$\kappa=0.63$ at follow up); between local and central readers – poor to moderate ($\kappa=0.18$ at baseline and $\kappa=0.58$ at follow up). At follow up, 8 (7.5%) patients progressed from nr-axSpA to AS, while 6 (5.7%) were reclassified from AS to nr-axSpA, resulting in net progression of 1.9%. The sacroiliitis sum score increased in 43 (40.6%) patients, decreased in 21 (19.8%) and did not change in 42 (39.6%). Logistic regression analysis showed an association of active and chronic changes on MRI at baseline, already existing structural damage in the sacroiliac joints (sacroiliitis sum score) at baseline and younger age with higher odds for progression from nr-axSpA to r-axSpA.

Conclusions: There was a low but still detectable progression from nr-axSpA to r-axSpA after up to 5 years of follow-up in the ASAS cohort. Presence of active and chronic changes on MRI, initial structural damage on radiographs, and younger age at baseline were associated with a higher odds for progression from nr-axSpA to r-axSpA.

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Acknowledgements: The research was supported by 2016 ASAS Research Internship Grant.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.4498

FRI0176 PERFORMANCE OF SPINAL AND SACROILIAC JOINT MRI FINDINGS IN PATIENTS WITH AXSPA

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Background: Early diagnosis of axial spondyloarthritis (AxSpA) is challenging, particularly in patients with normal sacroiliac joints (SIJs) on radiographs. Currently, magnetic resonance imaging (MRI) is considered as the most sensitive imaging modality for detecting early SpA even before radiographic structural lesions develop. However, there are controversial reports, particularly for the spine, regarding the diagnostic utility of MRI.

Objectives: To determine the diagnostic utility of spine and sacroiliac joint lesions assessed by MRI in patients with ankylosing spondylitis (AS) or non-radiographic AxSpA (nr-AxSpA) compared to chronic mechanical back pain (MBP).

Methods: We included 151 AS, 110 nr-AxSpA, and 37 MBP patients. Spine and SIJ MRIs were performed in all patients. Two independent readers blinded to clinical details of the patients, scored the MRI images. A third reader participated in disputed cases. On T1 weighted sequences, the following structural changes in SIJs were scored: sclerosis (≥ 5 mm) and extensive sclerosis (≥ 10 mm), erosions, ^{1,2} extensive erosions (≥ 3), partial or complete fusion, and fat deposition. Presence in at least two consecutive slices was required for erosions and fusion. On STIR sequences, the following inflammatory changes in the SIJs were determined: ASAS-defined bone marrow oedema (BME) and SPARCC SIJ scores. For the spine, the following were defined: fat infiltration at the vertebral corner on T1 and the number of corner inflammatory lesions (CILs) on STIR. We calculated sensitivity, specificity, and likelihood ratios (LR) of the above-mentioned structural and inflammatory lesions for both AS and nr-AxSpA groups.

Results: There were 298 patients in the study: 151 AS (mean age: 39 (16–77) years; 62.3% male), 110 nr-AxSpA (mean age 36 (17–64) years; 45.5% male), and 37 MBP (mean age 38 (19–59) years; 40.5% male). Presence of erosion was the most sensitive SIJ-MRI finding for structural lesions in AxSpA (AS 97%, nr-AxSpA 89%). However specificity of this variable was low (19%). Evidence of fusion and extensive sclerosis were the most specific SIJ-MRI findings for structural abnormalities with poor sensitivity levels in both groups. On the other hand, presence of extensive erosions showed acceptable sensitivity (78% and 58%) and specificity (62%) values in both AS and nr-AxSpA. For inflammatory lesions of SIJ, both ASAS BME and SPARCC ≥ 2 had similar sensitivity and specificity values in AxSpA. The presence of SIJ fat and evident erosions was associated with a slight increase in Likelihood of AxSpA. Among spinal lesions, spinal fat was the most sensitive finding in AxSpA (67% and 58%) with limited specificity (40%). CILs had moderate to high specificity but low sensitivity. All spinal parameters had low positive LRs.

