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Prevalence and Clinical Features of Juvenile Psoriatic Arthritis in 425 Psoriatic Patients

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The aim of this study was to define the prevalence and clinical features of Juvenile Psoriatic Arthritis (JPsA). According to the definition by Ansell and Bywaters, we identified the population at risk of JPsA in 425 patients with psoriasis with onset occurring before the age of 31. Among these, 85 were younger than 16 years. Five patients with JPsA were found (prevalence 1.0%). All had a family history of psoriasis and onset of skin disease in the age range 10 to 20 years. Arthritis preceded psoriasis in two cases, while in the remainder the converse occurred. The interval between the onset of cutaneous and articular involvement never exceeded 8 years. Previous studies reported the low frequency of JPsA among juvenile arthritides. Our data appear to underline the rarity of the arthritic form. ***Key words: psoriatic arthritis, seronegative spondyloarthropathies.***

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First described by Ansell and Bywaters in 1962, Juvenile Psoriatic Arthritis (JPsA) is considered to be an inflammatory arthritis associated with psoriasis, either preceding the onset of arthritis proper, or occurring within the subsequent 15 years, and persisting for at least 6 weeks and beginning before the age of 16 years (1). Usually, rheumatoid factor is not present in the serum. In 1982 a survey was started in Naples with the aim of studying the prevalence and clinical features of the arthritis associated with psoriasis (2). 759 psoriatic patients have so far been considered and, of these, 85 children have been observed. In this paper, the prevalence and clinical features of JPsA cases are detailed and the dermatological characteristics and relationships between psoriasis and arthritis are also discussed.

PATIENTS AND METHODS

Eight-five children with confirmed psoriasis (59 F and 26 M, mean age 12.47, range 3–16) and 340 patients with onset of the skin disease between 16 and 31 years of age, were admitted due to cutaneous involvement to the Dermatological Department of Health Unit no. 42 of the Region of Campania. On the basis of the definition set out above, all subjects were regarded as a population at risk of JPsA (Table I). A complete dermatological and rheumatological assessment was carried out.

Dermatological assessment was based on scrutiny of familial and personal medical records, concerning age at onset of and localization and extent of skin involvement.

Rheumatological evaluation included the detection of peripheral and/or axial involvement, the assessment of its activity and age at onset.

Diagnosis of peripheral chronic arthritis was based on the presence, for at least 6 weeks, of joint swelling, or at least two of the following clinical features: morning stiffness, limited joint motion, pain accompanying joint movement, or joint margin tenderness in the medical history and/or at clinical examination. Radiological examination was also performed in adult men with a positive medical history. The localization of arthritis was also recorded.

The presence of axial involvement was determined by the detection of inflammatory back pain (IBP) (3) plus at least one of the following features, or by two of them alone: (*a*) limitation of lumbar spine motion in anterior and lateral flexion and extension; (*b*) limitation of chest expansion to 2.5 cm (1 inch) measured at the fourth intercostal space; (*c*) enthesopathies; (*d*) sacro-iliitis revealed by radiography in adult men with IBP lasting from pediatric age, or by tenderness evidenced by at least two of the following clinical techniques in all patients: 1) direct pressure over the sacro-iliac joints; 2) mutual impaction of the iliac bones; 3) hyperextension of one hip with the other in full flexion.

The arthritic activity was graded according to the severity of pain, duration of early morning stiffness and number of affected joints.

Serum rheumatoid factor was searched for by Latex test (4) and by a haemoagglutination slide test (5).

RESULTS

Only 4 of the 85 psoriatic children exhibited arthritis and 1 of the remaining 340 patients observed revealed articular involvement before the age of 16 (prevalence of JPsA: 1.0%). All 5 patients had active psoriasis.

Patient 1

A 16-year-old girl whose onset of psoriasis was at the age of 12. Skin disease involved scalp, arms, legs and back. Family history of psoriasis was positive (2 relatives).

Arthritis followed psoriasis after 3 years, involving MCP, PIP and DIP of both hands, with insidious onset and moderate activity.

Patient 2

A 10-year-old girl had psoriasis 2 months before the time of observation, with a diffuse localization. Her sister also had psoriasis.

Mild arthritis had preceded psoriasis by 4 years, with an insidious presentation in bilateral MCP and PIP and in both knees.

Patient 3

A 13-year-old girl had psoriasis at the age of 11, involving both

Table I. *Characteristics of the population at risk of JPsA*

Sex	Number	age (years)	
		Mean	Range
Female	240	27.60	4–68
Male	185	30.78	3–76
Total	425	28.98	3–76

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Table II. *Involved joints in the 5 patients with JPsA*

Pat. no.	MCP	PIP	DIP	SI	Knee	Ankle
1	++	++	++			
2	++	++			++	
3	++			+		
4				++		
5					+	+

elbows and knees, and then the legs and back. She also had onycopathy. One relative was also affected by psoriasis.

