

Table III. *Positive-positive variability*

Interobserver			Intraobserver		
Reading	Frequency of disagreement	Total (%)	Reading	Frequency of disagreement	Total (%)
1st	2/22	4/44	H. Y.	2/22	4/45
2nd	2/22	(9.1)	Y. T.	2/23	(8.9)

Behçet's and control groups were considered separately and the total interobserver *positive-negative* variability was expressed as the sum of the two percentages.

(b) *Positive-positive variability*: This was calculated by adding the number of times that there was disagreement between the observers as to the degree of positivity of the test in each reading in each session and expressing this as a percentage of the total number of positive paired readings in Behçet's and control groups taken *together*.

The Intra-OV of the test was calculated in the same manner.

## RESULTS

The test results are shown in Table I. The positive-negative and positive-positive Inter-OV were both 9.1%. The positive-negative Intra OV on the other hand was 3.0% and positive-positive Intra-OV was 8.9% (Tables II, III). In both Inter- and Intra-OV, the arithmetical variation between the evaluations was never more than 1. Thus a lesion that appeared as a pustule which was (2+) or (3+) was never evaluated as negative. Positive-negative differences were always seen in papules which were evaluated as (1+).

## DISCUSSION

Although there have been many reports on the pathergy phenomenon in Behçet's disease, as mentioned above, there are still some investigators who doubt its existence (5). Much of this skepticism arises, we believe, from the lack of data on the observer error of this phenomenon. Our results indicate that the pathergy test has acceptable inter- and intraobserver errors to make it clinically useful.

## ACKNOWLEDGEMENT

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## Occurrence of *Trichophyton tonsurans* Infections in the Danish Island of Funen

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*Abstract.* During the period from 1977 to 1980 eleven cases of *T. tonsurans* infections were diagnosed in the Mycology Laboratory, Department of Dermatology and Venereology, Odense University Hospital, Denmark. All patients were adults and none had tinea capitis. Five

patients had tinea pedis, 5 tinea unguium, 2 tinea cruris, one tinea manuum, and one tinea glabrosa.

**Key words:** Tinea; Dermatophytes; *T. tonsurans*

Carrion & Silva in 1944 tried to bring about a semblance of order in the confusion existing concerning the nomenclature applied to *T. tonsurans*, a confusion that had existed since Malmsten first described this dermatophyte in 1845 (1). Since 1944 the Trichophyton species cerebriforme, crateriforme, acuminatum, sulfureum, plicatile and others have thus been generally accepted as variants of *T. tonsurans* (1).

There is an endemic occurrence of *T. tonsurans* in Puerto Rico, Mexico and some Latin American countries, and sporadic occurrence in southern parts of Europe and in the southern States of the USA—in latter with rapidly increasing frequency of *T. tonsurans* since the early fifties (3, 5, 6).

In a Danish investigation by Bang (cf. 8) concerning the period from 1909 to 1913, 122 cases were registered. In an investigation by Sylvest (8) concerning 1933 to 1947 one case was registered in 1934 and one in 1941. Since then not a single case of *T. tonsurans* infection has been published in Denmark.

## MATERIAL AND METHODS

In the Department of Dermatology and Venereology, Odense University Hospital, 11 cases of *T. tonsurans* infections were diagnosed during a 3-year period, 1977–80. The first case was diagnosed in August 1977, 6 cases in 1979, and 4 cases in the first half of 1980. The material consisted of 10 males and one female. Ages ranged from 23 to 66 years. Except for patient No. 4 who is Turkish, the others were all Danish and were living in Funen.

Direct microscopy was made of scrapings from affected regions after preparation with 30% KOH. Cultivation was performed on Sabouraud's glucose agar to which was added penicillin G, streptomycin and actidion. The strains were further cultivated at the Institute of Microbiology, Århus University, and studied on Sabouraud's glucose agar without the above-mentioned additions and on malt extract agar, on the last-mentioned in order to stimulate the formation of macroconidia.

## RESULTS

The clinical diagnosis of tinea was in each case verified by direct microscopy showing hyphae with and without arthrospores.

