



Palmar *Tinea nigra* Non-Invasive Diagnosis with Dermoscopy, Reflectance Confocal Microscopy and Microbiology

Campos-do-Carmo G^{1*}, Fernandes KAP¹, Loss J¹, Azevedo FS² and Pires AL³

¹Department of Dermatology, Gavea Medical Center, Brazil

²Clinical Analyst, Mycology, Microbiology Laboratory, Brazil

³Coordination, Microbiology, Microbiology Laboratory, Brazil

***Corresponding author:** Gabriella Campos-do-Carmo, Department of Dermatology, Gavea Medical Center, Avenida Padre Leonel Franca, 110-Sala 304-Gavea, Rio de Janeiro-RJ, 22451-000, Brazil, Tel: +5521998909200; Email: dragabriellacampos@gmail.com

Case Report

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Abstract

Tinea nigra is an uncommon superficial mycosis caused by the darkly pigmented fungus *Hortaea werneckii*. which occurs mainly in tropical and subtropical regions. Clinically, it is characterized by a brown-to-black asymptomatic macule, with well-defined edges, most commonly affecting the palms and soles. We report a case of palmar *Tinea nigra* and the features found on dermoscopy, reflectance confocal microscopy and microbiology. It is important to recognize this disease early for proper treatment and to distinguish it from other melanocytic lesions with worse prognoses, such as melanoma.

Keywords: *Tinea nigra*; Malignant Melanoma; Hyperchromic; Palmoplantar

Abbreviations: RMC: Reflective Confocal Microscopy; DME: Direct Mycological Examination.

Introduction

Tinea nigra is a superficial mycotic infection, which is located especially on the palm of the hand or sole of the foot, and remains in other parts of the body. Its etiologic agent is *Hortaea werneckii*. *Tinea nigra* has been diagnosed in several parts of the world, but the highest frequency is in the tropical and subtropical regions of the American continent, especially in countries like Brazil. The great importance of *Tinea nigra* is that it can sometimes be confused with malignant melanoma.

Clinical Presentation

A 28-year-old man presented with an asymptomatic slow-growing patch in the palmar region, with 1-month history. Physical examination revealed a slightly scaly hyperchromic

patch, with ill-defined borders, with a maximum diameter of 10mm, on the right palm (Figure 1).

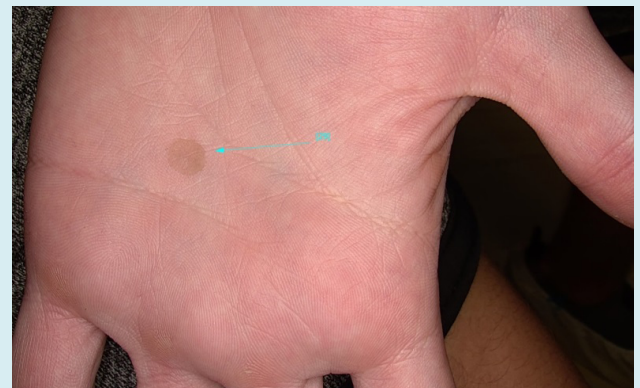


Figure 1: Slightly scaly hyperchromic macula, with ill-defined borders, with a maximum diameter of 10mm, on the right palm.

Dermoscopic Appearance

Due to the hypothesis of *Tinea nigra*, dermoscopy examination was performed and showed a non-melanocytic pattern with speckled and superficial pigmentation (Figure 2).

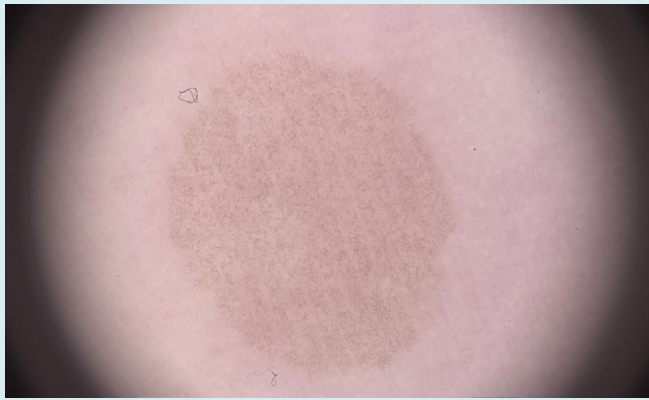


Figure 2: Non melanocytic pattern with speckled and superficial pigmentation.

