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Background: There is a growing interest in understanding the early disease stages of axial and peripheral SpA (axSpA and pSpA). In order to facilitate this, standardized definitions are needed for research purposes.
Objectives: To develop a consensual definition for the terms "early axSpA" and "early pSpA" in the research setting under the auspices of the Assessment of SpondyloArthritis international Society (ASAS).
Methods: The ASAS-SPEAR (SPondyloarthritis EARly definition) steering committee convened an international working group (WG). Five consecutive steps were followed: i) Systematic literature review (SLR) to identify existing definitions of early axSpA/pSpA and to summarize the evidence on the relationship between early treatment and clinical response in SpA[1,2]; ii) Discussion of SLR results within the WG and ASAS community (2022 annual meeting); iii) A three-round Delphi survey (Apr-Nov 2022) inviting all ASAS members to select the items that should be considered for the definition of the terms (using a Likert scale 1-9). In total, 20 items relating to three different aspects (axial symptoms, duration of symptoms and radiographic damage involvement) were voted on. Consensus was defined as acceptance or rejection if ≥70% of responses fell within 7-9 or 1-3 on the Likert scale, respectively; iv) Presentation of Delphi survey results to the WG and later to the ASAS community; v) Final discussion, voting and endorsement by ASAS members (2023 annual meeting).
Results: After discussing the results of the SLR[1,2] (step i) with the ASAS community, consensus was to proceed with an expert-based consensual definition for early axSpA (81% full ASAS members voted in favor) but not for pSpA (54% voted against) (step ii). Importantly, it was decided that the definition should be based on the symptom duration (91% in favor) taking solely axial symptoms into account (77% in favor). A total of 151-164/209 (72-78%) ASAS members participated in the Delphi survey rounds (step iii). Consensus was achieved to define early axSpA as a duration of symptoms of ≤2 years. Relating to axial symptoms, consensus was reached for acceptance of 6 items (axial symptoms should include cervical pain, thoracic pain, back pain, buttock pain and morning stiffness and be defined by a rheumatologist) and rejection of 2 items (should not include shoulder pain and hip pain). In addition, consensus was achieved to define early axSpA regardless of the presence/absence of radiographic damage (Table 1). Following the discussion of the Delphi survey results the WG agreed that in patients with a diagnosis of axSpA **"early axSpA" should be defined as a duration of ≤2 years of axial symptoms. Axial symptoms should include spinal/buttock pain or morning stiffness and should be considered by a rheumatologist as related to axSpA, Figure 1.** The WG proposal was discussed and endorsed by the ASAS community with 88% full ASAS members voting in favor (step v).
Conclusion: Early axSpA has for the first time been defined based on expert consensus. This ASAS definition should be used in research studies addressing early axSpA.
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Table 1. Delphi survey final results to select radiographic damage involvement items to define early axial spondyloarthritis.

	Third round (n=151)	
	Level of agreement: Likert scale (1-9)	
	1-3	7-9
A patient with axSpA with axial symptoms ≤2 years has early axSpA regardless of the presence or absence of radiographic damage of the SIJ	13%	76%
A patient with axSpA with axial symptoms ≤2 years has early axSpA regardless of the presence or absence of syndesmophytes on x-rays of the spine	20%	70%

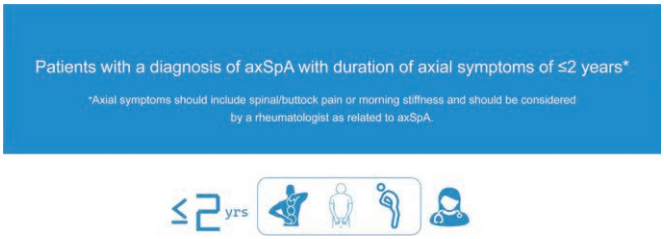

Figure 1. ASAS definition of early axial spondyloarthritis

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OP0056 SENSITIVITY TO CHANGE OF STRUCTURAL LESIONS IN EARLY AXIAL SPONDYLOARTHRITIS AFTER 10 YEARS OF FOLLOW UP. DATA FROM DESIR COHORT

