

mykosen

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First isolation of *Trichophyton soudanense* in Israel

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The geographical distribution of dermatophytic fungi is now fairly well known. According to AJELLO's (1960) survey, there are well defined species which are cosmopolitan, e. g. *Trichophyton mentagrophytes*, *Trichophyton rubrum*, *Epidermophyton floccosum* and others, occurring wherever man dwells. There are also some zoophilic species which migrate together with man and domestic animals throughout the world, like *Microsporum canis*, *Trichophyton gallinae* and *Trichophyton verrucosum*. On the other hand, other species have a remarkably limited geographical distribution, and dermatophytes like *Microsporum nanum*, *Trichophyton megninii*, *Trichophyton soudanense*, are confined to single regions of the world. *Trichophyton soudanense*, according to AJELLO, occurs in Algeria, Cameroon, French West Africa and Nigeria. However, with the years, epidemiological changes have been noted and this species was found also outside Africa (CALNAN, DJAVASHSZWILI and HODGSON 1962, SARKANY 1963, KABEN 1964, RIPON and MEDENICA 1964, JOHNSON and ROSENTHAL 1968). VANBREUSEGHEM (1968) summarized all cases of infection with *Trichophyton soudanense* in Europe and the United States up to 1968, indicating that although they are relatively few, because only 32 cases were reported, still the statement of confinement to Africa only is no longer valid.

We wish to report here the isolation of *Trichophyton soudanense* from two patients, to our knowledge, for the first time in Israel.

Case 1: C. P. (20180/69), a woman aged 35, born in Tunisia, 20 years in Israel. The patient was first seen on April 1969, with a pruritic eruption of her right arm, forearm and back of the right hand. The eruption was present for ten years and did not respond to local treatments.

On examination we found on the extensor aspects of the right arm, forearm and back of the right hand numerous erythematous plaques, some of them polycyclic with slight scales on the periphery and clearing in the center (Fig. 1), clinically suspected as derma-



Figure 1: Case 1: Clinical appearance of the eruption on the arm and forearm

tomycosis. Scrapings taken from the scales for direct, microscopic examination and culture, gave the following results: The direct mounts from the hand and forearm were negative for any fungal elements, whereas from the arm mycelial elements and spores were seen. Three weeks later, examination of the scales, kept in the laboratory, showed mycelial elements in all three samples (Fig. 2). Culture on Sabouraud's dextrose agar

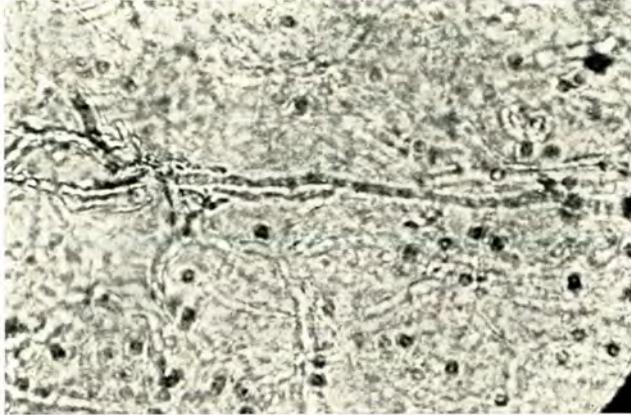


Figure 2: Direct microscopic examination of scrapings from the lesions
($\times 400$)

grew slowly and revealed after two weeks of incubation at 28°C , the growth of yellow-orange colonies with fringed borders. With further incubation, white, downy filaments appeared on the surface of the colonies (Fig. 3). Microscopic examination of the culture



Figure 3: Colonies of *Trichophyton soudanense* grown on Sabouraud's dextrose agar, as seen two weeks after inoculation of the medium with material taken from the patient's lesions

showed the characteristic branching of the mycelia, namely, in a direction opposite to that of the growth. Many arthrospores and a few microconidia were also seen (Fig. 4). A week later, a further microscopic examination revealed also many chlamydospores.

