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EXPERIMENTAL ITCH AS A DIAGNOSTIC METHOD

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Abstract. Experimental trypsin itch was investigated in 100 patients with atopic dermatitis and in 115 controls. The duration of itch exceeded 2 minutes in 62.8% for involved skin and in 37% for uninvolved skin of atopic dermatitis patients, which are significantly higher percentages than in controls. The longer itch duration is not a specific feature of atopic dermatitis, however.

In numerous publications, Rajka has described the experimental itch duration method of intracutaneous application of trypsin in patients suffering from atopic dermatitis (AD) and other dermatoses. He found that the significantly longer itch duration in AD patients is a characteristic but not a specific feature.

The diagnosis "atopic dermatitis" is established in most of the cases according to the following criteria; personal and family history, clinical course, the sometimes elevated serum IgE level, white dermographism and the delayed blanch from cholinergic agents. It is certainly known that are some other kinds of eczema with clinical features similar to AD, but caused by different agents, such as contact and inhalative allergens. In our experience there are sometimes also types of chronic polymorphous light eruption in children with clinical features of AD. In this regard we have tried to differentiate those cases with AD-like feature by means of the lymphocyte transformation test and epi- and intracutaneous testing.

The itch duration determination method following intracutaneous application of trypsin, as described by Rajka appeared to us suitable as a complementary parameter in the differential diagnosis of borderline cases particularly between AD and other eczemas. To these one should also add the dyshidrotic types of AD which are localized on the hands.

PATIENTS AND METHODS

A group of 100 patients suffering from AD were compared with another group, of 115 subjects, 45 of them with various eczemas including seborrhoeic dermatitis, chronic recurrent urticaria, DLE, psoriasis vulgaris and candidiasis; 10 of them with acute gonorrhoea, 35 of them with internal diseases including malignant tumours and 25 healthy ones.

Intracutaneous application of 0.03 ml Trypure Novo in a concentration of 1:10 000, was carried out on the right forearm and 0.03 ml of normal saline as control on the left forearm. The latent time, i.e. the lag between the injection and the beginning of the itching, was in all cases 20–25 sec. The itch duration in 46% of the AD patients exceeded 2 minutes, while only 20% of controls had the same values.

The differences in scatter and Student's *t*-test were both significant. We found an itch duration of more than 2 min on the involved skin in 62.8%, while on the uninvolved skin in only 37% of the investigated AD patients. No statistical difference between severity degrees 0 to IV could be observed.

The itch duration in the healthy volunteers was without exception shorter than 2 min 10 sec and we therefore considered all values lower than that as normal. In this regard, only 43% of the AD patients showed prolonged itch duration. Finally we compared the itch duration in AD with other itchy skin diseases such as urticaria, various eczemas including nummular dermatitis and lichen planus.

There was a predominance of control dermatosis subjects among those with itch duration not exceeding 3 min, whereas among those with itch exceeding 3 min, AD patients predominated.

RESULTS AND DISCUSSION

Of statistical significance and as could be indicated according to our findings, an itch duration of more than 2 min following intracutaneous trypsin application speaks for but is not a specific feature of AD, as 23% of the controls (particularly 7 out of 20 patients with eczemas including seborrhoeic dermatitis) also showed the same itch duration. One could conclude accordingly that the trypsin test is helpful

but not decisive in the differential diagnosis of atopic dermatitis.

In order to strengthen our findings we proceeded with the same investigation with Dr Stark before and after a 6-week climatic cure at the Baltic Sea (Heiligendamm). During this period, an average shortening of the itch duration of about one minute in 150 patients with AD could be observed. The difference between initial and final values in psoriasis vulgaris and eczema vis-à-vis the low initial values was only about half. No patients received medication. Thus, the trypsin test could also be regarded as an objective method of measuring the effect of climatic cure.