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Research Letter

Axial Involvement in Psoriatic Arthritis: Effect on Peripheral Arthritis and Differential Features With Axial Spondyloarthritis in South America

To the Editor:

Reported data of axial involvement in psoriatic arthritis (PsA) are variable (25–70%). This variability is mainly linked to different ways of defining this feature. Gladman[1] established that the prevalence of axial involvement in PsA was close to 50% and that it is associated with HLA-B27. Likewise, psoriasis (PsO) spondylitis, unlike ankylosing spondylitis (AS), is characterized by not having a greater preponderance of the male sex, greater skin involvement, and a less severe course.[2]

We carried out an observational, cross-sectional, single-center study. The objective of our study was to estimate the frequency of axial involvement in patients with a recent diagnosis of PsA in a rapid diagnostic circuit called Reuma-Check[3] and to carry out a comprehensive characterization (clinical, laboratory, and images). We also aimed to analyze the effect of axial involvement on other manifestations, and finally, to compare all features with a group of patients with axial spondyloarthritis (axSpA), diagnosed in the same circuit (with the same evaluators and the same imaging and laboratory techniques) in the same period of time, who did not present current PsO or history of PsO.

This observational study was approved by an institutional ethics committee and was conducted in accordance with the current Declaration of Helsinki, the resolution 1480/11 of the local Health Ministry, and local regulations applicable to this type of study. Patients' confidentiality was respected according to local law and informed consent was obtained for publication.

Patients included were older than 18 years and were admitted between 2017 and 2019 according to the following criteria: musculoskeletal symptoms such as arthralgia/arthritis, dactylitis, and/or enthesitis associated with PsO or family history. Once diagnosis of PsA was made (according to expert evaluation and the Classification Criteria for Psoriatic Arthritis), the presence of axial symptoms was investigated, which was defined as chronic low back pain (LBP) associated with at least one of the following: Bath Ankylosing Spondylitis Disease Activity Index (BASDAI) > 4, positive sacroiliac clinical tests (flexion, abduction, and external rotation test [FABER]), and/or inflammatory LBP (Assessment of Spondyloarthritis international Society [ASAS] criteria). If patients met these criteria, a second Reuma-Check was performed for the complete study of axial involvement (HLA-B27 and images). The complete description of the Reuma-Check circuit is published.[3]

A total of 139 consecutive patients with musculoskeletal symptoms plus PsO or family history were admitted (PsO 52%, family history 48%). Seventy-three (53%, 95% CI 44–60) were finally diagnosed with PsA (characteristics in Supplementary Data, available from the authors on request). Twenty-four out of 73 (33%, 95% CI 22–44) patients diagnosed with PsA had clinical axial involvement.

The main characteristics of the patients with axial PsA (axPsA) were as follows: inflammatory LBP (87%), response to nonsteroidal antiinflamma-

Table 1. Differential features between PsA patients with and without axial involvement.

	PsA With Axial Involvement, n = 24	PsA Without Axial Involvement, n = 49	*P*	OR (95% CI)
Male, n (%)	10 (42)	21 (43)	0.9	0.9 (0.3–2.5)
Age, yrs, mean (SD)	49 (9.6)	51 (13.6)	0.5	
Smoker, n (%)	17 (71)	26 (54)	0.1	2.1 (0.7–6.6)
Peripheral arthritis, n (%)	24 (100)	47 (97)	0.9	
Clinical enthesopathy, n (%)	11 (45)	11 (22)	0.6	0.5 (0.4–6.3)
PsO, n (%)	19 (79)	37 (75)	0.7	1.2 (0.4–4)
Others SpA features: IBD-uveitis, n (%)	10 (42)	6 (12)	**0.004**	**5.1 (1.5–17)**
Family history of SpA, n (%)	6 (25)	18 (36)	0.3	0.6 (0.2–1.7)
VAS pain (0–10), median (IQR)	7 (5–8)	6 (3–7)	0.1	
TJC28, median (IQR)	4 (1–4.7)	2 (0–4)	0.1	
SJC28, median (IQR)	2 (0–3)	1 (0–2.5)	0.8	
DAPSA, mean (SD)	15 (4.6)	13 (8.5)	0.3	
MASES, median (IQR)	0.5 (0–2)	0 (0–1)	**0.04**	
HAQ-DI, median (IQR)	0.8 (0.5–1)	0.5 (0.1–0.8)	**0.002**	
CRP, median (IQR)	2 (1–10)	2 (1–6)	0.8	
CRP+ (> 5 mg/L), n (%)	9 (39)	18 (36)	0.8	1.1 (0.4–3)
ESR, mm/h, median (IQR)	19 (10–25)	16 (7.5–26)	0.3	
Positive peripheral radiograph, n (%)	14 (59)	20 (41)	0.2	2 (0.6–6.5)
Enthesopathy by US, n (%)	10 (43)	23 (48)	0.7	0.8 (0.3–2.2)
Synovitis by US, n (%)	11 (46)	22 (45)	0.9	1 (0.4–2.8)
Time between the onset of the symptoms and access to the program, months, median (IQR)	60 (18–122)	36 (8–78)	0.1	

