OBSERVATIONS ON DERMATOMYCOSIS IN PORTO RICO

REPORT ON EPIDERMOPHYTOSIS OF THE GENERAL SURFACE OF THE SKIN

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CLINICAL ASPECTS

In a case report appearing in the Archives of Dermatology and Syphilology for June 1923, the writer gave a short clinical description of generalized epidermophytosis as observed during his first years of work in the field of dermatology in Porto Rico. It is the purpose of this manuscript to present a more complete study of the subject.

IMPORTANCE. Epidermophytosis of the general surface of the skin deserves special attention in Porto Rico for various reasons. The disease is widely disseminated throughout the Island. It may give rise to considerable disfigurement producing at the same time very annoying subjective symptoms. Its contagiousness and easy spreading are frequently the cause of difficult situations in many homes and institutions where large numbers of individuals are living together, such as asylums, penitentiaries, schools, and others. The fact that the eruption is not readily recognized by the general practitioner often prolongs the patient's sufferings over considerable periods of time, while a correct diagnosis and proper treatment can not only bring immediate relief, but also produce a complete disappearance of all lesions in a very short time. Under such circumstances, the great importance of this dermatosis in Porto Rico becomes apparent, and it is this condition of affairs, coupled with the scientific interest of the subject, that moved us to undertake this work.

DEFINITION. The disease under consideration is constantly associated with the presence of a fungus in the lesions. It is a chronic inflammatory process affecting the superficial layers of the skin. Clinically it is characterized by the formation of well limited, circinate,—often serpiginous,—various sized patches affecting any part of the integument and giving rise to intense and annoying pruritus.

SYMPTOMATOLOGY. The individual patch begins as an itchy papule or vesico-papule upon which slight crusting and desquamation

occur. Similar papules soon appear close to the original lesion until an aggregate of confluent elements is formed, and after this the diseased area increases progressively in size by eccentrical growth. When the efflorescences are fully developed they exhibit very well marked, rounded, inflammatory borders covered with light squames and crusts. Within this border there is an area of less active dermatitis with quite a number of crusty papules scattered here and there and marked scaliness throughout.

The individual lesions show great variation as to size. Some of them appear rather small, about the size of a dime, and this may be the rule in a given case; while in others very large dimensions may be reached. We have seen patches covering areas of approximately one square foot. Indeed, the larger lesions usually result from the coalescence of several adjacent units and when this is the case the borders take a graceful serpiginous appearance.

The disease may be confined to a limited area of the skin. Sometimes an arm is the site of infection; in some patients the lower extremities only are affected; in others the trunk bears the worst part of the disease, or the toes, or nails, while in a good number infection is localized at the inguino-crural region representing the well known "tinea cruris" or "dhobie itch". In fact, the parasite shows a marked predilection for that region and this particular localization is often the source of more extensive eruptions. However, the disease should not be thought of as fundamentally a groin affection, at least under our climatic conditions. In a group of forty-seven patients there were seven or fifteen per cent, in whom the eruption had never affected the groins and, among the rest, there were some in whom the infection of this region was secondary. It can be safely declared that, according to our observations in this Island, there is no part of the skin that can be considered invulnerable to this infection. The infecting parasite has been isolated from lesions between the toes as well as from the soles and palms. The nails may be badly injured or destroyed. The hairy surfaces are affected just as any other part of the skin. Lesions of the face and neck are often seen to extend for several inches into the scalp and we have observed exceptional cases in which the eruption was confined almost exclusively to the latter region. It is rather remarkable that the hairs in such scalp lesions have never been found to be invaded.

A notable feature of this disease is the tendency to develop a dark pigmentation over the affected areas. Indeed, most chronic conditions of the skin reveal a similar tendency, but it is unques-

tionable that certain dermatoses such as Durthing's *dermatitis herpetiformis*, for example, are particularly conspicuous in this respect. The discoloration usually persists for quite a long time after the disappearance of the lesions. Its degree is rather variable but the change is ordinarily striking as may be seen in most of the photographs presented. A few exceptional cases are, however, encountered in which the areas involved appear lighter in color than the surrounding normal skin.

Another point worthy of note is the tendency to recurrence. During the cool season the condition of the skin is generally improved. The eruption may be reduced to one or a few small patches giving little or no trouble or it may entirely disappear of its own accord. But as the summer approaches new outbreaks appear in some cases and the disease again spreads to a variable degree. Such recurrences, which may also take place in patients having received efficient treatment, might be explained by a process of new infection in predisposed patients or by the recrudescense of small, latent foci to be found most frequently affecting the nails. We have had patients who never freed themselves from the disease until one or more of these foci were completely eradicated.

Itching is a very troublesome sympton. Although variable in degree, it is frequently most desperate. It may interfere with sleep leading to nervous distress and impairment of the general health.

Complications. Scratched lesions may lead to secondary infections causing pustules and small ulcerations to appear. These complications, however, are not generally serious. The skin may be eczematized in predisposed patients through continued scratching or improper treatment so that the eruption may take an altogether different appearance making diagnosis difficult.

Diagnosis. When the various characteristics of the disease are present the diagnosis is not usually a difficult matter. Unfortunately, diagnostic errors of those who are not well trained in dermatology often lead to improper treatment and ultimately to an aggravation of the skin condition. There are cases of epidermophytosis, it must be admitted, that certainly suggest various other dermatoses and it is convenient, on this account, to give the differential diagnosis with those diseases for which the eruption has been more frequently mistaken.

Late skin syphilis deserves particular consideration in this respect. Indeed, tertiary cutaneous lesions will often exhibit very well defined, clear cut, rounded or girate inflammatory borders encircling areas of less active dermatitis which show scattered tubercles, crusts, desqua-

mation and dark pigmentation of the skin, a picture which is similar in many respects to that developed by epidermophytosis. The differential diagnosis of syphilis may be definitely established on purely clinical grounds. Late specific lesions have a particular tendency to develop unilaterally and they generally show a greater degree of infiltration and a marked tendency to scar formation. The frequent absence of itching, moreover, is in striking contrast with the marked pruritus of epidermophytosis.

