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Short Communication

HLA B13, B17, B37 and Cw6 in Psoriasis vulgaris: Association with the Age of Onset

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Previous studies agree that the association of HLA-B13, B17 and B37 with psoriasis is significant in caucasoid populations [2–5] and that this association is most marked in psoriatic patients with an early age of disease onset [2, 4].

Recently HLA-Cw6 was reported as most significantly associated with psoriasis vulgaris [2]. The present study was performed in order to determine the incidence of HLA-Cw6 in patients with psoriasis vulgaris and the association of the presence of HLA-Cw6 with the age of disease onset.

Seventy-seven patients with psoriasis vulgaris including different clinical types (eruptive type, plaque type, seborrhoic psoriasis) were studied. Patients with postular psoriasis and those exhibiting signs or symptoms of psoriatic arthropathy were excluded.

The patients were selected for the study according to their age of disease onset: Group I consisted of 57 patients (age of onset between 10 and 20 years), group II consisted of 20 patients (age of onset between 35 and 45 years).

Tissue typing for HLA-B13, B17, B37 and Cw6 was performed using the NIH standard microlymphocytotoxicity assay [1].

Statistical analyses were done using the χ^2-test (with Yates' correction if one of the figures was ≤ 5). The relative risk was calculated according to Woolf [6].

63/77 psoriatic patients were found to carry at least one of the HLA-antigens investigated. The data obtained were compared to healthy control individuals. The incidence of HLA-B13, B17, B37 and Cw6 carriers was significantly higher in the group of psoriatic patients. HLA-Cw6 was found to occur – though not statistically significant – most frequent when compared to the other HLA investigated.

Table 2 demonstrates the phenotype frequency of the 4 different HLA studied. B13 and Cw6 was significantly increased in group I of the patients in comparison to group II, while the frequencies of B17 and B37 showed no difference. The increased frequency of Cw6 ($P = 5.8 \times 10^{-4}$) was much more marked than the high prevalence of B13 ($P = 0.05$).

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Table 1. HLA B13, B17, B37 and Cw6 frequencies in psoriatic patients and in healthy controls

HLA	Psoriatic patients		Healthy controls		Statistical analysis		
	positive	%	positive	%	χ^2	P	relative risk
B13	23/77	29.8	23/450	5.1	50.59	$\ll 10^{-4}$	7.91
B17	27/77	35.0	36/450	8.0	45.76	$\ll 10^{-4}$	6.21
B37	7/77	9.1	9/450	2.0	11.23	$\simeq 10^{-3}$	4.90
Cw6	57/77	74.0	32/125	25.6	45.34	$\ll 10^{-4}$	8.28

Table 2. HLA frequencies in group I and group II patients

HLA		Group I	Group II	
B13	+	21	2	$\chi^2 = 3.89$ $P = 0.05$
	−	36	18	
B17	+	23	4	$\chi^2 = 1.87$ $P = 0.17$
	−	34	16	
B37	+	4	3	$\chi^2 = 0.38$ $P = 0.54$
	−	53	17	
Cw6	+	48	9	$\chi^2 = 11.84$ $P = 5.8 \times 10^{-4}$
	−	9	11	

Our data confirm the previous findings that the frequencies of HLA B13, B17, B37 and Cw6 are increased in patients with psoriasis vulgaris. Due to the known linkage disequilibrium between Cw6 on one side and B13, B17 and B37 on the other, the association between this disorder and the HLA-system depends probably on Cw6 or a gene closely linked and in very strong disequilibrium with Cw6.

This study demonstrates furthermore a strong heterogeneity in the frequency of Cw6 depending on the age of onset of the disease: patients with an onset between 10 and 20 years show a significantly higher prevalence of Cw6 than patients with an onset between 35 and 45 years ($P = 5.8 \times 10^{-4}$).

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