WEDNESDAY, 12 JUNE 2019

Spondyloarthritis on the move: Thrilling developments

OP0031

ARE THE MODIFIED NEW YORK AND ASAS AXIAL SPONDYLOARTHRITIS CRITERIA INTERCHANGEABLE IN THE CLASSIFICATION OF SPONDYLOARTHRITIS PATIENTS WITH RADIOGRAPHIC SACROILIITIS: COMPARISON IN 8 COHORTS?

Anne Boel¹, Anna Moltó², Désirée van der Heijde¹, Adrian Ciurea³, Maxime Dougados², Lianne S. Gensler⁴, Maria Jose Santos⁵, Eugenio de Miguel⁶, Denis Poddubnyy^{7,8}, Martin Rudwaleit⁹, Astrid van Tubergen¹⁰, Floris A. van Gaalen¹, Sofia Ramiro^{1,11}, ¹LUMC, Leiden, Netherlands; ²Cochin Hospital, Paris, France; ³University Hospital Zurich, Zurich, Switzerland; ⁴University of California, San Francisco, United States of America; ⁵Hospital Garcia de Orta, Almada, Portugal; ⁶Hospital Universitario La Paz, Madrid, Spain; ⁷Charité Universitätsmedizin Berlin, Berlin, Germany; ⁸German Rheumatism Research Centre, Berlin, Germany; ⁹Klinikum Bielefeld Rosenhöhe, Bielefeld, Germany; ¹⁰MUMC, Maastricht, Netherlands; ¹¹Zuyderland MC, Heerlen, Netherlands

Background: Axial spondyloarthritis (axSpA) patients with radiographic sacroiliitis may be classified using the modified New York (mNY) criteria and the more recent ASAS criteria. In the mNY criteria these patients are referred to as ankylosing spondylitis (AS) patients and in the ASAS criteria as radiographic axSpA (r-axSpA) patients.

In both the mNY and the ASAS r-axSpA classification sets the radiographic criterion is the same but the additionally required features differ (figure), for example patients with age at onset of back pain ≥ 45 cannot fulfil the ASAS criteria. This raises the question whether the two sets can be used interchangeably in the classification of axSpA patients with radiographic sacroiliitis.

Modified New York criteria for the classification of AS	ASAS criteria for the classification of radiographic axSpA
1. Low back pain and stiffness for at least 3 months, which improves with exercise and is not relieved by rest	1. Back pain 23 months
2. Limitation of lumbar spine motion in the sagittal and frontal planes	2. Age at onset ≥ 45 years
3. Decreased chest expansion, compared to age- and sex-matched controls	3. Sacroiliitis on imaging*
4a. Unilateral sacroiliitis grade 3 or 4	4. 2/3 SpA features:
4b. Bilateral sacroiliitis grade 2 or 4	- Inflammatory back pain
	- Arthritis
	- Enthesitis
	- Uveitis
	- Dactylitis
	- Psoriasis
	- Crohn's/colitis
	- Good response to NSAIDs
	- Family history for SpA
	- HLA-B27 positive
	- Elevated CRP (or ESR)
Definite AS if sacroiliitis as described in 4a or 4b and any of the clinical symptoms (1-3).	*Definite radiographic sacroiliitis according to mNY criteria
	Definite r-axSpA if fulfillment of 1 and 2, sacroiliitis as described in 3 and at least one of the clinical SpA features as described in 4.

Figure 1. mNY and ASAS r-axSpA criteria for the classification of patients with axSpA and radiographic sacroiliitis.

Objectives: To investigate to what degree patients with axSpA and radiographic sacroiliitis who fulfil the mNY criteria also fulfil the ASAS criteria for r-axSpA and vice-versa.

Methods: Patients diagnosed with axSpA who had back pain longer than 3 months and definite radiographic sacroiliitis (i.e. common and mandatory features for both classification criteria sets (figure)) were selected from several cohorts (ASAS, Esperanza, GESPIC, OASIS, Reuma.pt, SCQM, SPACE, and UCSF). Subsequently we calculated how many patients fulfil the mNY criteria and/or the ASAS r-axSpA criteria. For the Esperanza and OASIS cohorts specific information on the individual items of the mNY criteria was unavailable, which restricted data analysis for these cohorts.

Results: Of the 3882 patients fulfilling the mNY criteria, 93% also fulfilled the ASAS r-axSpA criteria. Inversely, of the 3434 patients fulfilling the ASAS r-axSpA criteria, 96% also fulfilled the mNY criteria (table). In total, 89% (3607/4041) of patients with axSpA and radiographic sacroiliitis fulfilled both criteria sets; 7% only the mNY criteria; 3% only the ASAS criteria and 1% neither set.