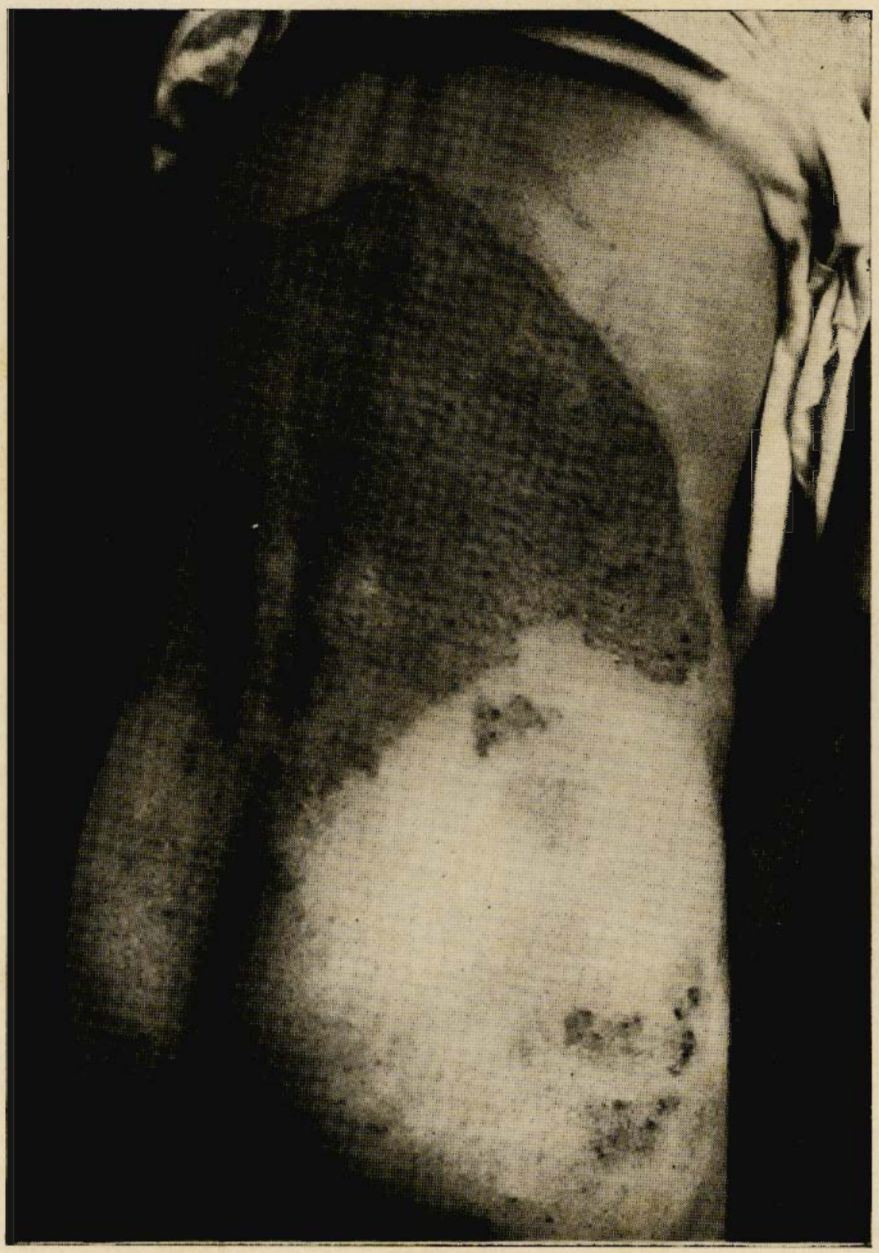
Some cases of epidermophytosis in which the patches do not show definite borders might be easily mistaken for papular *eczema* or, when the efflorescences appear in the form of groups of papules, *dermatitis herpetiformis* might be suggested. Indeed, besides the tendency to grouping, Duhring's disease would be similar for its chronicity, its intense itching and for the tendency to develop dark pigmented spots in the place of old lesions. Under these circumstances great care must be taken to elucidate the history of the patient, and the localization of the eruption should be carefully studied. Moreover, the skin of patients presenting these atypical forms of the disease will often show one or more characteristic circinate patches somewhere which would help in determining its parasitic nature. In case of doubt, examination of the scrapings at the laboratory or anti-parasitic treatment would serve to establish the diagnosis.

Certain forms of *dermatitis seborrheica* may offer a striking resemblance to epidermophytosis. The seborrheic element of the former disease should not be lost sight of, as well as the regions affected. Patches of epidermophytosis are usually more distinctly inflammatory, the borders are more elevated and the degree of itching which accompanies the eruption is worse. Here again examination of the squames may be necessary for diagnosis.

Psoriasis presenting circinate or serpiginate patches might give rise to confusion. Infiltration in this dermatosis is more marked and in a good number of the lesions the inflammatory process is rather diffuse and uniform throughout the diseased area. The dryness of the patches in psoriasis, the great abundance of white, shiny scales and the brighter red color of the efflorescences will also help to differentiate between the two diseases.