Confocal Microscopy Appearance

Reflective Confocal Microscopy (RCM) revealed high reflectivity of short and tortuous linear structures (Figures 3 A and B).

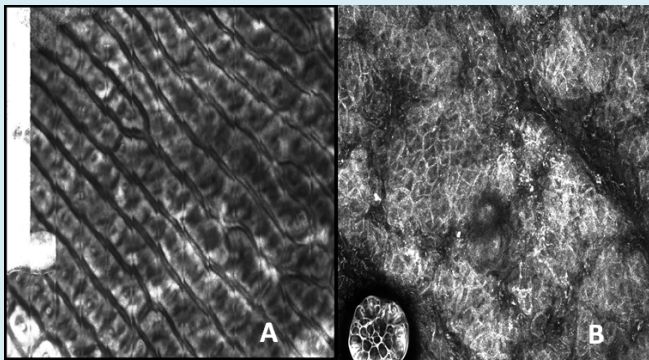


Figure 3A and B: Reflective Confocal Microscopy (RCM) reveals high reflectivity of short and tortuous linear structures.

Direct Mycological Examination and Culture

Direct mycological examination (DME) revealed septate, short and tortuous dematiaceous hyphae. The fungal microculture presented demaceous fungus and culture isolated the agent *Hortae werneckii* confirming the diagnosis

of *Tinea nigra* (Figures 4 A-D).

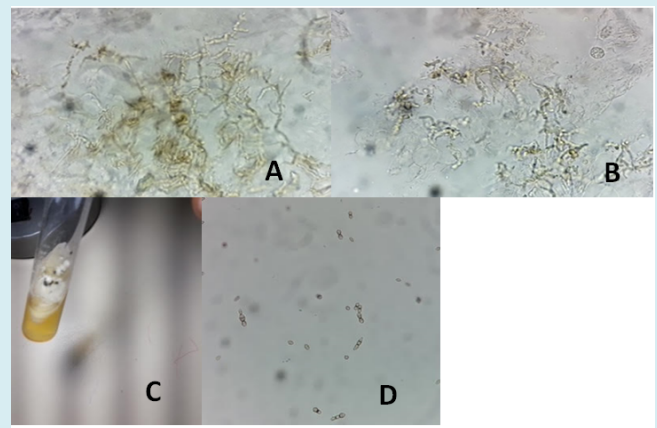


Figure 4A-D: A and B: Direct mycological examination (DME), fresh material blade mounted with 40% KOH revealed septate, short and tortuous dematiaceous hyphae; C: Tube with growth of etiologic agent *Hortae werneckii*; D: Crop slide mounted with cotton blue, culture isolated the agent confirming the diagnosis of *Tinea nigra*.

Treatment

The treatment was performed with the curettage itself for the mycological examination, followed by Isoconazol spray.

Discussion

Tinea nigra is a rare superficial keratophytosis caused by the dematiaceous fungus *Hortae werneckii*, which occurs mainly in tropical and subtropical regions. It is characterized by a brown-to-black asymptomatic macule, with well-defined edges, preferably affecting the stratum corneum of palms and soles [1,2].

Clinically it may resemble a melanocytic palmoplantar lesion, including melanoma, which turns the immediate diagnosis important. Dermoscopy is very important to exclude diagnosis of melanocytic lesions, and is characterized by the presence of multiple, homogeneously arranged thin strands of brown dots or granules and short lines similar to spicules, which does not follow furrows or ridges pattern, also does not have another melanocytic pattern, as reticular or globular [2,3].

Diagnosis is confirmed by direct mycological examination (DME), microculture e culture [4]. DME shows short, dark, septate, tortuous hyphae. Microculture is characterized by brownish septate hyphae and brownish bicellular conidia and culture reveals a greyish-white, wrinkled, membranous

surface colony, and the reverse presented with black pigmentation [1,2].

Reflectance Confocal Microscopy (RCM) is a non-invasive exam that increases the accuracy for diagnosis between melanocytic and non-melanocytic lesions. There are few cases in literature describing *Tinea nigra* aspects at RCM, though it is known that the exam allows observation of fungal structures, with high reflectivity of speckled appearance, similar to the ones observed on dermoscopy and to hyphae identified on DME. This correlation with microbiological findings of *Tinea nigra*, supports even more the clinical treatment, avoiding unnecessary excisions [2,4].

It is important to recognize this disease early for proper treatment and to distinguish it from other melanocytic lesions with worse prognoses, such as melanoma.

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