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Is HLA B27 a True Marker of Axial Involvement in Psoriatic Arthropathy?

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Sixty-six patients with psoriatic arthropathy were subdivided into nine groups on the basis of the presence of peripheral arthritis, axial disease whether or not fulfilling the New York criteria for ankylosing spon dylitis both associated and not associated with peripheral arthropathy and bilateral or monolateral sacro-iliitis. Only the group with axial disease (sacroiliitis + spondylitis) without peripheral arthritis and not fulfilling the NY criteria showed a truly increased B27 prevalence. However, in this atypical group, only 2 patients had a true ankylosing pattern-like spondylitis. On the other hand, in the group with axial disease fulfilling the NY criteria, only one of 9 patients was B27+. We conclude that B27 is not a true marker of axial involvement in psoriatic arthropathy.

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On the basis of recent clinical, laboratory and radiological findings, psoriatic arthritis (PA) has been designated one of the "seronegative spondyloarthritides" with frequent axial involvement (1).

Though HLA B27 would be positive in 50%–70% of PA patients with an ankylosing spondylitis pattern when compared with 90% of those with idiopathic ankylosing spondylitis (2, 3), there is general agreement that an association between this histocompatibility antigen and psoriatic arthropathy does exist in the subset of patients having axial involvement (sacro-iliitis + spondylitis) indifferently with or without peripheral arthritis (4, 5, 6, 7, 8).

In the present paper, the prevalence of HLA B27 in 66 consecutive patients with PA, 26 of whom had a definite axial involvement, is reported.

PATIENTS AND METHODS

Sixty-six psoriatic patients with arthropathy, as defined by Wright and Moll (1), were studied. For the purpose of our study, patients were classified as having:

1) peripheral arthritis only
2) peripheral arthritis with or without axial disease, but not fulfilling the New York (NY) criteria for spondylitis
3) peripheral arthritis with axial disease
4) axial disease (sacro-iliitis or spondylitis, or both) with or without peripheral arthritis (and not necessarily fulfilling the NY criteria)
5) exclusively axial involvement, whether or not fulfilling the NY criteria
6) spondylitis fulfilling the NY criteria, with or without peripheral joint involvement
7) spondylitis only fulfilling NY criteria, but without peripheral arthritis
8) presence of bilateral sacro-iliitis
9) presence of monolateral sacro-iliitis

Radiologic sacro-iliitis was graded according to the NY criteria for the diagnosis of ankylosing spondylitis (9).

All patients had antero-posterior and latero-lateral radiographs of the spine, as well as a postero-anterior and oblique views of the pelvis. Patients with peripheral arthritis had radiographs of involved joints. A microlymphocytotoxicity technique test was used to type for HLA B27 antigen (10). The control population consisted of 340 blood donors from the same geographical area.

RESULTS

The general features of the patients studied are shown in Table I. Seventeen (25.8%) were B27+ (9 males; 8 females). An axial involvement was present in 25 patients (37.9%), of whom 7 (26.9%) were B27+, while this antigen was present in 8.8% of the control population. Table II gives the prevalence of HLA B27 in each group considered. In all groups, B27 was increased, but only in the patients with axial involvement and without peripheral arthritis did the percentage reach 60. This heterogeneous group consisted of 5 patients: 3 B27+ (only one fulfilling the NY criteria for spondylitis), 2 B27– (one NY criteria +). When we considered the group of 9 patients with axial involvement and fulfilling the NY criteria indifferently with or without peripheral arthritis, the prevalence of B27 was only 11.1% (one positive, 8 negative). Finally only one of the 2 patients fulfilling the NY criteria (group 7) was B27+.

DISCUSSION

Usually HLA B27 is considered to be a marker of spinal involvement (sacro-iliitis + spondylitis) in psoriatic arthropathy, whereas there is a normal prevalence in uncomplicated psoriasis (7, 10).

Table I. *Clinical features of 66 patients with psoriatic arthritis*

Sex:	Male	36	(54.5%)
	Female	30	(45.5%)
Age, yrs (mean ±/– SD)		51.7	±/– 12.6
Duration of psoriasis (mean ±/– SD)		13.0	±/– 13.4
Nail involvement		36	(54.5%)
Duration of arthritis, yrs (mean ±/– SD)		7.42	±/– 8.26
Peripheral arthritis		41	(62.1%)
Axial involvement		25	(37.9%)
Exclusive axial involvement		5	(7.6%)

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Table II. *Prevalence of HLA B27 in 66 patients with psoriatic arthritis*

Group		B27	Total patients	%
1	Peripheral arthr. only	10	41	24.4
2	Per. arthr. ±ax NY crit.–	14	53	26.4
3	Per. arthr. +ax disease	14	61	22.9
4	Axial disease ± per. árthr.	7	25	28.0
5	Axial disease ± NY crit	3	5	60.0
6	Axial disease + NY crit ± per arth	1	9	11.1
7	Axial disease + NY crit	1	2	50.0
8	Sacro-iliitis, bilateral	3	16	18.7
9	Sacro-iliitis, monolateral	1	6	16.6

However, the percentage of B27 positivity in patients with psoriatic sacro-iliitis and/or spondylitis is lower than that reported in idiopathic ankylosing spondylitis (2, 4, 5, 6, 7, 12).

There is a general agreement that the prevalence of B27 in PA patients with pure peripheral arthropathy differs slightly from the normal population. In our series, B27 was present in 24.2% of all patients and in 24.4% of those in whom peripheral arthritis alone was considered. These results are not at variance from those reported by most authors (5, 13, 14, 15). In our experience however the prevalence of B27 in patients with axial involvement did not differ from the data recorded in a general group or in a group with peripheral arthritis alone. When we evaluated patients with spondylitis or sacro-iliitis, or both, with or without peripheral arthropathy (not necessarily fulfilling the NY criteria), or patients with spondylitis, fulfilling those criteria, and whether or not showing peripheral arthritis (9 pats: 8 B27–, 1 B27+), bilateral (16 pats: 13 B27–, 3 B27+) or monolateral (6 pats: 5 B27–, B27+) sacro-iliitis, the prevalence of B27 was invariably low (11.1–28%). Only when we took into account the patients with exclusively spinal disease did we find a prevalence of 60%. However, we must regard this group too small and heterogeneous to allow of statistical conclusions: 3 patients had syndesmophites only and did not fulfil the NY criteria for ankylosing spondylitis and cannot be classified as true ankylosing spondylitis pattern.

Our results agree with those reported by other Italian authors (11, 16, 17) and consequently we think that B27 is not a true marker of spondylitis in Italian psoriatic arthropathics.

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