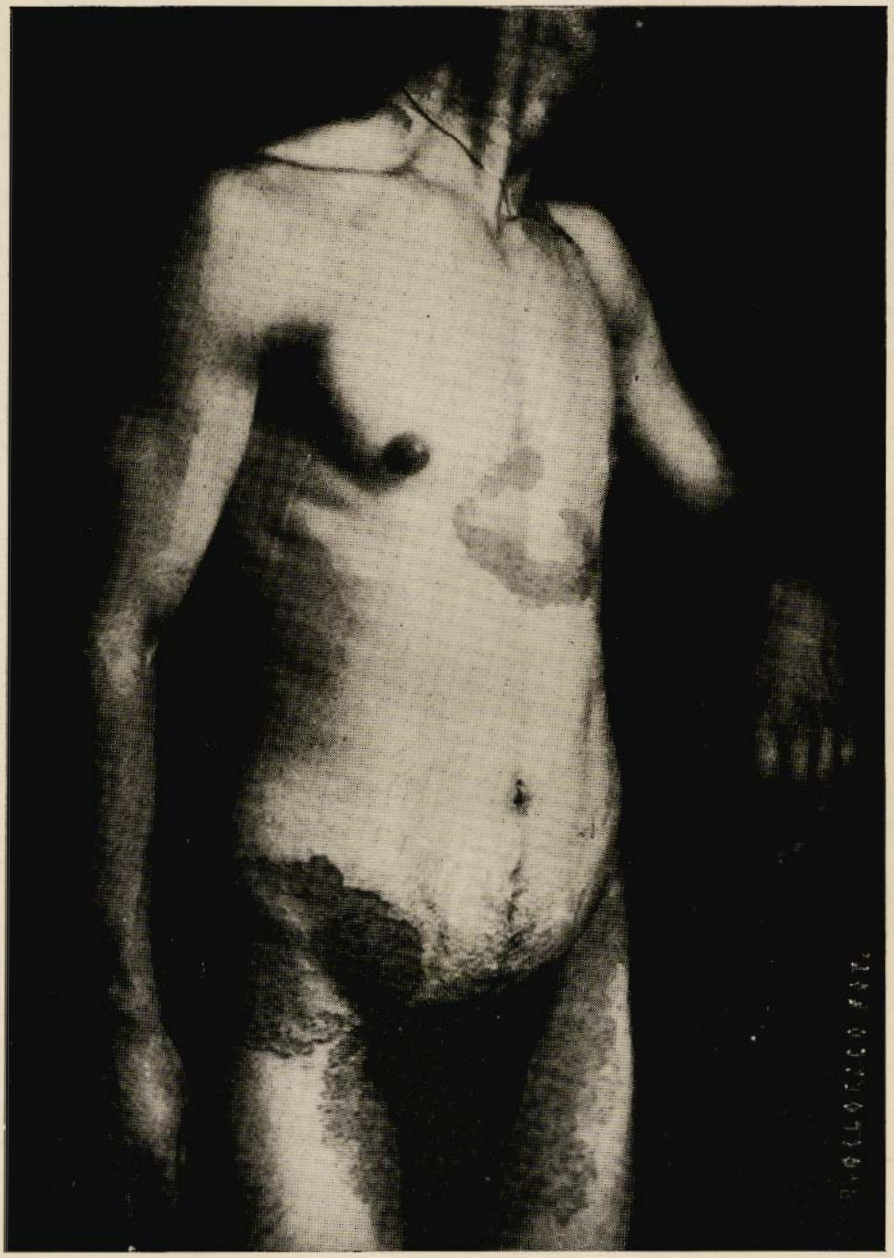
Epidermophytosis has been less frequently confounded with other dermatoses such as *pytiriasis rosea, lichen planus annularis, scabies,* and so forth. A careful observation of the symptoms will ordinarily suffice to make a differential diagnosis and in case of doubt, examination of the scrapings or antiparasitic treatment, as previously stated, should be resorted to.

PLATE I



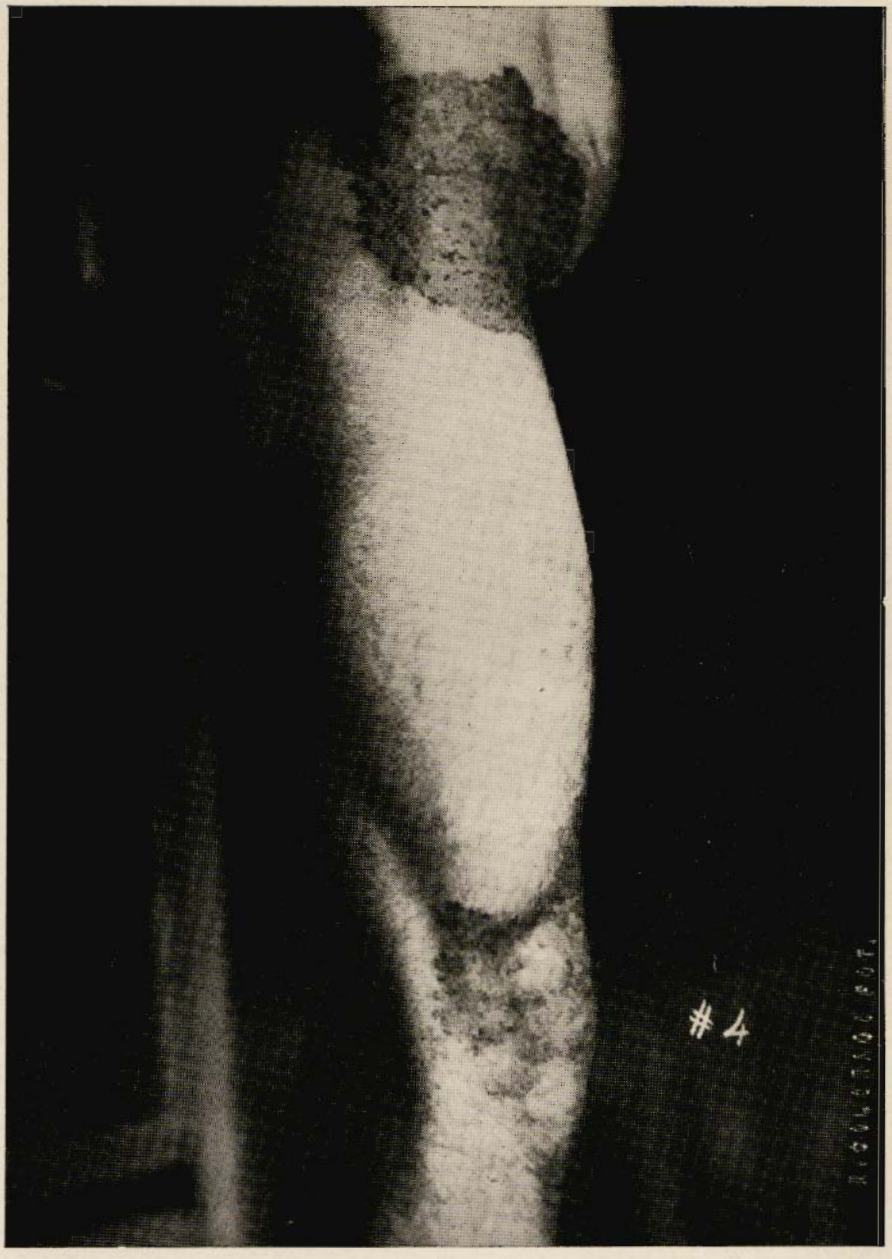
CASE I.—"WE HAVE SEEN PATCHES COVERING AREAS OF APPROXIMATELY ONE SQUARE FOOT."

