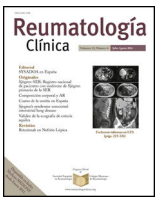
Reumatol Clin. 2018;14(5):290–293

Sociedad Española de Reumatología - Colegio Mexicano de Reumatología

Reumatología Clínica

www.reumatologiaclinica.org



Brief Report

Heel Pain in Psoriatic Arthropathy: Analysis of a Series of 291 Patients☆

Isabel Morales Ivorra,[a] Pablo Juárez López,[a] Mercè López de Recalde,[a] Pedro David Carvalho,[b] Jesus Rodriguez Moreno[a,*]

[a] *Servicio de Reumatología, Hospital Universitari de Bellvitge, L'Hospitalet de Llobregat, Barcelona, Spain*
[b] *Servicio de Reumatología, Centro Hospitalar Universitário de Coimbra, Coimbra, Portugal*

ARTICLE INFO

Article history:
Received 30 November 2016
Accepted 9 March 2017
Available online 22 August 2018

Keywords:
Psoriatic arthritis
Psoriasis
Heel
Pain
Enthesopathy

ABSTRACT

Objective: To determine the prevalence of heel pain in a series of patients with psoriatic arthritis (PsA).
Material and methods: Cross-sectional, observational and retrospective study of a series of 347 patients. All patients fulfilled the CASPAR criteria for PsA and 291 had a clinically significant history of heel pain. The statistical analysis was performed using chi-square test, ANOVA and binary logistic regression.
Results: Thirty-five percent of the patients had clinically significant heel pain. A significant association was established between an early onset of skin and joint involvement in the disease and the development of heel pain. However, no significant correlation was found between disease duration and the presence of heel pain. History of dactylitis and PsA in first-degree family members was also statistically associated with this complication.
Conclusions: Clinically significant heel pain was recorded in one third of the patients in this series. There was a statistically significant association with dactylitis, PsA in first-degree family members and an earlier onset of joint and skin disease.

La talalgia en la artropatía psoriásica. Análisis de una serie de 291 pacientes

Palabras clave:
Artritis psoriásica
Psoriasis
Talón
Dolor
Entesopatía

RESUMEN

Objetivo: Determinar la prevalencia de talalgia clínicamente significativa en una serie de pacientes con artritis psoriásica (APs) y analizar su asociación con otras variables de la enfermedad.
Material y métodos: Estudio transversal, observacional, retrospectivo. De la cohorte de 347 pacientes afectos de APs, todos cumplían los criterios de clasificación CASPAR para APs, se seleccionaron 291 en los que estaba recogido el antecedente de talalgia clínicamente significativa. Para el análisis estadístico se ha utilizado la prueba de chi-cuadrado, el ANOVA y la prueba de regresión logística binaria.
Resultados: El 35% de los pacientes presentó talalgia clínicamente significativa. La talalgia se asoció significativamente con un inicio más precoz de la enfermedad cutánea y articular, pero no con la duración de la enfermedad. También fue significativa su asociación con la dactilitis y antecedente familiar de primer grado con APs.
Conclusiones: La talalgia clínicamente significativa se presentó en un tercio de los pacientes de la serie. Se asoció con dactilitis, antecedente familiar de primer grado con APs y un inicio más precoz de la enfermedad cutánea y articular.

☆ Please cite this article as: Morales Ivorra I, Juárez López P, López de Recalde M, Carvalho PD, Rodriguez Moreno J. La talalgia en la artropatía psoriásica. Análisis de una serie de 291 pacientes. Reumatol Clin. 2018;14:290–293.

* Corresponding author.
E-mail address: jesus.rodriguez@bellvitgehospital.cat (J. Rodriguez Moreno).

