Abnormal Corneometric Values of Non-lesional Plaque-type Psoriatic Skin

Sir,

Corneometric data reported in the scarce literature available have revealed a difference between psoriatic and normal skin only at the lesional level (1–3), where epidermal hydration is already known to be altered (4).

In studying the usefulness of corneometry in the follow-up of plaque-type psoriatic patients, including lesional, non-lesional and peri-lesional skin, we analyzed the corneometric levels of psoriatic skin as compared to normal skin (1).

Corneometric determinations were carried out on one plaque that had developed recently (two subsequent observations at a 1-week interval) under standard conditions of temperature, humidity and patient preparation (3, 5). The measurements were made at the lesional (internal border), the peri-lesional (1 cm distance from the plaque edge) and the non-lesional (at least 10 cm from the edge) levels. Corresponding body localizations were selected to detect normal skin corneometry in control subjects. Corneometry was obtained by means of a CM 820 capacitance device produced by Courage and Khazaka (West Germany) and data were expressed as conventional corneometric units (CU).

Because of the lack of knowledge of the type of data distribution, the statistical analysis was evaluated with both parametric and non-parametric tests (Anova and Kruskall-Wallis, Student's t- and Mann-Whitney tests and, finally, Student's t- and Wilcoxon paired tests). When comparing the different involved versus uninvolved plaque areas, the paired tests were adopted.

Table I reports the data observed in 20 plaque-type psoriatic patients (8 males and 12 females; median age = 39 years; range from 20 to 62; median PASI score = 13.9; range 4.8–30.6, free of other clinically evident diseases), compared with 20 normal subjects sharing sex (8 males and 12 females), age (median 40, range 21–61 years) and body localizations of the corneometric measure (back or volar forearm).

The ANOVA and Kruskall-Wallis tests showed significant differences between the four subgroups (lesional, non-lesional, peri-lesional and normal, p < 0.0001) (Table I).

The data observed showed that, as expected, the lesional corneometric values were significantly different from peri-lesional, non-lesional and normal levels (p < 0.0001).

The peri-lesional and non-lesional determinations were also significantly different from normal skin values (p between 0.0001 and 0.0005, respectively).

The paired statistical comparison between the non-lesional and the peri-lesional corneometric values showed that, although apparently similar, the peri-lesional values were significantly lower (p=0.0005) than the non-lesional ones. It should be noted that the plaque border represents a site of strong change of the corneometric values. In fact, the peri-lesional levels (obtained at 1 cm from the edge) were roughly similar to those observed 10 cm from the edge. In contrast, the corneometric values of the lesional areas (1 cm from the inside edge), on the average, were less than half of the non-lesional ones.

Interestingly, the non-lesional skin was significantly altered with regard to the corneometric values as compared to the control skin, when measured precisely in the corresponding body localizations (7 cases in the volar forearm and 13 cases in the back).

The only similar study available in the literature that reports no corneometric difference between non-lesional and normal skin was carried out on psoriatic subjects in disease remission for at least 6 months and without topical treatment for at least 1 month (1). In addition, the corneometry was only observed at the distal third of the volar forearm. These experimental restrictions could explain the discrepancy observed.

In our experience, 8 patients (4 males and 4 females), observed after 1 month of effective treatment, with disappearance of all lesions, still presented a significant difference in terms of corneometric values as compared with the normal controls (data not shown).

The clear evidence that non-involved skin (with the possible exception of patients with a long-lasting remission) shows abnormal corneometric values, further stresses that all the skin of psoriatic patients may be involved in the disease. This is also supported by other previous findings of our group, where non-involved psoriatic skin showed increased IL-6 and TNF-alpha levels (6). Similar findings have been reported by other groups with regard to some membrane molecules (7).

REFERENCES


Long-term Follow-up of Toe-nail Onychomycosis Treated with Terbinafine

Sir,

Previous studies have shown excellent results following the use of terbinafine for the treatment of onychomycosis. Mycological cure rates have ranged from 60–100% and clinical cure rates from 42–100% after treatment for 3 to 6 months and follow-up periods of approximately 1 year (1, 2). The aim of the present study was to follow a group of patients treated with 250 mg terbinafine daily for 3 to 6 months for approximately 2½ years, to determine the risk of relapse or reinfection, as well as the patients’ satisfaction with the final result.

MATERIALS AND METHODS

The 22 patients in the current study had onychomycosis of the toenails (positive microscopy and culture) and had previously participated in a double-blind, controlled study of the treatment of onychomycosis with terbinafine (2). In the former study, the patients were randomized to receive either daily treatment with 250 mg terbinafine or a placebo for 3 months. Based on a clinical evaluation after 3 months, and without breaking the code, additional treatment with 250 mg terbinafine daily for 3 months was given to all the patients who had not responded satisfactorily during the first course of treatment. All the patients in the controlled study were followed for approximately 1 year after the initiation of the study.

Approximately 2½ years after the initiation of the study, the same patients were invited to participate in an additional follow-up. Those who participated in the latter follow-up were evaluated clinically, and specimens were taken for fungal culture and microscopy. The mycological investigations were performed at the Department of Dermatology, Odense University Hospital, Denmark.

During the additional 2½-year follow-up, one of the patients was treated with topical antifungal medications, but none received systemic antifungal treatment.

RESULTS

Twenty-one of the 22 patients were invited to take part in the additional follow-up and were evaluated clinically and mycologically. One patient had to stop treatment during the initial controlled study after 2 months due to tinnitus. The others were treated for 3–6 months according to the protocol.

Ten of the patients were clinically cured after participation in the controlled study, but only one of these had a mycological cure (mycological cure = negative microscopy and negative culture). Three of 10 patients seen to be clinically cured at the initial evaluation were designated clinically “not cured” at the evaluation after approximately 2½ years. One of these patients had a mycological cure after 1 year but had a positive microscopy after 2½ years. The other had a positive microscopy after 1 year but had a negative culture after 2½ years, and the third had a positive microscopy after both 1 and 2½ years. Two of 11 patients among those not clinically cured 1 year after initiation of treatment were seen to be clinically cured at the later re-evaluation. One of these had a positive microscopy after 1 year and a negative culture after 2½ years. The other had a negative culture both after 1 and after 2½ years.

At a clinical evaluation 2½ years after initiation of treatment, many of the patients had only small remnants of fungal infection, and 68% of the patients were satisfied with the final result.

CONCLUSION

It is shown that although some patients changed status from cured to not cured and vice versa, nearly half of the patients had a clinical cure after 1 year and a clinical and a mycological cure after 2½ years. Patient satisfaction was high, suggesting that the cosmetic result of treatment with terbinafine was felt to be satisfactory.

REFERENCES


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