

uveitis does not have a major impact on activity of musculoskeletal manifestations and functional status in axSpA. However, recent uveitis showed a somewhat unexpected association with lower disease activity. The latter might be related to a higher likelihood of being treated with TNF inhibitors in the presence of uveitis.

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THU0366

MAGNETIC RESONANCE IMAGING IN COMPARISON WITH CONVENTIONAL RADIOGRAPHY FOR DETECTION OF STRUCTURAL CHANGES TYPICAL FOR SPA – DATA FROM THE ASSESSMENT OF SPONDYLOARTHRITIS INTERNATIONAL SOCIETY (ASAS) COHORT

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Background: In axial spondyloarthritis, magnetic resonance imaging (MRI) is useful for depicting active inflammatory lesions. The utility of MRI to display structural changes is not that well established.

Objectives: Comparison of MRI and conventional radiography of the sacroiliac joints (SIJs) for detection of structural lesions typical for axial spondyloarthritis (axSpA) in an international multireader exercise.

Methods: Patients from the ASAS Cohort with symptoms suggestive of axSpA and both radiographs and T1-weighted MRIs of SIJs available for central reading were included. SIJs radiographs were scored by 3 central readers according to the modified New York (mNY) criteria grading system. Structural damage on radiographs was defined as fulfillment of the radiographic mNY criterion (patient level) or presence of grade 2 sacroiliitis (single joint level) (majority decision). MRI scans were assessed for structural changes compatible with axSpA (global statement) and separate changes (erosion, sclerosis, periarticular fat metaplasia and ankylosis) by 7 central readers (majority decision). Absolute agreement between MRI and radiography and Kappa coefficient were determined.

Results: Overall, 199 patients (398 joints) were included, 149 (74.9%) had a diagnosis of axSpA. 102 (51.3%) had definite radiographic sacroiliitis, 65 (32.7%) had structural changes suggestive of SpA on MRI (global assessment). The absolute agreement between MRI and radiography was 69.3%, kappa - 0.39 (Table 1). Structural damage on radiographs often (48.1% of cases) could not be confirmed by MRI. Among structural lesions, erosions on MRI showed the best discriminative capacity regarding the structural damage on radiographs (Table 1).

Conclusion: Only modest agreement between MRI and conventional radiography in detection of structural changes typical for SpA in the SIJs was revealed; erosions on MRI showed the best agreement with the presence of definite structural damage on radiographs.

Abstract THU0366 –Table 1.

Table 1. Comparison of MRI with conventional radiographs for the detection of structural damage in the sacroiliac joints at the patient level (n=199)

		Radiographic sacroiliitis fulfilling the mNY criteria		Absolute agreement	Kappa value
		No (n=97)	Yes (n=102)		
Presence of structural lesions typical for SpA on MRI according to the global assessment	No (n=134)	85 (42.7%)	49 (24.6%)	69.3%	κ=0.39
	Yes (n=65)	12 (6.0%)	53 (26.6%)		
Presence of any structural changes (erosions, sclerosis, ankylosis or fat metaplasia) on MRI	No (n=120)	77 (38.7%)	43 (21.6%)	69.3%	κ=0.37
	Yes (n=79)	20 (10.1%)	59 (29.6%)		
Presence of erosions or sclerosis or ankylosis on MRI	No (n=124)	79 (39.7%)	45 (22.6%)	68.3%	κ=0.37
	Yes (n=75)	18 (9.0%)	57 (28.6%)		
Presence of erosions on MRI	No (n=141)	85 (42.7%)	56 (28.1%)	65.8%	κ=0.32
	Yes (n=58)	12 (6.0%)	46 (24.1%)		
Presence of sclerosis on MRI	No (n=163)	90 (45.2%)	73 (36.7%)	59.8%	κ=0.21
	Yes (n=36)	7 (3.5%)	29 (14.6%)		
Presence of ankylosis on MRI	No (n=195)	97 (48.7%)	98 (49.2%)	50.8%	κ=0.04
	Yes (n=4)	0 (0.0%)	4 (2.0%)		
Presence of fat metaplasia on MRI	No (n=157)	90 (45.2%)	67 (33.7%)	62.8%	κ=0.27
	Yes (n=42)	7 (3.5%)	35 (17.6%)		

mNY criteria – modified New York Criteria for ankylosing spondylitis; SpA – spondyloarthritis; MRI – magnetic resonance imaging

Abstract THU0366 –Table 2.

