Association between HLA-B16 and Psoriatic Spondylitis

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The frequency distribution of HLA antigens was studied in a group of 40 patients with psoriatic arthritis from a region in North-eastern Italy. Our results indicate: 1) a strong association, in this population, between HLA-B16 and inflammatory spinal involvement; 2) a failure to confirm previous reports on HLA-B27 increased frequency in psoriatic spondylitis and/or sacroilitis. Key words: Psoriatic arthritis; HLA-B16; HLA-B27. (Received September 7, 1985.)

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In Caucasians, the HLA-B27 antigen has been closely linked to susceptibility to seronegative spondyloarthropathies, particularly to ankylosing spondylitis and Reiter's syndrome (1). A statistically significant association has also been reported between HLA-B27 and the axial type of arthritis often seen in psoriatic patients (2, 3, 4).

In this study we were unable to find any significant increase of HLA-B27 in a group of Italian patients with psoriatic arthritis. Conversely results indicate a significantly increased frequency of HLA-B16, even more marked in the group with spondylitic involvement.

MATERIAL AND METHODS

A total of 40 unrelated psoriatic arthritis patients (24 males, 16 females) from the Trieste area (North-eastern part of Italy) were studied. The Moll & Wright (5) criteria for the diagnosis of psoriatic arthritis and the New York criteria (6) for spondylitis were used. Twenty-four (60%) patients had peripheral arthropathy alone (PA); ten (25%) had radiographically proved spondylitis and sacroilitis (SS) while the remaining six (15%) had sacroilitis without spondylitis (SA).

HLA typing was performed by microlymphocytotoxicity test following N.I.H. technique (7). 32 antigens were studied for A, B and C loci. Antisera were provided by the Italian Cooperative Group for Tissue Typing, the Behring-Werke and Biotest. Antigen frequencies were compared with 341 controls.

The statistical analysis was made by using the Fisher's exact test. The corrected p-values were obtained by multiplying the p-values by the number of HLA antigenic specificities tested for.
**RESULTS**

HLA-B16, A1 and B37 were recognized as the most frequent HLA antigens. Detailed results are presented in Table 1.

**DISCUSSION**

The results of this study show a significant increase in the frequency of HLA-B16 in psoriatic patients with inflammatory involvement of the axial skeleton. As we found 3 B16 positive patients in the PA group, we cannot conclude that this antigen is a "marker" of psoriatic spondylitis. However, in a pilot study we were unable to observe any significant increase of B16 in a psoriatic group without arthritis. Therefore our findings suggest that psoriatic patients carrying the B16 antigen have an increased risk of developing arthritic lesions particularly of the spondylitic type.

The second significant information which results from this study is the failure to find any significant increase of B27 frequency in the SS and SA groups. We believe that these data reflect some genetic differences between our psoriatic population and other (Scandinavian, English and North-American) psoriatic populations (2, 3, 4, 8, 9). It is otherwise well
known that B27 frequency is lower in idiopathic ankylosing spondylitis patients from the Mediterranean area in comparison to patients from the North-European regions (10).
Therefore, the ethnic background seems to influence the linkage between psoriatic arthritis and distinct alleles of the major histocompatibility system.

REFERENCES

HLA-B 16 in Hailey-Hailey’s Disease
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Hailey-Hailey’s disease is an autosomal hereditary disease of the skin for which only few data exist in regard to genetic markers concerning the HLA system. We report on HLA-A, B and C typing results finding an increased frequency of 55.5 % HLA-B 16 positive patients compared to 8.2 % in healthy controls. Key words: MHC; HLA-B locus. (Received December 23, 1985.)

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Hailey-Hailey’s disease (chronic benign familial pemphigus) is an autosomal dominant hereditary cutaneous disease with irregular penetrance (1, 3). The disorder is based on a defect of intercellular coherence of the epidermal keratinocytes. The histological hallmark is a suprabasal blister formation with acantholytic keratinocytes. Clinically the disease is manifested by physical and chemical insults and preferentially affects the intertriginous areas. However, the disease can be expressed in a generalized fashion (5).