Primary colonies were white, either with short

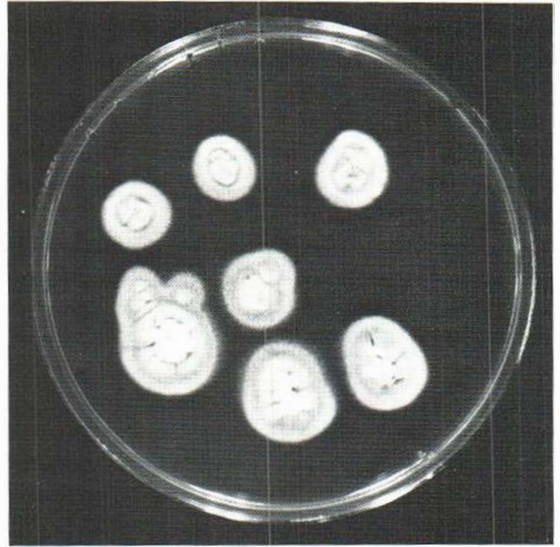


Fig. 1. *Trichophyton tonsurans* culture. Four weeks old. Light brown, slightly downy with a whitish, cerebriform centre. From patient No. 3.

airmycelium or powdery, and with superficial circular or radiating furrows. The reverse side of the colonies was dark-brown. The subcultures appeared more typical for *T. tonsurans* (Fig. 1).

Microscopical examination of colonies showed numerous large, drop-shaped microconidia, some of them very large and balloon-shaped. In addition, highly irregularly shaped, often abortive, macroconidia as well as arthrospores and chlamydoconidia were seen (Fig. 2).

The dates of diagnosis, patients' ages, sex, clinical manifestation, duration of symptoms and microscopy results are listed in Table 1. Five patients had tinea pedis, 5 tinea unguium, 2 tinea cruris, 1 tinea manuum, and 1 had affection of more than one region. The last-mentioned patient had depigmentation of the temporal region. Nos. 1 and 11 developed trichophytides of the palms. In No. 4 the diagnosis was accidentally found on examining the patient for plantar warts. No. 7 had been treated 1½ years earlier for *T. rubrum* infection of both palms. The duration of symptoms ranged from 2 weeks to 10 years.

Patient No. 10 developed symptoms of maceration and desquamation in the left sole immediately after a holiday in Greece. We are unaware of both source and route of infection in the remaining patients.

Table 1. Eleven patients with *T. tonsurans* infection diagnosed in the period 1977-80

Patient no.	Date of diagnosis	Age	Sex	Localization	Duration	Microscopy
1	Aug. 15, 1977	66	♂	Forehead, back of head, groin, soles, toe nails	12 months	Arthrospores
2	Feb. 22, 1979	24	♂	Finger nails	6 months	Arthrospores
3	April 9, 1979	29	♂	Groin	Several years	Arthrospores
4	Oct. 18, 1979	23	♂	Toe interspaces	Found accidentally	Hyphae
5	Oct. 22, 1979	29	♂	Toe nails	12 months	Arthrospores
6	Oct. 22, 1979	23	♂	Toe interspaces	2 weeks	Arthrospores and hyphae
7	Nov. 16, 1979	32	♂	Palms	12 months	Arthrospores
8	April 15, 1980	45	♂	Toe nails	2 months	Arthrospores
9	May 5, 1980	40	♂	Finger and toe nails	10 years	Hyphae
10	June 19, 1980	23	♂	Soles	10 months	Arthrospores
11	July 8, 1980	44	♀	Soles	Months	Arthrospores

## DISCUSSION

*T. tonsurans* (Malmsten, 1845) is an anthropophile dermatophyte which has as a rule the clinical manifestation of endothrix, non-fluorescent tinea capitis with a very varying clinical picture affecting both children and adults (3, 5, 6). Often there is simultaneous affection of glabrous skin and nails. In the material of Pipkin (5) comprising 29 adults with tinea capitis, 19 had affection of glabrous skin and 8 of nails. In an investigation covering Bonn (9) and

concerning the frequency of different dermatophytes in foot and nail mycoses, solitary cases of *T. tonsurans* without simultaneous tinea capitis infection were recorded. Parallel to this no tinea capitis was found in our material.

The supposed origin of infection was known in only one of our patients. This patient had imported the fungus from southern Europe. The sources of infection in other publications were also poorly explained.

Generally, spread of infection from one person to another seems to be rare (3). Family epidemics have been reported, however (4, 5).

Species determination of *T. tonsurans* is based mainly upon the microscopical appearance of microconidia and macroconidia (2) because of the very wide ranging colonial morphology, sometimes with great similarity to *T. rubrum* and *T. mentagrophytes* (1).

In case of doubt it is possible by cultivating on casein vitamin-free agar with or without addition of thiamine to examine for the growth-stimulating effect of thiamine (2, 7). However, the microscopical appearance of our colonies was absolutely characteristic for *T. tonsurans*.