Values in bold are statistically significant. CRP: C-reactive protein; DAPSA: Disease Activity for Psoriatic Arthritis; ESR: erythrocyte sedimentation rate; HAQ-DI: Health Assessment Questionnaire–Disability Index; IBD: inflammatory bowel disease; MASES: Maastricht Ankylosing Spondylitis Enthesitis Score; PsA: psoriatic arthritis; PsO: psoriasis; SJC28: swollen joint count in 28 joints; SpA: spondyloarthritis; TJC: tender joint count in 28 joints; US: ultrasonography; VAS: visual analog scale.

tory drugs (NSAIDs; 75%), sacroiliac test (71%), HLA-B27 (17%), positive sacroiliac radiograph (29%), positive sacroiliac magnetic resonance imaging (MRI; 37%), BASDAI (median 4 [IQR 2.8–5]), Bath AS Functional Index (median 4.6 [IQR 3.8–5.3]), morning stiffness (median 40 min [IQR 30–45]), visual analog scale night pain (median 7 [IQR 5–8]), and SpA features (mean 5.6 [SD 1.4]).

Table 1 shows the differential features between PsA patients with and without axial involvement. In the logistic regression model, the variables that were independently associated with axPsA were the presence of nonmusculoskeletal manifestations and Maastricht AS Enthesitis Score. The analysis of the differential features between axPsA and axSpA is shown in Table 2.

In the absence of criteria that define this condition, we relied on a set of clinical data, such as inflammatory LBP, BASDAI activity, and sacroiliac provocation tests. Regarding the first criterion, the classification is the same used for axSpA; in our experience, its prevalence was close to 90% and there was a good response to NSAIDs (75%).[4]

Although the presence of HLA-B27 in PsA is low (< 40%), we know that the prevalence of HLA-B27 in Latin America is lower than in European cohorts.[5] In Argentina, the prevalence of HLA-B27 reported is around 50%. In this study, 17% of patients with PsA and axial involvement were positive for HLA-B27, a fact that reflects its low prevalence in our population.[6]

Only 29% had positive changes on sacroiliac radiography and 40% had typical changes on MRI. In general, only a few studies have evaluated the frequency of radiographic spinal involvement in patients diagnosed with PsA. Depending on the classification used, between 25% and 70% of patients diagnosed with PsA have been reported to have such participation in combination with the peripheral symptoms.[1,2]

We found that patients with axPsA had a greater burden of disease, with greater nonmusculoskeletal manifestations such as uveitis, greater involvement of entheses, and lower functional capacity. Other cohorts reported similar data, which also included greater severity of PsO, which was not quantified in our study.[7]

In literature, axPsA was always compared with AS, showing differential characteristics.[8] We have compared these characteristics with a group of patients with axSpA. In our study, we found no difference in sex, disease activity, or functional tests, but we found differences in smoking, age of diagnosis, HLA-B27, and MRI. These findings were expected; however, we highlight the association of inflammatory bowel disease and uveitis in axPsA.[9]

The strengths of this study include the assessment of axial involvement in PsA in Latin America in a comprehensive manner, as it provides clinical data, imaging, and HLA-B27, and compares the differences between patients with and without axial involvement. It also compares the characteristics of axPsA and axSpA. It would be helpful for groups such as ASAS and the Group for Research and Assessment of Psoriasis and Psoriatic Arthritis to aid in creating a better definition of this condition.[10]

Table 2. Differential features between patients with axPsA and axSpA.