Introduction

Psoriatic arthritis (PsA) is a chronic inflammatory disease included in the group of spondyloarthritides (SpA).[1] Enthesis is a site in which tendons, ligaments and the joint capsule attach to the bone. Enthesis involvement is one of the typical manifestations of SpA, and is included in the Classification Criteria for Psoriatic Arthritis.[2] Heel pain is one of the most specific clinical manifestations, although not exclusive, of enthesopathy.[3]

The objective of our study was to determine the prevalence of heel pain as a subrogated variable of enthesitis in a sample of patients with PsA and analyze its association with other demographic or anthropometric variables of the disease.

Materials and Methods

Study Design

The study was carried out in the Teaching Hospital of Bellvitge, a tertiary center located in L'Hospitalet de Llobregat (Barcelona, Spain). Between 1992 and 2015, 347 patients were registered in a database of individuals with PsA. The patients had been assessed every 6–12 months by the same clinician in accordance with a protocol. All of the patients included met the Classification Criteria for Psoriatic Arthritis.[2] In 2015, in all of the patients who came to our department, we assessed the clinically significant history of heel pain. The literature provides no established definition. Thus, in this report, we considered clinically significant heel pain to be that that produced pain in the plantar or posterior region of the heel that persisted for more than 1 month. We included in the study the 291 patients in whom this variable was recorded. In the remainder of the patients in whom this variable was not recorded, this was due to death or to individuals who were lost to follow-up.

Clinical Research Ethics Committee

The clinical research ethics committee of the Teaching Hospital of Bellvitge approved the constitution of the observation cohort and the patients provided their informed consent.

Characteristics of the Patients and the Study Variables

The study data were collected prospectively by the same clinician in the department, in accordance with the established protocol. The demographic data recorded were: age, sex and body mass index. The characteristics on PsA included were: ages at the onset of psoriasis and of PsA, duration of PsA, history of psoriasis or PsA in first-degree family members, preferred pattern of peripheral arthritis (oligo vs polyarticular), axial involvement, lumbar pain lasting at least 3 months in patients less than 45 years of age, radiological sacroiliitis (according to the modified New York criteria), presence of resorptive or arthritis mutilans, rheumatologist-confirmed history of dactylitis, distal interphalangeal involvement, moderate-to-severe psoriasis (defined by the Psoriasis Area Severity Index (PASI) as greater than 10 (in the past or present) and/or the need for systemic treatment for psoriasis or treatment with ultraviolet A), onychopathy, palmoplantar psoriasis and positivity for human leukocyte antigen (HLA)-B27. Lastly, we also reported data concerning treatment received with biological agents.

Statistical Analysis

The demographic characteristics, those of the disease and the treatment received were evaluated in patients with and without heel pain. In the univariate analysis, we utilized the chi-square test and analysis of variance (ANOVA). The variables in which the P value was less than .05 were introduced in the multivariate binary logistic regression model. All of the statistical studies were performed with the SPSS version 20.0 statistical package.

Results

Characteristics of the study population: of the cohort of 347 patients, the variable heel pain was recorded in 291. The latter were the patients analyzed and whose results are summarized in Table 1. The cumulative prevalence of heel pain in our series was 35.1%.

In the univariate analysis (Table 1), we found a statistically significant association ($P < .05$) between heel pain and younger age, an earlier onset of the skin and joint disease, a history of dactylitis and having a first-degree family member with PsA.

There were no differences between sexes, in body mass index, the arthritis pattern, positivity for HLA-B27, a history of psoriasis in first-degree family members, the presence of moderate-to-severe psoriasis, palmoplantar psoriasis or onychopathy, or in the utilization of biological agents.

In the multivariate analysis, both a history of dactylitis and younger age showed statistical significance ($P < .05$) (Table 1).

Discussion

The cumulative prevalence of heel pain in our series was 35%. In the general population, it is 13%.[4] Heel pain can be produced by diverse causes,[3] it being one of the most specific clinical manifestations of enthesopathy.[5] In this report, we chose heel pain for the study of enthesitis, as it is a manifestation of Achilles enthesitis and enthesopathy. At other sites it is more difficult to interpret because they coincide with fibromyalgia tender points.[6] The prevalence of enthesitis in PsA is 35%.[7] The fact that the prevalence in this study was greater than that reported in the general population (35% vs 13%) and is more similar to the prevalence of enthesitis is probably due to the fact that, in PsA, heel pain is frequently a manifestation of enthesitis.