PLATE II



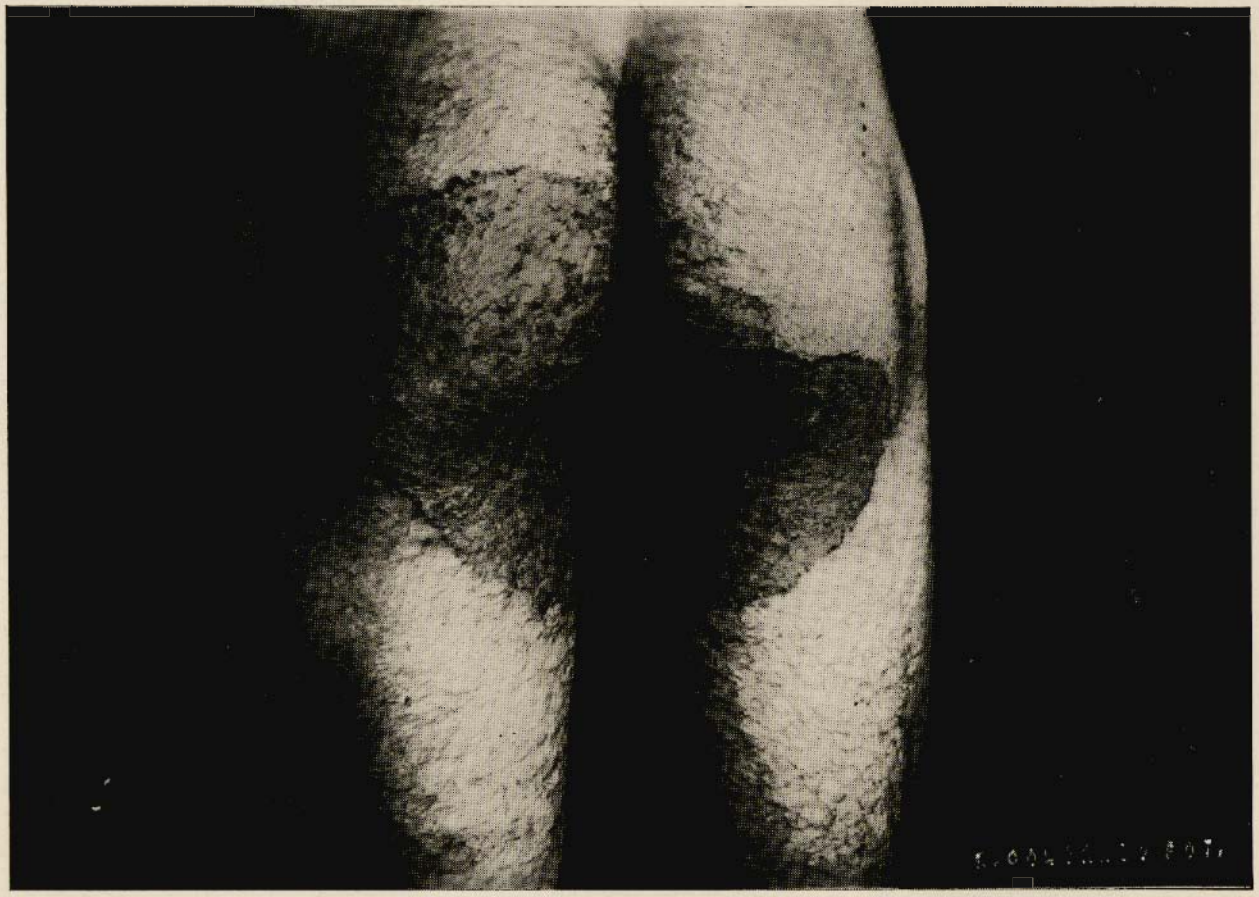
CASE 2.—"THE DISEASE SHOWS A MARKED PREDILECTION FOR THE INGUINAL REGION."

PLATE III



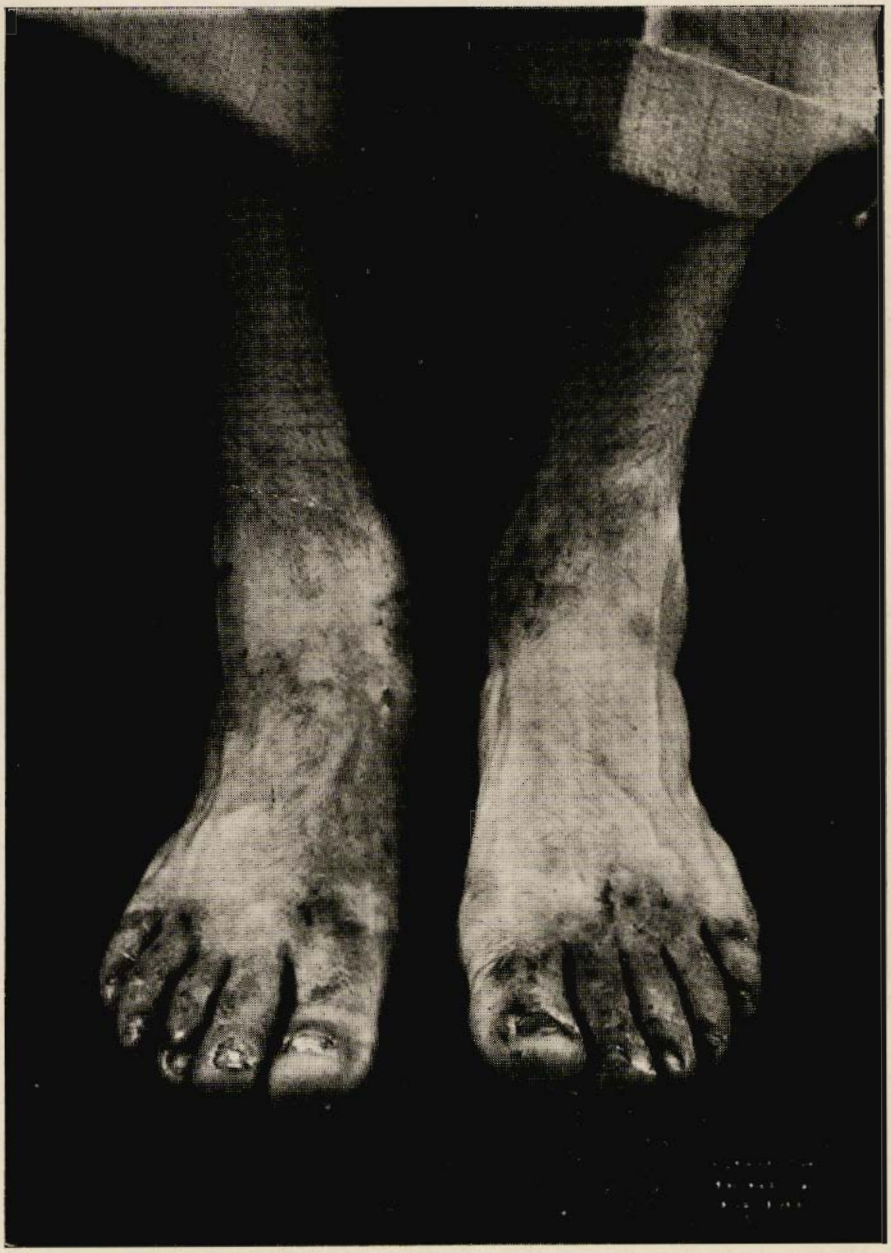
CASE 2.—SIDE VIEW OF THE PATIENT.

