopropyl alcohol). She did not have any endocrinopathies, including diabetes mellitus.

1. What is the most likely diagnosis?

- Acanthosis nigricans
- Dermatosis neglecta
- Terra firma forme dermatosis
- Pityriasis versicolor

2. Where are the most common sites of occurrence for this condition?

- Neck, trunk, umbilicus
- Neck, axillae, elbows
- Axillae, umbilicus, knees
- Trunk, elbows, knees

3. How would you manage this condition?

- Treat underlying insulin resistance
- Vigorous scrubbing with soap and water
- Rubbing with 70% isopropyl alcohol
- Topical imidazole cream

Terra firma forme dermatosis (TFFD) is an uncommon disorder of hyperkeratinization that was first described in 1987 by Duncan, Tschen, and Knox.^{1,2} *Terra firma* is Latin for solid earth, which is fitting for the dirt-like lesions that are characteristic of TFFD. These lesions are resistant to washing with soap and water but disappear rapidly when rubbed with 70% isopropyl alcohol.¹

Patients with TFFD usually present with asymptomatic, brown, dirt-like papillomatous plaques on their neck, trunk, or umbilicus.¹ The age of affected persons range from 4 months to 72-years-old, but adolescents



Figure 1: Asymptomatic, pigmented, rough plaques on a 17-year-old woman's neck and anterior chest.

and young adults are most commonly affected.³ There is no gender predilection in this condition.


If TFFD lesions are biopsied, histology reveals papillomatosis and mild acanthosis. There is also lamellar hyperkeratosis and characteristic orthokeratosis with whorls. In the stratum corneum, toluidine blue and PAS stains reveal keratin globules and occasional yeast (*Malassezia furfur*), respectively.^{1,3}

In summary, the diagnosis of TFFD is based on clinical appearance, history of normal hygiene, including resistance to soap, and, most importantly, rapid improvement with the use of rubbing alcohol containing 70% isopropyl alcohol. Routine biopsy of lesions is not recommended and can be avoided by recognition of this uncommon cutaneous condition.

TFFD is easily treated by firmly wiping the dirt-like lesions with 70% isopropyl alcohol (see Figure 2). Recognizing this condition will lead to avoidance of unnecessary scrubbing, endocrine evaluation, and skin biopsy and allow for appropriate treatment.³

The most common differential diagnosis for TFFD is dermatosis neglecta (DN), which is the result of inadequate cleaning or scrubbing of skin.

Similar to TFFD, lesions can be removed with isopropyl alcohol. However, unlike TFFD lesions, histology reveals that DN lesions do not have whorled orthokeratosis and that there is a history of poor hygiene.¹

Other conditions in the differential diagnosis for TFFD are acanthosis nigricans, pityriasis versicolor, erythrasma, and confluent and reticulated papillomatosis.^{1,3} 

Resources

1. Akkash L, Badran D, Al-Omari AQ: Terra Firma Forme Dermatitis. Case Series and Review of the Literature. *JDDG*. 2009;7(2):102–107.
2. Duncan WC, Tschen JA, Knox JM: Terra Firma-forme Dermatitis. *Arch Dermatol*. 1987;123(5):567–569.
3. Hernandez-Martin A, Colmenero I, Torrelo A: Terra Firma-forme Dermatitis in a 4-Month Old Girl. *Pediatr Dermatol*. 2011;28(1):79–81.



Figure 2: Terra firma forme dermatosis after treatment with 70% isopropyl alcohol.

Answers: 1-c; 2-a; 3-c

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