TINEA NIGRA*

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It is the purpose of this paper to report three new cases of tinea nigra, and to give a brief review of our knowledge of this superficial mycotic disease caused by *Cladosporium wernecki.*

The occurrence of four cases of tinea nigra in Texas within one year suggests that it is not an extremely rare disease in this area. It is our belief that greater awareness of tinea nigra will result in a larger number of cases being diagnosed.

Tinea nigra is most common in Brazil, where it was first recognized by Cerqueira in 1891, as reported by his nephew, Cerqueira-Pinto, in 1916. Cases have also been reported from Cuba and Puerto Rico.

On this continent, Walsh reported three cases in Panama in 1948, and two years later Leland reported one from Florida. The second patient in the United States was reported from Galveston, Texas by Ritchie, in 1955.

CASE REPORTS

*Case No. 1:* A 16 year old girl was seen October 23, 1954, and demonstrated a hyperpigmented sharply-defined macular lesion which included a major portion of the palm of the left hand. This lesion had been present for 3½ years and had progressivley extended during that time. The local application of monobenzyl ether of hydroquinone gave no response, and when the patient was seen the second time, July 16, 1955, the lesion was still present and had shown very little extension over the initial examination.

One the second visit a KOH preparation was done which showed numerous dark hyphae. The culture revealed *Cladosporium wernecki.* Verdefam was applied twice daily with an excellent response in one week and complete clearing in two weeks.

*Case No. 2:* A three year old white boy was first noticed to have two black spots on the left palm, in May 1955. The spots gradually enlarged until August 31, 1955, when he was first seen for this complaint. The lesions were black, slightly scaly macules, one of which measured 1 x 3 cm. and the other 3/2 cm. in diameter. There were no signs of inflammation, and the lesions were asymptomatic.

Microscopic examination of skin scrapings cleared in 20% potassium hydroxide revealed numerous short, dark hyphae. A culture was taken and the growth was identified as *Cladosporium wernecki.*

Following the application of Verdefam twice daily, the lesions disappeared and have not recurred.

*Case No. 3:* A 4 year old white female was first seen February 7, 1955, with a 2½ cm. diameter grayish-black, dry macule on the left palm. The lesion had been present about one year and looked like a spot of dirt or grease. The patch grew larger and could not be removed by washing.

The surface of the lesion scraped off easily and a KOH preparation revealed numerous

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† Mrs. Whitcomb, mycologist, Houston, Texas, identified the organism. This was confirmed by Lucille K. Georg, Ph.D., Chamblee, Georgia.

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dark hyphae. A culture was taken and the growth was identified as *Cladosporium wernecki*. She was given 10% Bynamid Tincture to paint on the lesion twice a day. Two weeks later the lesion was completely gone.

**MYCOLOGY**

The name, *Cladosporium wernecki*, was first given to the causative fungus of tinea nigra by Parreiras Horta in 1921. The genus Cladosporium is considered to be synonymous with Hormodendrum.

On Sabouraud’s glucose agar at room temperature, the fungus develops slowly to form a round, black, glistening, yeastlike colony resembling Pullalaria. After 2–3 weeks, the colony loses its sheen, develops dark green convolutions, and gray aerial mycelium. Subcultures taken from the dark green or black areas usually follow a similar pattern of growth to the original culture; however, subcultures taken from the gray aerial mycelium usually do not revert to the yeastlike form, and develop only gray filamentous colonies. Microscopically, the black yeastlike part of the colony consists of oval, spherical or irregular-shaped budding cells which are produced laterally from the dark hyphae. Many
of these blastospores become bicellular by the development of a transverse septum. Chain formations may occur when daughter buds fail to separate from their mother cells. It is on the basis of these catenate blastospores and the development in older cultures of dry aerial mycelium that this fungus has been classified in the genus Cladosporium.

The wooly aerial part of the colony consists predominately of slender hyphae and chains of thick walled arthrospores. Some terminal and lateral pyriform conidia are also produced.

**DISCUSSION**

The clinical diagnosis should be relatively easy in cases in which much of the palm is involved. The macules are brown to black in color, resembling silver nitrate stains. The surface is smooth, flat, and only slightly scaly. There is no vesiculation or erythema. The margins are sharply defined, but are not elevated. The infection is asymptomatic, and is usually confined to the palms. A few cases
have been recorded in which other parts of the skin were involved, such as the side of the neck, the wrist, and the dorsum of the hand. The disease has not been reported as occurring on the soles.

The source of infection was not determined in any of our cases. There was no history of exposure to other known cases, nor had any of them been out of Texas. Other authors have reported examples of contagion from one person to another, and the disease has been transmitted experimentally to human beings and guinea pigs. There seems to be no predilection for this disease to occur in any particular race, age, sex or occupation. Conant states that infections have been reported in patients from the ages of 16 to 60 years; however, the patients reported in this country have all been 16 years or younger.

Response to treatment is generally rapid. Verdefam, weak Whitfield's ointment or various other fungicides may be used successfully. Repeated soap and water scrubbing may temporarily retard the infection but will not eliminate it. Much of the hyperpigmented keratin, containing numerous mycelia, can readily be removed by superficial curettage.

A superficial dermatomycosis resembling tinea nigra, occurring in the Orient,
has been described under the name tinea nigra. In the Oriental cases, the sites of predilection are the neck, upper thorax, and face. Fungi isolated from the Oriental cases have been classified as *Cladosporium mansoni*. Aroeira Neves and Costa have compared cultures of *Cladosporium wernecki* and *Cladosporium mansoni*, and believe there are sufficient differences to justify keeping these species separate. Conant believes these cases were tinea versicolor, but Carrion and others accept them as tinea nigra. There appear to be sufficient geographic, clinical and etiologic differences between tinea nigra of the Western Hemisphere, and the Oriental disease also described under that name, to keep the two diseases classified separately at this time.
Summary

Three new cases of tinea nigra occurring in Texas are reported. The clinical features of tinea nigra and the mycologic characteristics of the causative fungus, *Cladosporium wernecki*, are discussed.

References