PLATE IV



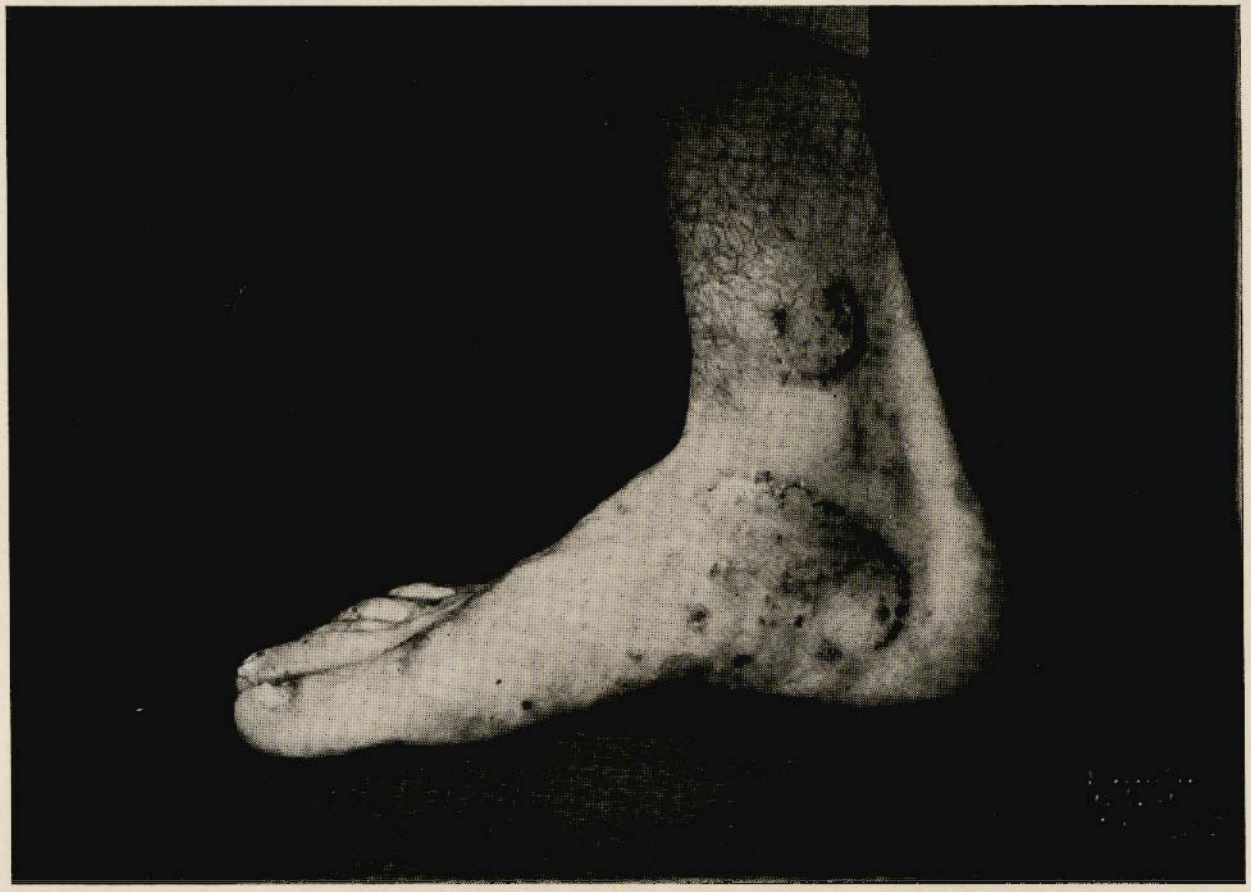
CASE 2.—A VERY COMMON PICTURE IN THIS TYPE OF EPIDERMOPHYTOSIS.