	AxPsA, n = 24	AxSpA, n = 64	*P*	OR	95% CI
Male sex, n (%)	10 (42)	29 (45)	0.8	0.9	0.3–2.2
Age at diagnosis, yrs, mean (SD)	49.4 (9.6)	43.8 (12.7)	**0.03**		
Smoking, n (%)	51 (71)	22 (34)	**0.003**	4.7	1.6–14
Peripheral arthritis, n (%)	21 (87)	13 (20)	**> 0.001**	27.6	7–106
Enthesitis, n (%)	11 (46)	21 (33)	0.25	1.7	0.6–4.5
PsO, n (%)	19 (79)	0 (0)	**> 0.001**		
IBD and/or uveitis, n (%)	10 (42)	9 (14)	**0.005**	4.3	1.5–13
Family history of SpA, n (%)	6 (25)	20 (31)	0.5	0.7	0.2–2.1
Positive peripheral radiograph, n (%)	10 (59)	1 (2)	**> 0.001**	61.4	7–557
Positive enthesis US, n (%)	10 (42)	23 (43)	0.9	1.0	0.4–2.9
Positive joints US, n (%)	10 (45)	6 (12.5)	**0.002**	5.8	1.7–19
Inflammatory low back pain, n (%)	21 (91)	56 (87)	0.6	1.5	0.3–7.6
Good response to NSAID, n (%)	22 (82)	43 (70)	0.3	1.8	0.5–6.3
Positive sacroiliac test, n (%)	17 (74)	33 (52)	0.07	2.5	0.9–7.3
Morning stiffness, min, median (IQR)	40 (30–45)	30 (15–40)	**0.04**		
VAS pain (0–10), median (IQR)	7 (5–7)	7 (6–8)	**0.03**		
VAS night pain (0–10), median (IQR)	7 (5–7)	6 (4–7.5)	0.8		
BASDAI, mean (SD)	4 (1.7)	4.5 (1.6)	0.2		
BASFI, median (IQR)	4.6 (3.8–5.3)	4.6 (4–6)	0.6		
MASES, median (IQR)	0.5 (0–2)	0 (0–1)	0.2		
HAQ-DI, median (IQR)	0.8 (0.5–1)	0.75 (0.5–1)	0.2		
Positive HLA-B27, n (%)	4 (17)	30 (49)	**0.006**	0.2	0.06–0.7
CRP, median (IQR)	2 (1–10)	2 (1–6)	0.6		
ESR, median (IQR)	19 (10–25)	17 (10–25)	0.6		
Positive sacroiliac MRI, n (%)	9 (37)	44 (72)	**0.003**	0.2	0.85–0.6
Positive sacroiliac radiograph, n (%)	7 (32)	30 (52)	0.1	0.4	0.14–1.1
Time from onset of low back pain to evaluation, months, median (IQR)	60 (18–122)	40 (17–122)	0.9		

Values in bold are statistically significant. AxPsA: axial psoriatic arthritis; AxSpA: axial spondyloarthritis; CRP: C-reactive protein; BASDAI: Bath Ankylosing Spondylitis Disease Activity Index; BASFI: Bath Ankylosing Spondylitis Functional Index; ESR: erythrocyte sedimentation rate; HAQ-DI: Health Assessment Questionnaire–Disability Index; IBD: inflammatory bowel disease; MASES: Maastricht Ankylosing Spondylitis Enthesitis Score; MRI: magnetic resonance imaging; NSAID: nonsteroidal antiinflammatory drug; PsA: psoriatic arthritis; PsO: psoriasis; SpA: spondyloarthritis; US: ultrasonography; VAS: visual analog scale.

Rodrigo García Salinas[1], MD, Head of Rheumatology Unit
Einer Sanchez Prado[1], MD
Santiago Ruta[1], MD
[1]Rheumatology Unit, La Plata Italian Hospital, Buenos Aires, Argentina.

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Address correspondence to Dr. R. García Salinas, Rheumatology Unit, Hospital Italiano de La Plata, 51 Street, 1725, La Plata (1900), Buenos Aires Province, Argentina. Email: gsalinasrodrigo@gmail.com.

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