It is curious that *T. tonsurans*, which occurred commonly immediately before World War I, has since then been found in only sporadic, solitary cases (8).

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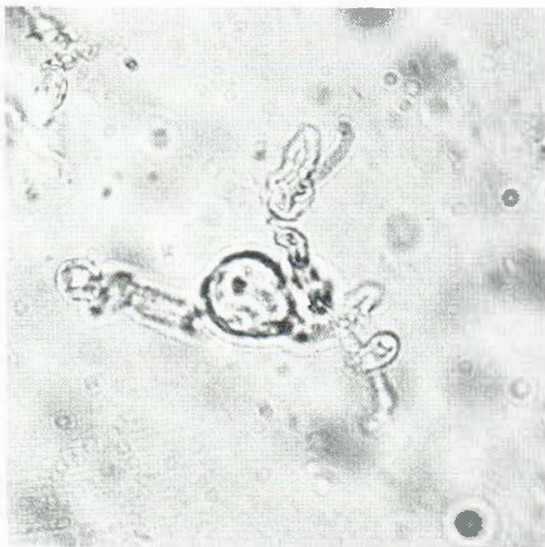


Fig. 2. Microscopical morphology of the culture shown in Fig. 1. A chlamydospore is seen in the centre, above this an abortive macroconidia, and below to the right a large drop-shaped microconidia ( $\times 400$ ).

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### Oral Retinoid in Combination with Bleomycin, Cyclophosphamide, Prednisone and Transfer Factor in Mycosis Fungoides

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From the Scandinavian Mycosis Fungoides Study Group. In this study, the group also comprised Knut Wereide, Oslo

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**Abstract.** Oral retinoids seem to have been of great benefit in a non-randomized study on advanced mycosis fungoides using two different chemotherapy regimens, one with retinoid, the other without. Both groups also received a 3-drug chemotherapy with bleomycin, cyclophosphamide and prednisone. Complete remission including all signs of lymph-node involvement was found

in 8 of 10 patients of the retinoid treated group, while none went into complete remission in the control group. All in the control group died between 3 and 12 months after therapy, whereas all but one in the retinoid treated group are alive. Other treatment differences between the groups were related to the use of transfer factor, topical treatment, and steroid administration. These differences make a final evaluation of the use of retinoids in mycosis fungoides difficult at the present stage. Further studies are needed.

**Key words:** Retinoids; Transfer factor; Chemotherapy; Bleomycin; Cyclophosphamide; Prednisone; Mycosis fungoides

Vitamin A and its newly developed synthetic analogues have been used within recent years with great success in the treatment of disorders of keratinization. Lately retinoids have also attracted interest as pharmacological anticancer agents (1, 2, 4). We have tried out an oral retinoid RO 10-9359 (Tigason) as adjunct to a 3-drug combination chemotherapy comprising bleomycin, cyclophosphamide and prednisone for advanced mycosis fungoides (MF). Patients from Marselisborg Hospital in Aarhus received this treatment, together with transfer factor (TF), an immune-stimulatory agent, which is undergoing long-term evaluation against MF at this hospital (5), while patients of other participants in the Scandinavian Mycosis Fungoides Study Group (3) received the 3-drug chemotherapy alone. One patient from Aarhus received both the 3-drug chemotherapy and TF but no retinoids.

### MATERIAL AND METHODS

Nine patients with MF in stage IV according to the staging criteria of the Scandinavian Mycosis Fungoides Study Group (3), i.e. with lymph-node involvement, and one patient having a subcutaneous tumour received the 3-drug combination of bleomycin, cyclophosphamide and prednisone (BCP) together with retinoid and TF. Six patients were treated with BCP alone.

All patients were allowed to continue their present topical treatment, which in Aarhus was nitrogen mustard (NM), in the other hospitals oral psoralen combined with long-wave ultraviolet light (PUVA). Both topical treatment schedules were performed according to the procedures of the group (3). Steroids were also administered somewhat differently among the patients. All patients from Aarhus received prednisone 40 mg daily throughout the treatment period, while the other patients received the same prednisone dosage orally only on days 1-7, but repeated every 3 weeks.

Bleomycin was given 5 mg i.m. on day one and day four, repeated every third week. Cyclophosphamide was administered 100 mg/m<sup>2</sup> orally each day, but eventually reduced in some patients according to toxicity. RO 10-