In our series, the association between heel pain and dactylitis was statistically significant. Dactylitis is one of the most characteristic clinical manifestations of PsA. A number of groups have studied the etiology and pathogenesis of dactylitis, but it continues to be controversial. Eshed et al. defend that enthesitis is the primary lesion of dactylitis.[8] Considering heel pain to be a subrogated variable of enthesitis, the association observed in this report supports the thesis that enthesitis and dactylitis may have a common link in their pathophysiology.

Finally, in this study, we observed an association between heel pain and an earlier onset of the skin an joint disease. The literature includes descriptions in which patients with an early onset of PsA have an Achilles enthesitis,[9] but there have been no reports of an association between age and cutaneous psoriasis.

The strengths of our study lie in the sample size and the fact that the series comes from an observational cohort in which the patients were assessed by a single rheumatologist. Among the limitations, we should mention that we are dealing with a

Table 1
Baseline Characteristics and Results of the Statistical Analysis of the Demographic and Clinical Factors in the Cohort of Patients With Psoriatic Arthritis Studied in this Report.

	Overall series $N = 291$	Univariate analysis			Multivariate analysis	
		Without heel pain n/N (%), $M \pm SD$ $n = 189$	With heel pain n/N (%), $M \pm SD$ $n = 102$	P	OR (95% CI)	P
Men (n = 291)	157/291 (53.9)	54/102 (51)	103/189 (54.5)	ns[a]		ns[a]
Dactylitis (n = 289)	132/289 (45.7)	76/188 (40.4)	56/101 (55.4)	.015[a]	0.565 (0.335–0.951)	.032[b]
Age (n = 291)	57.1 ± 13.8	51.5 ± 12.3	60.1 ± 13.7	.000[c]	1.052 (1.021–1.084)	.001[b]
Age at onset of Ps (n = 283)	32.7 ± 15.2	34.7 ± 15.5	29.1 ± 14.0	.003[c]		
Age at onset of PsA (n = 288)	40.6 ± 14.5	43.0 ± 14.6	36.2 ± 13.2	.000[c]		
Duration PsA (n = 288)	16.5 ± 11.7	17.0 ± 12.2	15.4 ± 10.7	ns[c]		
BMI (n = 266)	27.6 ± 4.7	27.9 ± 4.7	27.1 ± 4.8	ns[c]		
First-degree family member with Ps (n = 283)	124/283 (44.0)	80/184 (43.4)	44/99 (44.4)	ns[a]		
First-degree family member with PsA (n = 273)	27/273 (9.9)	12/176 (6.8)	15/97 (15.4)	.02[c]		
Peripheral arthritis pattern (n = 288)						
Oligoarticular	141/288 (49.0)	85/186 (45.7)	56/102 (54.9)			
Polyarticular	139/288 (48.3)	96/186 (51.6)	43/102 (42.1)			
Axial	8/288 (2.8)	5/186 (2.7)	3/102 (3.0)			
Lumbar pain before the age of 45 years and during > 3 months (n = 222)	75/222 (33.8)	48/144 (33.3)	27/78 (34.6)	ns[a]		
Axial SpA (modified New York criteria) (n = 275)	33/275 (12.5)	21/182 (11.5)	12/93 (13.0)	ns[a]		
Radiological sacroiliitis (n = 211)	48/211 (22.7)	31/134 (23.1)	17/77 (22.1)	ns[a]		
Distal interphalangeal involvement (n = 288)	96/288 (33.3)	66/188 (35.1)	30/100 (30.0)	ns[a]		
Resorptive/arthritis mutilans (n = 290)	23/290 (8.0)	17/189 (9.0)	6/101 (5.9)	ns[a]		
Positive for HLA-B27 (n = 264)	34/264 (12.9)	21/172 (12.2)	13/92 (14.1)	ns[a]		
Onychopathy (n = 282)	174/282 (61.7)	109/184 (59.2)	65/98 (66.3)	ns[a]		
Palmoplantar Ps (n = 280)	56/280 (20.0)	39/184 (21.1)	17/96 (17.7)	ns[a]		
Moderate-to-severe Ps (n = 283)	95/283 (33.6)	62/186 (33.3)	33/97 (34.0)	ns[a]		
Biological therapy (n = 267)	112/267 (41.9)	75/176 (42.6)	37/91 (40.6)	ns[a]		