PLATE V



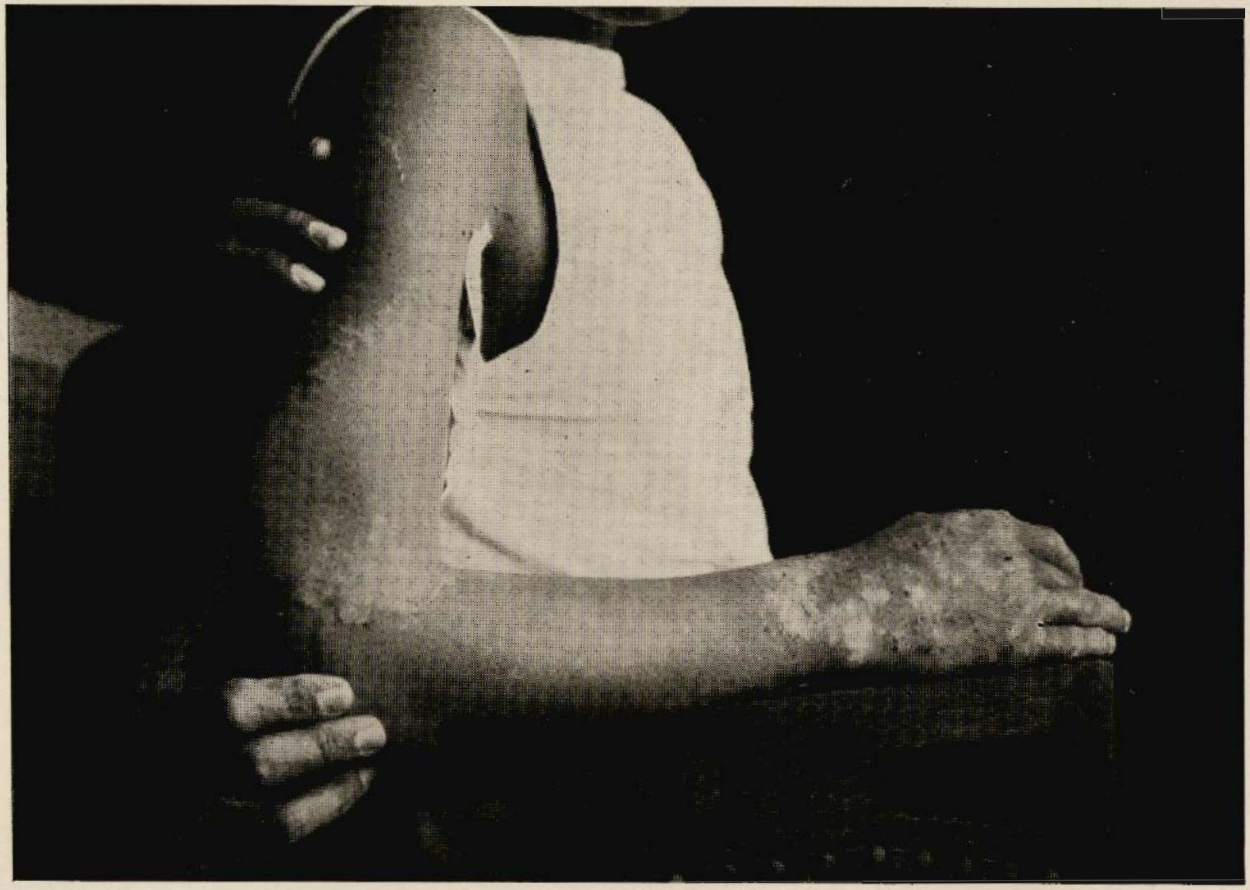
CASE 3.—"THE INFECTING PARASITE HAS BEEN ISOLATED FROM LESIONS BETWEEN THE TOES AS WELL AS FROM THE SOLES AND PALMS."

PLATE VI



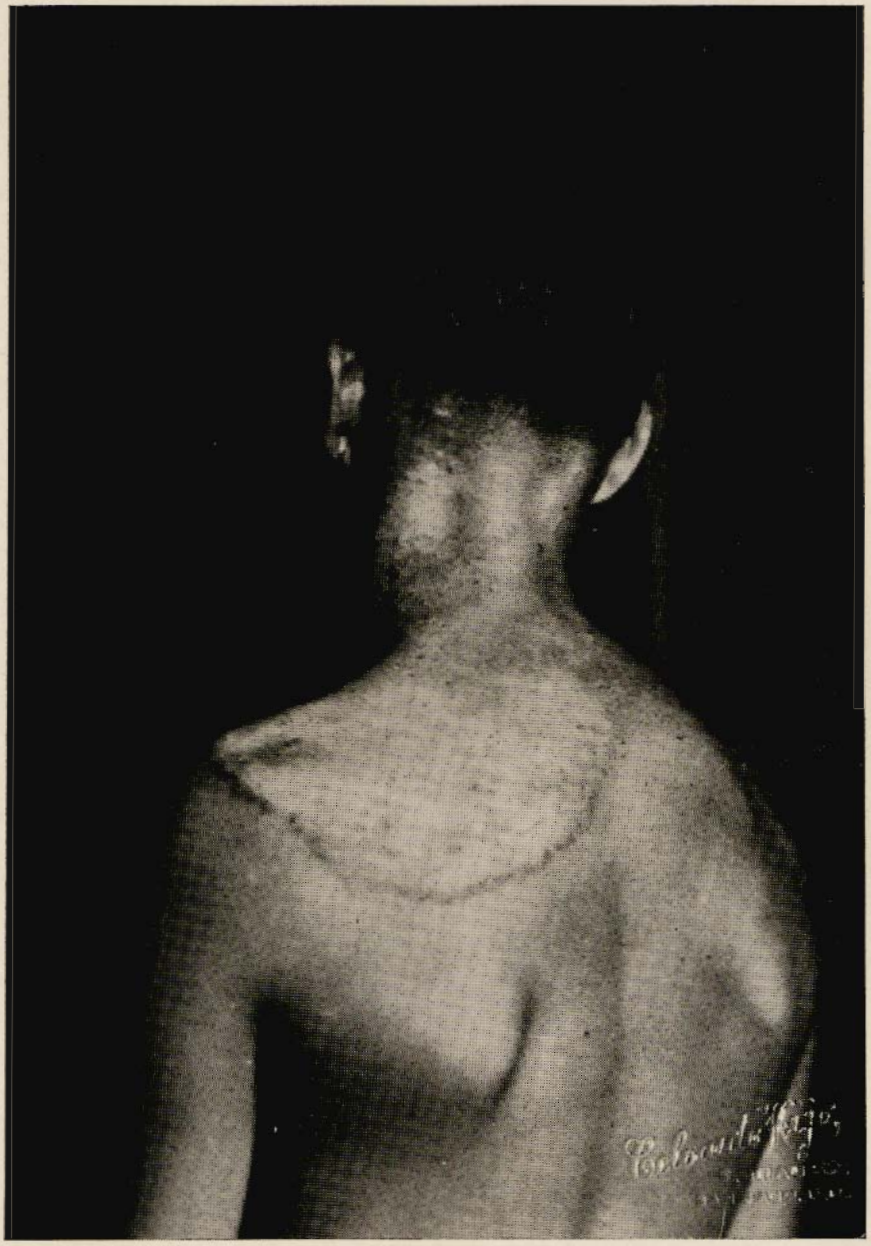
CASE 3.—INVOLVEMENT OF THE MALEOLAR REGION AND INNER BORDER OF FOOT.