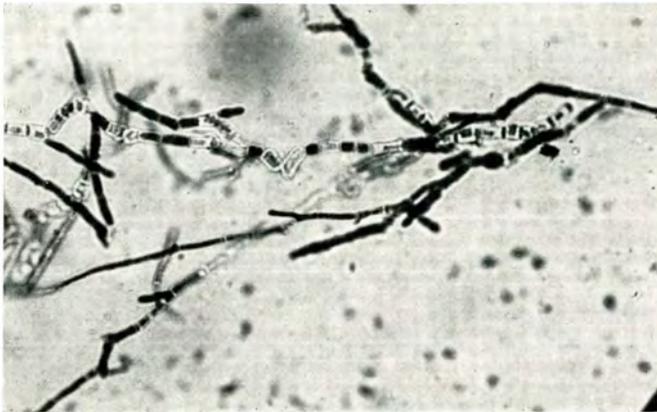


Figure 4: Culture mount of *Trichophyton soudanense* grown on Saboraud's dextrose agar, showing the characteristic branching of the mycelia ($\times 400$)

On basis of the morphology of the growth and microscopic appearance, the fungus was identified as *Trichophyton soudanense* (Dr. RIETH).

The patient was treated with Griseofulvin tablets and Whitfield ointment. Within two weeks the eruption disappeared. After one month the treatment was interrupted, but the eruption reappeared soon, and it was necessary to prescribe Griseofulvin again.

The follow up of the case during the last five months showed some effectiveness of the treatment, but only as long as it was applied, Relapses of the disease occurred shortly after the treatment was stopped.

On December 16, 1969, the patient was seen again in the course of treatment with Griseofulvin tablets and Whitfield ointment, The eruption was still present and the treatment continued.

Case 2: B. T. (19636/68), a 27 years old woman, originally from Tripolitania, 19 years in Israel, was seen in our outpatient clinic on December 29, 1968, with a pruritic eruption on the right foot and leg, lasting for nine years. On examination we found on the right leg and foot small orange-red plaques, some of them with tiny, white scales, and also onychomycosis of both feet. Scrapings were taken for microscopic examination and culture, but gave negative results. Nevertheless, treatment with Griseofulvin and Undecylenic ointment was given. One month later, on her next visit to the clinic, we found, that the eruption vanished and only the onychomycosis of the feet remained. No more oral treatment was given.

On July 24, 1969, the patient returned to the clinic with the same eruption and told us, that the disease recurred two days after the treatment with Griseofulvin was stopped. The patient was pregnant and therefore only local treatment was prescribed. Microscopic examination of scrapings from the leg and foot was again negative, but the cultures grew typical yellow-orange colonies of *Trichophyton soudanense*.

On September 4, 1969, the patient was seen again. The aspect of the eruption did not change. Scrapings taken from the lesions revealed this time on microscopic examination numerous hyphae and the culture showed again the typical growth of *Trichophyton soudanense*. The microscopic examination of the culture showed the characteristic arrangement of the mycelial elements, a picture identical with that seen in the first case.

Discussion

In view of some opinions which were propagated e. g. that *Trichophyton soudanense* never affects the glabrous skin or that it never attacks the white man in Europe or in Africa, VANBREUSEGHEM (1967) stressed that for some years the fungus has been isolated in Europe and added six personal observations in white people back from Africa. He concluded that the fungus affected the scalp as well as the glabrous skin in white people as well as in Africans and that every case of *Trichophyton soudanense* infection detected outside Africa comes from Africa or is acquired by contact with someone who has been in Africa.

Our two cases confirm the view of VANBREUSEGHEM. Both patients are white immigrants from North Africa and in both the fungus affected the glabrous skin. We would also like to mention that in both patients the illness occurred about ten years after their arrival in Israel, where it was unknown until now. One should perhaps consider the possibility of a latent infection with the fungus lasting even for years and its recrudescence in response to a still obscure stimulus.

From the clinical viewpoint, in contrast to JOHNSON'S and ROSENTHAL'S (1968) observation that their patient's infection with *Trichophyton soudanense* on glabrous skin was superficial and quickly curable with a topical fungicide, our patients did not respond well to the treatment with Griseofulvin tablets and Whitfield ointment, and the infection reappeared in both, soon after the treatment was interrupted. These cases are probably belonging to fungus infections similar to those of the endothrix type, known as difficult to be cured.

Summary

The isolation of *Trichophyton soudanense* for the first time in Israel is reported.

Two cases of infection of the glabrous skin with the fungus in white immigrants from Africa are presented and some mycological and clinical aspects of the disease are discussed.

We are grateful to Dr. H. H. RIETH for help in the identification of the fungus, to Prof. Dr. I. KATZENELLENBOGEN for his advice and criticism, and to Dr. SANDBANK and Mrs. K. NORTON-SEGAL for the photography.

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