

SPINAL INVOLVEMENT IN PSORIATIC ARTHRITIS, CLINICAL AND RADIOLOGICAL STUDY

Noha A. Elsayy, Rehab Elnemr, Mohamed Elshafei*, Shaimaa Frahat

Department of Physical Medicine, Rheumatology and Rehabilitation, Radiodiagnosis and Intervention Radiology*, Faculty of Medicine, Alexandria University, Alexandria, Egypt

INTRODUCTION

Psoriatic arthritis is chronic inflammatory condition affecting multiple tissues including skin and joints. Axial psoriatic arthritis (axPsA) forms part of the SpA spectrum, may occur in the form of spondylitis with or without sacroiliitis. Spondylitis presents clinically with spinal stiffness and pain, while sacroiliitis causes alternating buttock pain. Although different classification criteria have been used for axPsA, a clear distinction is still not available. Spondylitis occurs in 40% of patients with PsA and may result in fusion of the vertebrae. These manifestations may be present on radiological examination without symptoms or signs. Some patients had silent axial disease, thus it was suggested that in order to identify axPsA, recognition of which has prognostic value, rheumatologists should consider conducting axial imaging for all patients with PsA regardless the presence of back pain.

AIM OF THE WORK

To study spinal involvement in patients with psoriatic arthritis clinically and radiographically.

PATIENTS AND METHODS

Patients:

Fifty patients diagnosed with PsA according to the classification criteria for psoriatic arthritis (CASPAR) were enrolled. Patients were classified into three groups based on the absence or presence of spinal involvement clinically and/or radiographically: **Group (I)**: patients with peripheral PsA (pPsA) only.

Group (II): PsA patients with radiographic axial involvement (AxPsA-R)

Group (III):PsA patients with clinical and radiographic axial involvement (AxPsA-CR).

Patients with orthopedic diseases or other rheumatic disorders affecting the spine and psychiatric and neurological disorders were excluded.

Methods:

Demographic data and detailed history taking were recorded from all patients. The psoriasis severity was assessed by psoriasis area severity index (PASI) spinal mobility was assessed by BASMI, spinal disease activity was assessed by BASDAI.

Axial involvement was assessed radiographically by the Psoriatic Arthritis Spondylitis Radiology Index (PASRI) and the modified Stoke Ankylosing Spondylitis Spinal Score (mSASSS).

RESULTS

Table 1: Comparison between the three studied groups according to radiologic assessment of the chronic inflammation of the spine

Radiologic assessment of the chronic inflammation diseases of the spine	Peripheral arthritic patient (n=12)	Axial PSA patient radiological (n=25)	Axial PSA patient radiological and clinically (n=13)	H	p
PASRI					
Min. – Max.	0.0 – 2.0	2.0 – 25.0	14.0 – 26.0	35.978*	<0.001*
Mean ± SD.	0.33 ± 0.78	10.28 ± 6.79	21.23 ± 3.70		
Median (IQR)	0.0 (0.0–0.0)	8.0 (6–12.0)	20.0 (19.0–25.0)		
Sig. bet. Grps	p ₁ <0.001*,p ₂ <0.001*,p ₃ =0.002*				
mSASSS					
Min. – Max.	0.0 – 0.0	0.0 – 24.0	12.0 – 24.0	1.231	0.540
Mean ± SD.	0.0 ± 0.0	8.16 ± 6.99	16.62 ± 3.36		
Median (IQR)	0.0	8.0 (2.0–12.0)	18.0 (14.0–18.0)		

H: H for Kruskal Wallis test, Pairwise comparison bet. each 2 groups was done using Post Hoc Test (Dunn's for multiple comparisons test)
p: p value for comparing between the three studied groups
p₁: p value for comparing between **Peripheral arthritis** and **Axial PSA patient radiological**
p₂: p value for comparing between **Peripheral arthritis** and **Axial PSA patient radiological and clinically**
p₃: p value for comparing between **Axial PSA patient radiological** and **patient radiological and clinically**
*: Statistically significant at p ≤ 0.05 **PASRI : Psoriatic arthritis spondylitis radiology index**
mSASSS: modified Stoke Ankylosing Spondylitis Spine Score

Table 2: Comparison between the three studied groups according to demographic and clinical data

	Peripheral arthritic PsA (n=12)		Axial PSA patient radiological (n=25)		Axial PSA patient radiological and clinically (n=13)		Test of sig.	P
	NO	%	NO	%	NO	%		
Sex								
Male	2	16.7	14	56.0	11	84.6	χ ² = 11.679*	0.003*
Female	10	83.3	11	44.0	2	15.4		
Sig. bet. grps	FEp ₁ =0.024*, FEp ₂ =0.001*, FEp ₃ =0.148							
Age (years)								
Min. – Max.	28.0 – 53.0		35.0 – 59.0		35.0 – 59.0		H= 15.817*	<0.001*
Median (IQR)	30.50 (28.0–36.0)		50.0 (43.0–51.0)		54.0 (50.0–56.0)			
Sig. bet. grps	p ₁ =0.001*, p ₂ <0.001*, p ₃ =0.373							
BASDAI								
Min. – Max.	1.80 – 5.40		1.40 – 8.90		5.0 – 10.0		H= 26.035*	<0.001*
Median (IQR)	3.90 (3.20–4.20)		5.20 (3.70–5.70)		9.0 (8.0–9.75)			
Sig. bet. grps	p ₁ =0.149, p ₂ <0.001*, p ₃ <0.001*							
PASI								
Min. – Max.	0.20 – 6.80		1.80 – 36.80		1.60 – 15.20		H= 25.171*	<0.001*
Median (IQR)	1.60 (0.50–6.80)		14.75 (12.50–21.30)		12.55 (7.80–12.60)			
Sig. bet. grps	p ₁ <0.001*, p ₂ =0.009*, p ₃ =0.038							

χ^2 : Chi square test MC: Monte Carlo FE: Fisher Exact
H: H for **Kruskal Wallis test**, Pairwise comparison bet. each 2 groups was done using **Post Hoc Test (Dunn's for multiple comparisons test)** F: F for **ANOVA test**, Pairwise comparison bet. each 2 groups was done using **Post Hoc Test (Tukey)**
p: p value for comparing between the three studied groups p₁: p value for comparing between **Peripheral arthritis** and **Axial PsA patient radiological**
p₂: p value for comparing between **Peripheral arthritis** and **Axial PsA patient radiological and clinically**
p₃: p value for comparing between **Axial PSA patient radiological** and **patient radiological and clinically**
*: Statistically significant at p ≤ 0.05

CONCLUSION

- These results might highlight the importance of monitoring patients with PsA for signs of spinal involvement and importance of axial plain radiography.