PLATE VII



CASE 4.—''A FEW EXCEPTIONAL CASES ARE ENCOUNTERED IN WHICH THE AREAS INVOLVED APPEAR LIGHTER IN COLOR THAN THE SURROUNDING NORMAL SKIN.''

PLATE VIII

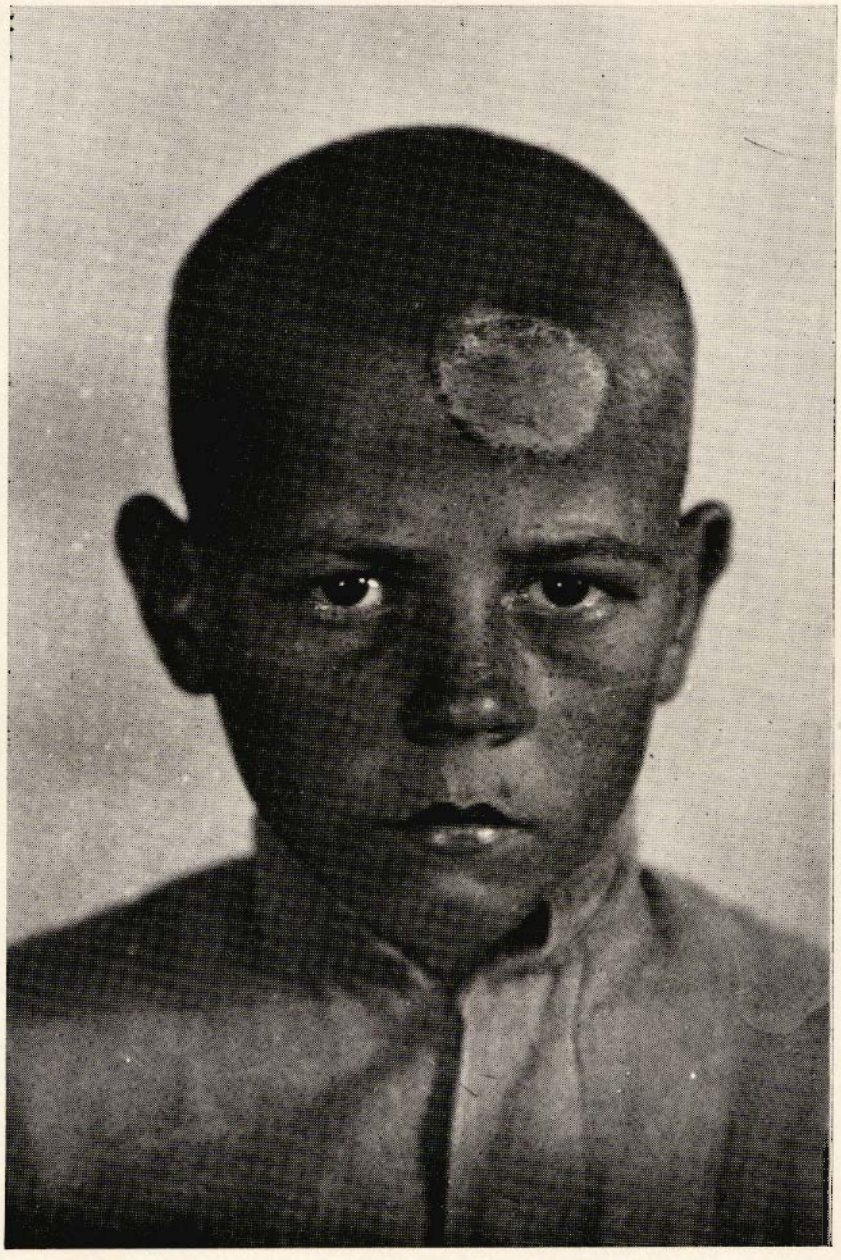


CASE 5.—". . . . AND WE HAVE OFTEN SEEN LESIONS OF THE FACE AND NECK RUNNING SEVERAL INCHES INTO THE SCALP."

