Hyperlinear Palms

Association With Ichthyosis and Atopic Dermatitis

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The skin and palmar markings were examined in 178 patients with atopic dermatitis, 66 (37%) of whom had ichthyosis vulgaris. Increased palmar markings were found in 49 (28%) patients, while a normal pattern of palmar markings was present in 129 (72%) patients. Increased palmar markings were commonly observed in patients with atopic dermatitis and ichthyosis, while normal palms were found in almost all patients with atopic dermatitis alone. It is suggested that the increased palmar markings often seen in patients with atopic dermatitis are actually a manifestation of concomitant ichthyosis vulgaris.

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Patients with atopic dermatitis often show an increased number of fine lines and markings on the palms. Various authors consider the hyperlinear palm to be one of the diagnostic criteria for atopic dermatitis, but this has been disputed by others. Norins states that patients with atopic dermatitis have an "atopic palm" that is characterized by an accentuation of the normal skin lines. However, Leutgeb et al report that hyperlinear palms are seen only in those patients with atopic dermatitis who simultaneously suffer from ichthyosis vulgaris.

In the present study we examined the skin and palmar markings of a large number of patients with atopic dermatitis and tried to determine whether the hyperlinear palm is specific for this dermatitis or whether it is a manifestation of concomitant ichthyosis.

PATIENTS AND METHODS

A total of 178 patients, 93 male patients and 85 female patients, with atopic dermatitis, were selected for this study. They ranged in age from 6 to 25 years. The diagnosis was made on the basis of morphologic characteristics, distribution of skin lesions, clinical course, and a family history of eczema or asthma. Patients with generalized skin lesions were excluded.

In all patients, the palmar markings were classified into two types—normal and hyperlinear. The diagnostic criterion for a

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hyperlinear palm was an increase in fine lines and markings on both palms (Figure).

To determine the prevalence of ichthyosis in atopic dermatitis, we examined closely the skin of the trunk and limbs of our patients. The diagnosis of ichthyosis was established by the following criteria: onset of dry skin early in childhood, worsening of the dry skin in winter, a family history of dry skin, and small polygonal scales on the extensor surfaces of the extremities and the trunk on examination. Simple aetiology that showed merely dryness and slight scaling of the skin on the lower part of the legs was not included in the category of ichthyotic change. Histologic examination of the skin of the extensor surfaces of the thighs or loins was performed in 18 patients with atopic dermatitis who simultaneously showed the changes of ichthyosis vulgaris.

The prevalence of hyperlinear palms in patients with atopic dermatitis alone was compared to the incidence of hyperlinear palms in patients with atopic dermatitis and ichthyosis.

All examinations were performed when the clinical signs of ichthyosis were most prominent (from November to February in 1978, 1979, and 1980).

RESULTS

Of the 178 patients with atopic dermatitis, 49 (28%) showed increased palmar markings.

Ichthyotic skin was present in 66 (37%) of the 178 patients with atopic dermatitis. In all 66 patients, the dry skin and fine scales occurred most prominently over the extensor surfaces of the lower limbs. The upper limbs and the trunk were involved to a lesser degree. The axillae and the antecubital and popliteal fossae were spared. The microscopic findings in all of the 18 biopsy specimens from ichthyotic sites were essentially the same. There was hyperkeratosis of the horny layer, and the granular layer was usually absent or was one cell layer thick. Thus, the salient clinical and histologic findings were compatible with a diagnosis of ichthyosis vulgaris of autosomal dominant type.

Of the 66 patients with atopic dermatitis who also suffered from ichthyosis, 45 (68.2%) had hyperlinear palms. However, palmar markings were increased in only four (5.5%) of the 112 patients with atopic dermatitis who lacked ichthyotic skin changes. This difference was significant (P < .01).

COMMENT

It has been widely assumed that increased palmar markings are a phenotypic marker of atopic dermatitis. 

but, to our knowledge, there is no report in the literature that definitely supports this assumption. Hill stated that some patients with atopic dermatitis have perfectly normal palms, while others have thickened palms with a great many small linear markings. Leutgeb et al. reported that palmar markings were increased in 34% of their patients with atopic dermatitis. In the present study, increased palmar markings were found in 28% of patients with atopic dermatitis. All of these findings strongly suggest that hyperlinear palms occur only in a limited number of patients with atopic dermatitis.

It is well known that ichthyosis vulgaris is often associated with atopic dermatitis. But the incidence of ichthyosis in atopic dermatitis ranges widely from 2% to 50%, according to different studies. These differences are almost certainly because of different age ranges in the patients studied, and because of differences in diagnostic criteria for atopic dermatitis for ichthyosis, especially in its mild form. In the present study, we found ichthyosis vulgaris in 37% of patients, aged 6 to 25 years, with atopic dermatitis.

In view of the frequent association of ichthyosis vulgaris with atopic dermatitis, it is interesting to note that increased palmar markings are present in 72% to 100% of patients with ichthyosis vulgaris. In our study, the prevalence of hyperlinear palms was significantly higher in patients with atopic dermatitis who also had ichthyosis vulgaris than in those patients with atopic dermatitis who did not show ichthyotic signs. In all of our patients with hyperlinear palms, 90% had both atopic dermatitis and ichthyosis vulgaris. Leutgeb et al. also reported that increased palmar markings were almost always seen in patients with atopic dermatitis and ichthyosis, while a normal pattern of palmar markings was present in patients with atopic dermatitis alone. Although strict diagnostic criteria for atopic dermatitis and ichthyosis vulgaris may vary somewhat among different groups of observers, the findings of Leutgeb et al. and our own study findings do not support the assumption that hyperlinear palms are a phenotypic marker of atopic dermatitis. It seems much more reasonable to assume that the increased palmar markings often seen in atopic dermatitis are actually a manifestation of concomitant ichthyosis vulgaris.

References