Abstract FRI0176 – Table 1. Performance of different MRI derived SIJ and spine lesions in AxSpA

	Sensitivity (95% CI)		Specificity (95% CI)		+LR (95% CI)		-LR (95% CI)	
	AS	Nr	AS	Nr	AS	Nr	AS	Nr
Sacro-iliac joint								
Sclerosis	51 (41-61)	22 (15-31)	65 (48-80)	65 (48-80)	1.5 (0.9-2.3)	0.6 (0.4-1.1)	0.8 (0.6-1)	1.2 (0.9-1.6)
Evident sclerosis	5 (2-11)	1 (0-5)	100 (91-100)	100 (91-100)			0.95 (0.9-0.99)	0.99 (0.97-1)
Fat	69 (61-77)	36 (27-46)	73 (56-86)	73 (56-86)	2.6 (1.5-4.4)	1.3 (0.7-2.4)	0.4 (0.3-0.6)	0.9 (0.7-1.1)
Erosion	97 (92-99)	89 (82-94)	19 (8-35)	19 (8-35)	1.2 (1-1.4)	1.1 (0.9-1.3)	0.2 (0.1-0.6)	0.6 (0.3-1.4)
Evident erosion	78 (68-85)	58 (48-67)	62 (45-78)	62 (45-78)	2.1 (1.3-3.1)	1.5 (1-2.4)	0.4 (0.2-0.6)	0.7 (0.5-0.9)
Fusion	29 (22-37)	0 (0-3)	100 (91-100)	100 (91-100)			0.7 (0.6-0.8)	25.3 (25.3-25.3)
ASAS BME	51 (43-59)	41 (31-51)	60 (42-75)	60 (42-75)	1.3 (0.8-1.9)	1 (0.6-1.6)	0.8 (0.6-1.1)	0.9 (0.7-1.4)
SPARCC SIJ ≥ 2	51 (43-59)	41 (31-51)	60 (42-75)	60 (42-75)	1.3 (0.8-1.9)	1 (0.6-1.6)	0.8 (0.6-1.1)	0.9 (0.7-1.4)
Spine								
Spinal fat	67 (59-75)	58 (48-68)	40 (24-58)	40 (24-58)	1.1 (0.8-1.5)	0.9 (0.7-1.3)	0.8 (0.5-1.3)	1.1 (0.7-1.7)
CIL presence	45 (37-54)	31 (22-41)	46 (29-63)	46 (29-63)	0.8 (0.6-1.2)	0.6 (0.4-0.9)	1.2 (0.8-1.8)	1.5 (1-2.2)
CIL ≥ 3 vs. <3	27 (20-36)	10 (5-18)	74 (57-88)	74 (57-88)	1.1 (0.6-2)	0.4 (0.2-0.9)	0.9 (0.8-1.2)	1.2 (0.9-1.5)
CIL ≥ 5 vs. <5	19 (13-26)	8 (4-15)	80 (63-92)	80 (63-92)	0.9 (0.4-2)	0.4 (0.2-1)	1 (0.8-1.2)	1.1 (0.9-1.4)

Conclusions: Extensive erosions of SIJ showed the most balanced performance in whole spinal MRI assessment. Spinal lesions performed poorly when compared with SIJ findings in discriminating AxSpA from MBP.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.5639

FRI0177 ASSESSING THE VALUE OF WHOLE BODY MAGNETIC RESONANCE IMAGING AS TO CLINICAL EXAMINATION TO PREDICT REMISSION AND RELAPSE IN EARLY PERIPHERAL SPONDYLOARTHRITIS

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Background: Evaluation of disease activity and treatment response in peripheral spondyloarthritis (pSpA) is currently based upon clinical findings, laboratory tests and ultrasound examination. Whole-body magnetic resonance imaging (WB MRI) is a relatively new imaging technique that could offer additional information regarding the inflammatory status of joints, entheses and soft tissues.

Objectives: To determine A) the value of WB MRI, performed at baseline, in relation to clinical remission in pSpA and B) the value of subclinical inflammation, detected by WB MRI, at time of clinical remission in predicting flare after treatment withdrawal in pSpA.

Methods: Clinical REmission in peripheral SPondyloArthritis (CRESPA) is a placebo-controlled trial of golimumab treatment in 60 early (symptom duration <12 weeks) pSpA patients (pts). All pts underwent a modified WB MRI at baseline and at the time of clinical remission when treatment was withdrawn. The WB MRI was performed by scanning multiple locations individually (using different coils) in order to investigate SpA-specific locations in detail. Several anatomical sites of pelvis and lower limbs were evaluated for bone marrow oedema (BME), synovitis and soft tissue inflammation (STI) by 3 readers, giving a score of 0 (no abnormalities), 1 (mild), 2 (moderate) or 3 (severe). For each site a mean of the scores of the 3 readers was calculated. For each patient at each time point, we calculated a sum score for synovitis, STI and BME separately adjacent to a total sum score. Changes scores are baseline minus remission sum scores.