[a] Chi-square.
[b] Logistic regression.
[c] Analysis of variance (ANOVA).
BMI, body mass index; CI, confidence interval; *M*, mean; ns, not significant; OR, odds ratio; Ps, psoriasis; PsA, psoriatic arthritis; SD, standard deviation; SpA, spondyloarthritis.

cross-sectional retrospective study design. That makes it impossible to confirm that heel pain is secondary to enthesitis. On the other hand, given that the cumulative prevalence of heel pain has been established, we cannot rule out the existence of memory bias.

In conclusion, in this study, 35% of the patients had clinically significant heel pain and its presence was associated with dactylitis, with first-degree family members with a history of PsA and an earlier onset of psoriasis and PsA.

Ethical Disclosures

Protection of human and animal subjects. The authors declare that no experiments were performed on humans or animals for this study.

Confidentiality of data. The authors declare that they have followed the protocols of their work center on the publication of patient data.

Right to privacy and informed consent. The authors declare that no patient data appear in this article.

Funding

The design, preparation and analysis of this study were financed with recourses of the Rheumatology Department of Teaching Hospital of Bellvitge.

Conflicts of Interest

Dr. Jesús Rodriguez Moreno collaborated during this time with different pharmaceutical industries by means of presentations in congresses and the performance of other clinical trials. The authors declare they have no conflicts of interest.

References

1. Amor B, Dougados M, Mijiyawa M. [Criteria of the classification of spondylarthropathies]. Rev Rhum Mal Osteoartic. 1990;57:85–9 [in French].

2. Taylor W, Gladman D, Helliwell P, Marchesoni A, Mease P, Mielants H, et al. Classification Criteria for Psoriatic Arthritis: development of new criteria from a large international study. Arthritis Rheum. 2006;54:2665–73.
3. Narváez JA, Narváez J, Ortega R, Aguilera C, Sánchez A, Andía E. Painful heel: MR imaging findings. Radiographics. 2000;20:333–52.
4. Chatterton BD, Muller S, Roddy E. Epidemiology of posterior heel pain in the general population: cross-sectional findings from the clinical assessment study of the foot. Arthritis Care Res (Hoboken). 2015;67:996–1003.
5. Koumakis E, Gossec L, Elhai M, Burki V, Durnez A, Fabreguet I, et al. Heel pain in spondyloarthritis: results of a cross-sectional study of 275 patients. Clin Exp Rheumatol. 2012;30:487–91.
6. Rodríguez-Moreno J, Isidre A, Burdeus JM. Talalgias. Rev Esp Reumatol. 2003;30:499–502.
7. Gladman DD, Chandran V. Observational cohort studies: lessons learnt from the University of Toronto Psoriatic Arthritis Program. Rheumatology (Oxford). 2011;50:25–31.
8. Eshed I, Bollow M, McGonagle DG, Tan AL, Althoff CE, Asbach P, et al. MRI of enthesitis of the appendicular skeleton in spondyloarthritis. Ann Rheum Dis. 2007;66:1553–9.
9. Queiro R, Alperi M, Alonso-Castro S, Ballina J, Huergo-Zapico L, Fernández-Guizán A, et al. Patients with psoriatic arthritis may show differences in their clinical and genetic profiles depending on their age at psoriasis onset. Clin Exp Rheumatol. 2012;30:476–80.