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A Case of Tinea Nigra Plantaris

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Abstract: ***Tinea nigra is a rare superficial mycotic infection of the skin which is caused by melanised yeast like fungus Hortaea werneckii. It is usually an asymptomatic infection which is limited to tropical and subtropical countries. Palms are mostly affected but lesions may occur on soles or other parts of the body. It usually presents as a unilateral asymptomatic brown to black non scaly macules with well - defined borders. Here, we present to you a case of a 32 - year - old male who presented to the out - patient department with Tinea nigra plantaris. [1]***

Keywords: Hortaea werneckii, tinea nigra, superficial mycosis, keratolysis

1. Introduction

Tinea nigra (TN) is a dermatomycosis caused by the fungus Hortaea werneckii. This condition is typically found in coastal areas of tropical and subtropical regions and commonly affects young individuals, particularly females under the age of 20. clinically, TN presents as a single, asymptomatic macule on the palms. [2] The macule ranges in colour from dark brown to black. In rare instances, TN can also occur on the soles of the feet or in atypical area. The pigmented nature of the lesion is attributed to accumulation of a melanin - like substance in the fungus after digesting decomposed lipids from the stratum corneum.

2. Case Report

A 32 - year - old patient presented with a history of asymptomatic pigmented skin lesion over the left sole since 2 months. Initially the lesion was 2x2 cm and gradually progressed to the present size. Patient gave the history of excessive sweating. There was no history of erythema, swelling, pain, vesicles, scaling present. No significant family history.

Figure 1: Ill defined pigmented plaque present over the left sole

On Examination

Ill - defined pigmented plaque was present over the left sole as shown in figure 1. Skin scraping was done and stained with 10% Potassium hydroxide. Under microscope, numerous brown to dark green branching septate hyphae was noted. [3] The growth of black, moist, shiny yeast on Sabouraud Dextrose Agar at room temperature suggests the presence of a particular type of yeast and was confirmed to be Phaeoannellomyces werneckii. The patient was started on topical azole preparation and topical whitfields ointment

3. Discussion

Hortaea werneckii is a dematiaceous, polymorphic, halotolerant, and halophilic fungus; that is, it grows in an aqueous medium and adapts easily to hyper salinity. [4] Tinea nigra is an infection of the palms or soles, which may be associated with travel to endemic regions like Southeast United States and Central America. Black or white nodules found along the shaft of the hair may be infections with Piedraia hortae, or Trichosporon species, better known as “black piedra” or “white piedra.”. It is thought to be acquired to by direct inoculation into the skin and easily be reproduced experimentally by scarifying the skin and applying a pure culture of Hortaea wernickii. [5] In this disease there is thickening of the stratum corneum in which hyphae are present. Inflammatory reaction in the dermis is minimal. The lesions are macular, sharply defined and not scaly. Cultures on glucose peptone agar may be relatively slow growing and initially yield a dirty white to grey, moist, yeast like colony which darkens to olive green to black, and over the course of several days becomes more filamentous and velvetier. The pigmented lesions of Addisons disease, syphilis, pinta and junctional naevi of the palm may have to be differentiated and mycological examination of the scales is usually required, Identification of dermatophyte infections requires both a fungal culture on Sabouraud ‘s agar media, and a mycologic examination, consisting of a 10% to 15% KOH preparation, from skin scrapings. [6]

First line treatment is topical azole creams such as econazole and ketoconazole. The condition also responds to the topical application of fungicidal preparations such as butenafine. Benzoic acid component ointment is also effective. Systemic therapy, however, may be required when the infected areas are large, macerated with a secondary infection, or in immunocompromised individuals. Preventative measures of tinea infections include practicing good personal hygiene; always keeping the skin dry and cool; and avoiding sharing towels, clothing, or hair accessories with infected individuals.

4. Conclusion

Tinea nigra (TN) is a dermatomycosis caused by the fungus Hortaea werneckii. The treatment of tinea nigra is very simple and effective. Most cases resolve with topical antifungal preparation, topical keratinolytic like urea, salicylic acid and Whitfield ointment, applied once or twice a day.

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