Keywords: Spondyloarthritis, Imaging

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Background: The change over time of the structural damage of axial spondyloarthritis (axSpA) is important to consider since it may reflect the severity of the disease. In axSpA this structural damage can be evaluated either at the sacroiliac joints (SIJ) or spine level, and also either on conventional radiographs or Magnetic Resonance Imaging (MRI).
Objectives: To evaluate the sensitivity to change of different structural imaging outcomes over 10 years of follow-up in patients with early axSpA.
Methods: Patients with early onset (≤3 years) axSpA (according to the treating rheumatologist) from the DESIR cohort were included. Radiographs and MRI of the SIJ and spine were obtained at baseline, 1, 2, 5 and 10 years in 4 separate reading waves. Images were scored by 3 trained central readers (wave 1 only 2 readers with one adjudicator) unaware of chronology. The yearly rate of change (ROC) of each outcome was analyzed using generalized estimation equations (GEEs) including all patients with ≥1 score from ≥1 reader from ≥1 wave and using time (years) as explanatory variable. All outcomes (see the list on Table 1) were standardized (difference between the individual's value and the population mean divided by the population SD). In addition, the relative standardized ROC (i.e., the standardized yearly ROC of an outcome divided by the corresponding rate of a reference imaging outcome) was calculated, with a value >1 reflecting larger sensitivity, and <1 lower sensitivity compared to the reference. Finally, the relative standardized ROC per anatomic site was calculated.
Results: Among all locations and modalities, the change in ≥3 fatty lesions was the outcome with the highest sensitivity to change (standardized ROC 0.073 per year). Considering as reference the modified New York criteria (mNY), the two most sensitive to change outcomes in SIJ (taking into account both MRI and radiographs) were ≥3 fatty lesions and the absolute number of fatty lesions on MRI (relative standardized ROC per year 4.867 and 4.130, respectively). Similarly, the most sensitive to change lesion in the spine (both MRI and radiographs) was the mSASSS score (relative standardized ROC per year 1.778) considering ≥1 syndesmophyte as the reference.
Conclusion: MRI structural outcomes in the SIJ, in particular fatty lesions, are more sensitive to change than radiographic outcomes. On the other hand, mSASSS remains the most sensitive method, even if compared to MRI of the spine.

Table 1. Sensitivity of change of the structural lesions.

	Standardized ROC per year	Relative standardized ROC	Relative standardized ROC per anatomic site
Pelvic radiographs			
mNY dichotomous	0.015	1 (reference)	1 (reference)
mNY 1-grade change	0.017	1.133	1.133
mNY 1-grade change and value >=2	0.011	0.733	0.733
mNY continuous grade (range 0-8)	0.016	1.067	1.067
MRI of the SIJ			
≥5 fatty lesions and/or erosions	0.053*	3.533	3.533
≥3 erosions	0.010	0.667	0.667
≥3 fatty lesions	0.073*	4.867	4.867
No. of erosions (range 0-40)	0.012	0.800	0.800
No. of fatty lesions (range 0-40)	0.062*	4.130	4.130
Total structural lesions without sclerosis (range 0-104)	0.031	2.067	2.067
Spine radiographs			
≥ 1 syndesmophyte	0.027	1.800	1 (reference)
mSASSS score (range 0-72)	0.048	3.200	1.778
MRI of the spine			
≥5 fatty lesions	-0.036*	2.400	1.333
Total structural lesions (range 0-322)	0.037	2.460	1.370
No. of fatty lesions (range 0-92)	0.035	2.330	1.296
No. of corner erosions (range 0-92)	0.018	1.200	0.667

*Quadratic distribution

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OP0057

FACTORS ASSOCIATED WITH ACHIEVING REMISSION IN PATIENTS WITH EARLY PERIPHERAL SPONDYLOARTHRITIS: 10-YEAR RESULTS FROM THE GERMAN SPONDYLOARTHRITIS INCEPTION COHORT (GESPIC)