Two months after the onset of psoriasis, the patient suffered inflammatory back pain and peripheral arthritis localized in the knees and MCP of both hands, with moderate activity. At the time of our observation she had unilateral sacro-iliitis.

Patient 4

A 21-year-old woman developed psoriasis 7 months before our examination, localized on the scalp, face, upper arms, elbows, hands and feet. She also had severe onycopathy, but no family history of psoriasis.

Eight years before the onset of skin involvement, the patient had had inflammatory back pain. Bilateral sacro-iliitis with mild activity was evident at the time of our clinical examination.

Patient 5

A 12-year-old girl whose psoriasis appeared at the age of 8 years. Skin involvement was localized on the scalp, arms and legs. One relative of the patient was affected by psoriasis.

Two years after the onset of psoriasis a mild arthritis involved left knee and ankle.

DISCUSSION

JPsA was first described by Ansell and Bywaters in 1962 as an inflammatory arthritis associated with psoriasis either preceding the onset of arthritis or occurring within the subsequent 15 years, persisting for at least 6 weeks, beginning before the age of 16 years and usually with an absence of rheumatoid factor in the serum (1).

The aim of our study was to define the prevalence and clinical features of JPsA among psoriatic patients, within the scope of an epidemiological survey started in Naples in 1982 (2).

On the basis of the definition of JPsA quoted above, we identified a population at risk of JPsA comprising 425 patients with psoriasis onset occurring before the age of 31 years. Of these, 85 were less younger than 16 years old. Five patients with JPsA were identified (prevalence 1.0%).

Four patients had a family history positive for psoriasis and all had the onset of skin disease in the age range 10 to 20 years.

Arthritis preceded psoriasis in 2 cases, while in the remainder the inverse occurred. The interval between the onset of cutaneous and articular involvement never exceeded 8 years.

Localization of joint involvement is shown in Table II.

Previous studies reported a low frequency of JPsA among Juvenile arthritides (6–10). Our results, although not comparable to similar data, underline the rarity of this arthritic form. Nevertheless, JPsA needs a new diagnostic approach based on a forewarning detection of psoriasis and a definition of a typical pattern of arthritis.

At first, based on the high frequency of nail changes, dactylitis and a positive family history of psoriasis in children without typical psoriatic rash, a new diagnostic set allowing a forewarning detection of JPsA has been proposed (11).

Moreover, in the presence of joint manifestations alone, typical articular patterns of JPsA have been described (12).

Among our patients, although representing a small sample, all with definite psoriasis, 2 showed onycopathy, but, as previously observed (13), tenosynovitis and dactylitis was not found.

However, JPsA can at present be diagnosed only by the simultaneous detection of arthritis and definite psoriasis. This problem can only be solved by follow-up studies, lasting long enough to match probable JPsA with the definition criteria of Bywaters and Ansell.

REFERENCES

1. Ansell BM, Bywaters EGL. Diagnosis of "probable" Still's disease and its outcome. Ann Rheum Dis 1962; 21: 253–262.
2. Scarpa R, Oriente P, Pucino A, Torella M, Vignone L, Biondi-Oriente C. Psoriatic arthritis in psoriatic patients. Br J Rheumatol 1984, 23: 246–250.
3. Calin A, Barnett M, Marder A, Marks S. Familial aggregation of Reiter's syndrome and ankylosing spondylitis: a comparative study. J Rheumatol 1984; 11: 672–6.
4. Singer JM, Plotz CM. The Latex fixation test. Am J Med 1956, 21: 888–892.
5. Milgram F, Tonder O, Loz AU: Modification of the Waaler – Rose test using formalinized sheep erythrocytes. Arthritis Rheum 1964, 7: 1–8.
6. Shore A, Ansell BM. Juvenile psoriatic arthritis: an analysis of 60 cases. J Pediatr 1982; 100: 529–535.
7. Lambert JR, Ansell BM, Stephenson E, Wright V. Psoriatic arthritis in childhood. Clin Rheum Dis 1976; 2: 339–352.
8. Calabro JJ. Psoriatic arthritis in children. Arthritis Rheum 1977; 20 (suppl. 2): 415–416.
9. Sills EM. Psoriatic arthritis in childhood. Johns Hopkins Medical Journal 1980; 146: 49–53.
10. Hamilton ML, Gladman DD, Shore A, Laxer RM, Silverman ED. Juvenile psoriatic arthritis and HLA antigens. Ann Rheum Dis 1990; 49: 694–697.
11. Southwood TR, Petty RE, Malleson PN et al. Psoriatic arthritis in children. Arthritis Rheum 1989; 32: 1007–1013.
12. Truckenbrodt H, Hafner R. Juvenile psoriatic arthritis. XI European Congress of Rheumatology, Eurorheumatology, Athens, Greece, 1987, 70–73.
13. Koo E, Balogh B, Gomor B. Juvenile psoriatic arthritis. Clin Rheum 1991; 10: 245–249.