PLATE IX

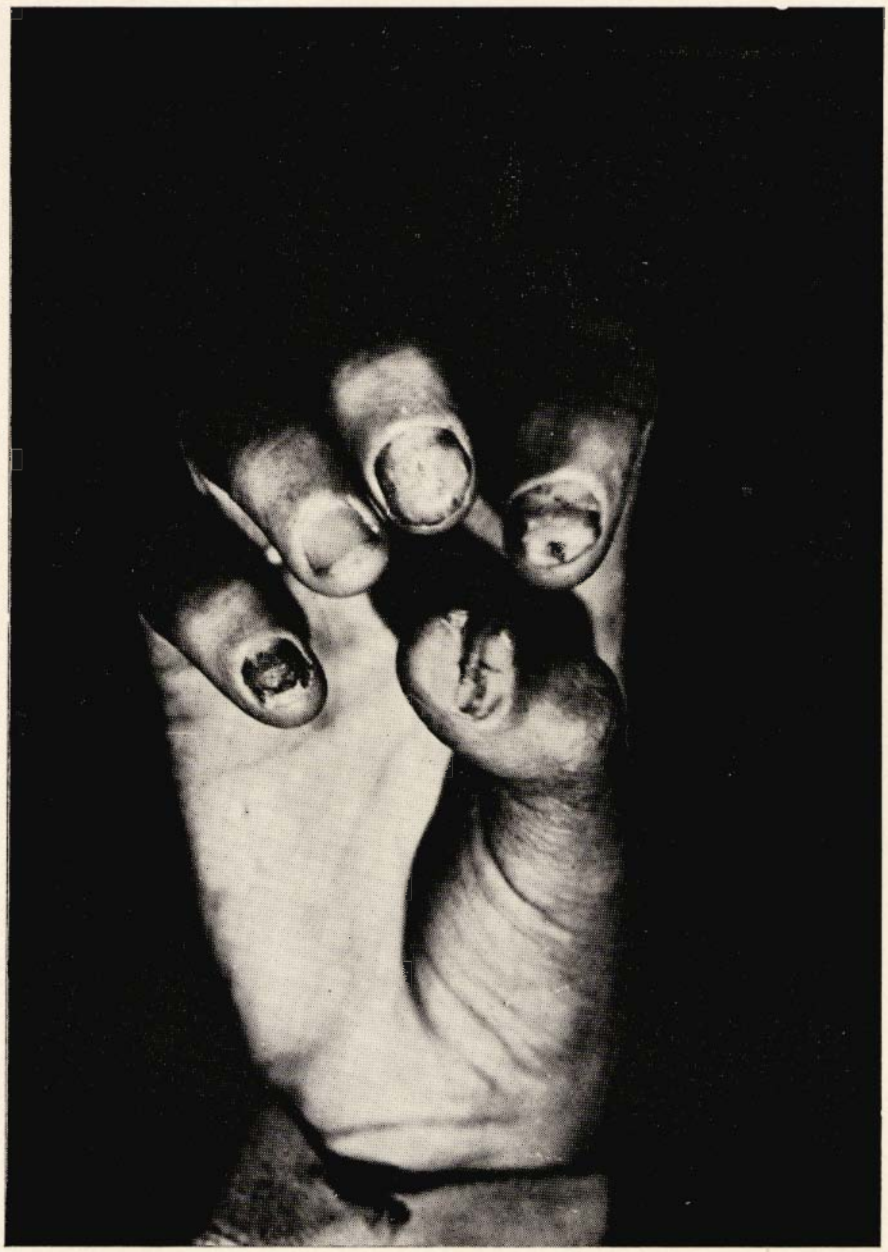
CASE 6.—". . . . WE HAVE OBSERVED EXCEPTIONAL CASES IN WHICH THE ERUPTION WAS CONFINED ALMOST EXCLUSIVELY TO THE SCALP."

PLATE X



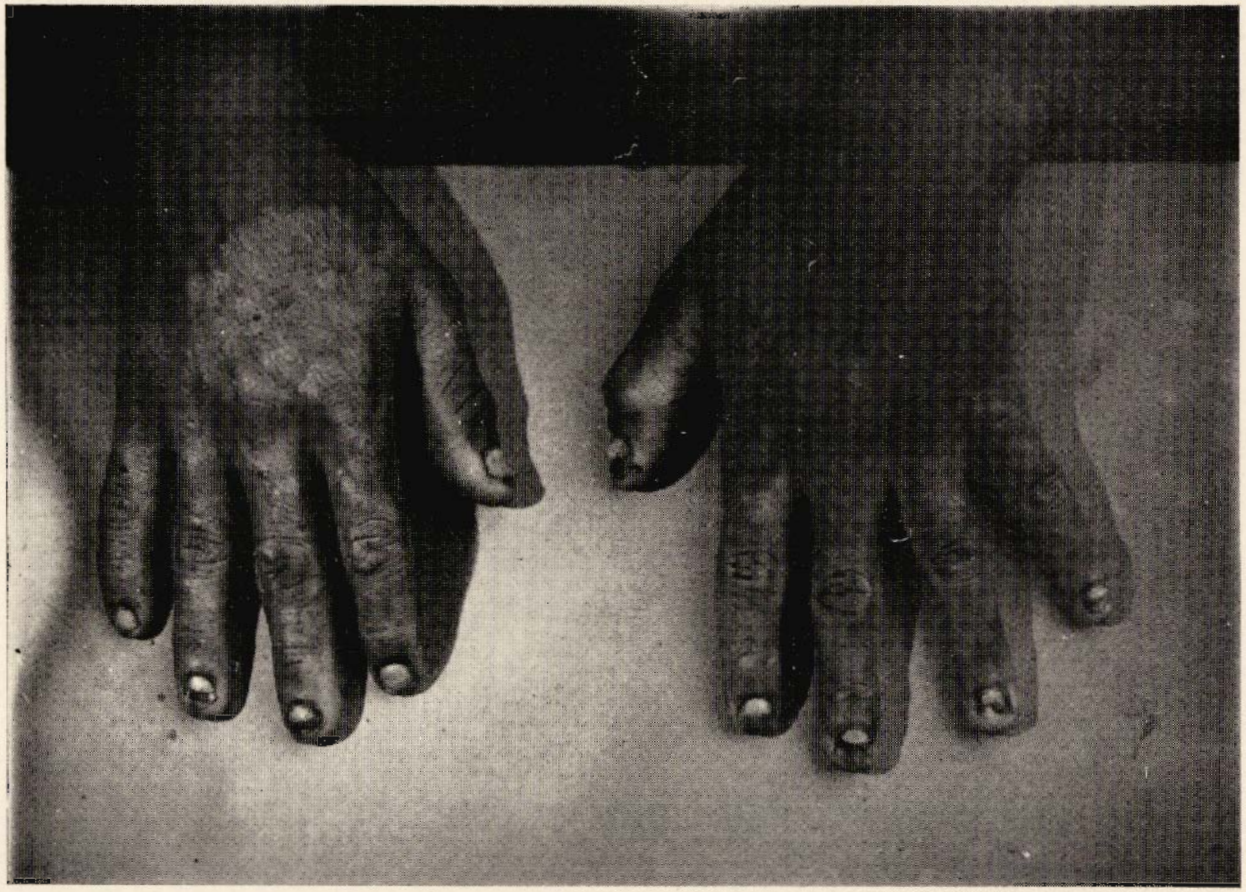
CASE 6.—FRONTAL PATCH INVADING THE SCALP (VERY SUGGESTIVE OF TRICHOPHYTOSIS).

PLATE XI



CASE 7.—"THE NAILS MAY BE BADLY INJURED OR DESTROYED."

PLATE XII



CASE 8.—INFECTION OF NAILS AND HANDS.