Keywords: Epidemiology, Registries, Spondyloarthritis

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Background: Depending on leading manifestation, Spondyloarthritis (SpA) is classified as axial (axSpA) or peripheral SpA (pSpA). Achieving of remission/inactive disease is key goal in treatment of SpA, including pSpA. Results from recent worldwide ASAS PerSpA study showed that nearly 10% of SpA patients were identified as having pSpA (as opposed to other forms of SpA) by rheumatologist, but there are still no long-term observational studies focusing on outcomes including disease activity/remission in pSpA.
Objectives: To investigate factors associated with disease activity and achievement of remission over a period of up to 10 years of clinical observation in early pSpA patients.
Methods: Data from patients diagnosed with pSpA in GESPIC (with predominant peripheral manifestations, symptom duration of up to 5 years and not classified as axSpA) according to rheumatologist were used for this study. Visits were scheduled every 6 months for 2 years, then annually up to year 10. Clinical characteristics, examination (arthritis, enthesitis), and activity (questionnaires and laboratory) were collected at visits. Association between parameters and disease activity/remission [defined by Disease Activity in Psoriatic Arthritis (DAPSA), Axial SpA Disease Activity Score (ASDAS), and clinical remission (complete absence of arthritis or enthesitis)], was analysed by generalized estimating equations (GEE).
Results: The mean age of 115 pSpA patients (51.3% male) was 37.3 ± 12.2 years, and 71 (61.7%) patients were HLA-B27 positive. Baseline DAPSA and ASDAS were 13.3 ± 8.1 and 2.4 ± 0.9. During follow up 48 (41.7%), 46 (41.7%), and 94 (81.9%) patients reached at least once DAPSA remission (DAPSA <4), ASDAS-Inactive disease (ASDAS<1.3), and clinical remission, respectively. In univariable analyses, female sex, older age, HLA-B27 negativity, current and history of psoriasis, steroid, csDMARDs and higher NSAID intake were associated with higher DAPSA and lower odds of remission. Similar results were observed regarding ASDAS and clinical remission (Table 1). Multivariable analyses showed that history of psoriasis, HLA-B27 negativity, steroid intake, and higher NSAID intake were associated with higher DAPSA and ASDAS scores (Figure 1A,B), while longer symptom duration, psoriasis history, steroid, TNFi and higher NSAID intake, and higher CRP were associated with lower odds of remission (Figure 1C).
Conclusion: Several parameters associated with higher disease activity and absence of remission were identified. Psoriasis and higher CRP were associated with lower odds of achieving clinical remission, while an association with drug usage is likely a consequence of high disease activity.

Table 1. Univariable GEE analysis of association between clinical parameters and disease activity/remission.

	DAPSA	ASDAS	Clinical Remission
	B (95% CI)	**β (95% CI)**	**OR (95% CI)**
Male Sex	-2.12(-4.69;0.46)	-0.29(-0.63;0.05)	1.54(0.96;2.47)
Age	**0.12(0.03;0.21)**	**0.02(0.01;0.03)**	1.00(0.98;1.02)
HLA-B27 Positivity	**-3.95(-6.46;-1.45)**	**-0.56(-0.90;-0.23)**	**1.63(1.01;2.62)**
Symptom duration	-0.27(-0.60;0.05)	0.01(-0.03;0.05)	**1.14(1.03;1.26)**
Current psoriasis	**4.29(1.34;7.23)**	**0.39(0.05;0.73)**	**0.27(0.13;0.53)**
Ever psoriasis	**3.13(-0.01;6.26)**	0.38(-0.03;0.79)	0.67(0.38;1.18)
Current IBD	-0.79(-2.66;1.08)	**-0.73(-1.01;-0.46)**	0.26(0.03;2.01)
Ever IBD	-0.94(-5.31;3.43)	**-0.67(-1.00;-0.34)**	0.65(0.11;3.93)
Current Uveitis	3.68(-4.64;12.00)	0.54(-0.61;1.70)	0.28(0.05;1.59)
Ever uveitis	-2.81(-6.62;1.00)	-0.31(-0.86;0.24)	**1.74(0.99;3.07)**
CRP, mg/L	**0.15(0.12;0.19)**	**0.03(0.02;0.03)**	**0.96(0.93;0.99)**
Steroid intake	**3.96(1.62;6.30)**	0.25(-0.02;0.52)	**0.35(0.19;0.66)**
csDMARDs intake	1.52(-0.25;3.29)	0.05(-0.17;0.27)	**0.48(0.31;0.75)**
TNF intake	-0.50(-3.17;2.18)	-0.13(-0.48;0.22)	**0.37(0.16;0.82)**
NSAID intake score, (0-100)	**0.08(0.06;0.11)**	**0.01(0.01;0.01)**	**0.97(0.97;0.98)**