Table 2. Comparison of MRI with conventional radiographs for the detection of structural damage in the sacroiliac joints at the single joint level (n=398)

		Definite radiographic sacroiliitis (grade ≥2)		Absolute agreement	Kappa value
		No (n=209)	Yes (n=199)		
Presence of any structural changes (erosions, sclerosis, ankylosis or fat metaplasia) on MRI	No (n=272)	184 (46.2%)	88 (22.1%)	71.6%	κ=0.42
	Yes (n=126)	25 (6.3%)	101 (25.4%)		
Presence of erosions or sclerosis or ankylosis on MRI	No (n=283)	187 (47.0%)	96 (24.1%)	70.4%	κ=0.39
	Yes (n=115)	22 (5.5%)	93 (23.4%)		
Presence of erosions on MRI	No (n=312)	192 (48.2%)	120 (30.2%)	65.6%	κ=0.29
	Yes (n=86)	17 (4.3%)	69 (17.3%)		
Presence of sclerosis on MRI	No (n=345)	201 (50.5%)	144 (36.2%)	61.8%	κ=0.21
	Yes (n=53)	8 (2.0%)	45 (11.3%)		
Presence of ankylosis on MRI	No (n=393)	209 (52.5%)	184 (46.2%)	53.8%	κ=0.03
	Yes (n=5)	0 (0.0%)	5 (1.3%)		
Presence of fat metaplasia on MRI	No (n=330)	195 (49.0%)	135 (33.9%)	62.6%	κ=0.23
	Yes (n=68)	14 (3.5%)	54 (13.6%)		

MRI – magnetic resonance imaging

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THU0367

ANALYSING IMPAIRMENTS IN PHYSICAL PERFORMANCE (AS ASSESSED BY THE AS PERFORMANCE INDEX (ASPI)) IN PATIENTS WITH AXIAL SPONDYLOARTHRITIS

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Background: In patients with axial spondyloarthritis (axSpA) physical functioning is often impaired. The current gold standard to assess physical functioning is self-reported questionnaires (i.e. BASFI), which can be influenced by patients' subjective feelings. Therefore, a performance-based test-battery was designed to measure physical functioning more objectively: the ankylosing spondylitis (AS) Performance Index (ASPI) [1]. Based on domains taken from BASFI tasks were designed to imitate activities of daily living (ADL). Although the ASPI has been evaluated a thorough analysis of the deficits of physical functioning and factors which influence the performance of patients with axSpA has not been performed to date.

Objectives: The aim of the present study assesses the relation between self-reported assessments of physical functioning and actual performance of patients, and to detect influencing factors.

Methods: Consecutive axSpA patients underwent standardized assessments concentrating on the following variables: patient and disease characteristics, patient-reported outcomes (ASDAS, BASFI, BASMI, ASAS Health Index (ASAS HI), PHQ-9, IPAQ), mSASSS and ASPI (ASPI 1: Bending, 2: Putting on socks, 3: Getting up from the floor) [1]. The performance was measured in seconds as time to complete a task based on published instructions. Impairment in physical performance was defined as inability of patients to perform ≥ 1 ASPI test. Spearman Rho correlation was used to compare self-reported functioning and performed physical functioning. Logistic regression analysis was used to identify factors associated with impaired physical performance.

Results: A total of 200 patients (AS 66%, nr-axSpA 34%) was included: 69% males, 44.3 \pm 12.5 years old, mean symptom duration 17.9 \pm 12.6 years, BMI 27.2 \pm 5.5, mean ASDAS 2.5 \pm 1.1, BASFI 4.0 \pm 2.7, BASMI 3.5 \pm 1.8), ASAS HI 7.0 \pm 4.1, PHQ-9 8.8 \pm 6.2, and mSASSS (n=157) 10.2 \pm 18.8). 133 patients were treated with bDMARDs (66.5%). In total 44 patients (22%) were not able to perform one or more ASPI tests. The mean time for bending was 18.6 \pm 9.5 sec (n=179/90%), for putting on socks 12.8 \pm 6.4 sec (n=156/78%), and for getting up from floor 6.5 \pm 5.0 sec (n=187/94%). A significant correlation was found for all three ASPI-tests with BASFI (0.5-0.7), ASAS HI (0.4-0.6) and spinal mobility as

assessed by BASMI (0.4-0.7). Self-reported physical activity (IPAQ) correlated weakly with ASPI (all 0.2) and structural damage correlated only with the task putting on socks (r=0.3), whereas the other tests did not correlate. Logistic regression showed influence of obesity, spinal mobility and global functioning on actual performance but not of disease activity and self-reported physical function, (Figure 1).

Conclusion: This study confirms a good correlation of the ASPI with standard questionnaires but it showed a substantial floor effect strongly suggesting that additional information on actual performance is needed. Thus, to obtain a complete picture of function and impairments of patients with axSpA the actual performance needs also to be assessed. Moreover, obesity should be addressed as a potential modifying factor contributing to limitation in actual performance.

	Univariable		Multivariable	
	OR (CI)	p	OR (CI)	p
Age	1.08 (1.04-1.11)	<0.001		
Male sex	1.46 (0.68-3.11)	0.332		
BMI	1.17 (1.01-1.35)	<0.001	1.20 (1.09-1.32)	<0.001
ASDAS	2.35 (1.67-3.41)	<0.001		
BASFI 0-10	1.95 (1.58-2.40)	<0.001		
ASAS HI 0-17	1.41 (1.26-1.60)	<0.001	1.40 (1.06-1.86)	0.019
BASMI 0-10	2.44 (1.87-3.19)	<0.001	2.78 (1.77-4.36)	<0.001
PHQ-9 0-27	1.15 (1.08-1.21)	<0.001		

Abstract THU0367 – Figure 1. Association between clinical characteristics of patients with SpA and physical performance

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