Table 1. Percentage of patients fulfilling ASAS r-axSpA within subgroup fulfilling mNY criteria and vice-versa (per cohort and overall)

	ASAS within mNY+ subgroup	mNY within ASAS+ subgroup
ASAS	97% (198/203)	90% (198/209)
Esperanza	97% (106/109)	NA
GESPIC	98% (78/80)	93% (78/84)
OASIS	99% (202/213)	NA
Reuma.pt	93% (124/134)	95% (124/131)
SCQM	95% (143/151)	98% (143/145)
SPACE	100% (77/77)	84% (77/92)
UCSF	98% (129/132)	95% (129/136)
Total	93% (3607/3882)	96% (3300/3434)

The main difference between the two criteria sets was caused by reported age at onset of back pain. Out of 275 mNY+ patients not fulfilling the ASAS criteria (7% of all included patients), 265 (96%) cases were due to the age criterion and 10 (4%) due to the absence of SpA features. Of the 3434 ASAS+ patients, 90% fulfilled the mNY criteria because they had IBP, another 6% despite not having IBP fulfilled the mNY criteria due to a mobility restriction; and the remainder 4% had neither but fulfilled the ASAS criteria because of other SpA features.

Conclusion: AxSpA patients classified as AS according to mNY criteria and those classified as r-axSpA according to ASAS criteria are mostly the same: 93% of mNY positive patients also fulfil the ASAS r-axSpA criteria while 96% of ASAS r-axSpA positive patients also fulfil the mNY criteria. These findings support the interchangeable use of the terms r-axSpA and AS, which was also approved by a vote of ASAS members at the 2019 annual workshop in Amsterdam.

Disclosure of Interests: Anne Boel: None declared, Anna Moltó: None declared, Désirée van der Heijde Consultant for: AbbVie, Amgen, Astellas, Astra-Zeneca, Bristol-Myers Squibb, Boehringer Ingelheim, Celgene, Daiichi, Eli-Lilly, Galapagos, Gilead, GlaxoSmithKline, Janssen, Merck, Novartis, Pfizer, Regeneron, Roche, Sanofi, Takeda, Union Chimique Belge, Adrian Ciurea Consultant for: AbbVie, Celgene, Janssen-Cilag, MSD, Eli Lilly, Novartis, Pfizer, UCB, Speakers bureau: Abbvie, Celgene, Janssen-Cilag, MSD, Eli Lilly, Novartis, Pfizer, UCB, maxime dougados Grant/research support from: Eli Lilly and Company, Pfizer, AbbVie, and UCB Pharma, Consultant for: Eli Lilly and Company, Pfizer, AbbVie, and UCB Pharma, Lianne S. Gensler Grant/research support from: Abbvie, Amgen, UCB Pharma

, Consultant for: Novartis, Lilly, Janssen, Maria Jose Santos: None declared, Eugenio de Miguel: None declared, Denis Poddubnyy Grant/research support from: AbbVie, Merck Sharp & Dohme, Novartis, Consultant for: AbbVie, Bristol-Myers Squibb, Janssen, Merck Sharp & Dohme, Novartis, Pfizer, UCB Pharma, Speakers bureau: AbbVie, Bristol-Myers Squibb, Janssen, Merck Sharp & Dohme, Novartis, Pfizer, Roche, UCB Pharma, Martin Rudwaleit Consultant for: AbbVie, BMS, Celgene, Janssen, Eli Lilly, MSD, Novartis, Pfizer, Roche, UCB Pharma, Consultant for: AbbVie, BMS, Celgene, Janssen, Eli Lilly, MSD, Novartis, Pfizer, Roche, UCB Pharma, Astrid van Tubergen: None declared, Floris A. van Gaalen: None declared, Sofia Ramiro Grant/research support from: MSD, Consultant for: AbbVie, Lilly, MSD, Novartis, Pfizer, Sanofi, Speakers bureau: AbbVie, Lilly, MSD, Novartis, Pfizer, Sanofi

DOI: 10.1136/annrheumdis-2019-eular.992

OP0032

LOCALIZATION AND MORPHOLOGY OF MAGNETIC RESONANCE IMAGING FEATURES OF PATHOLOGIC CHANGES IN THE SACROILIAC JOINTS SUGGESTIVE OF AXIAL SPONDYLOARTHRITIS – A SYSTEMATIC COMPARISON OF PATIENTS AND CONTROLS WITH CHRONIC BACK PAIN

Xenofon Baraliakos¹, Jonas Thomaschoff², Martin Fruth², Juergen Braun¹.

¹Rheumazentrum Ruhrgebiet, Ruhr-University Bochum, Herne, Germany;

²Radiologie Herne, Herne, Germany

Background: Bone marrow edema (BME), fat metaplasia (FL) and erosions have been identified as relevant for magnetic resonance imaging (MRI) changes in the sacroiliac joints (SIJ) of patients with axial spondyloarthritis (axSpA). However, a high prevalence of MRI changes has recently also been reported in subjects with no evidence of axSpA (1,2).

Objectives: To map the MRI lesions suspicious of axSpA in patients diagnosed with axSpA and compare them to those in patients with chronic back pain (cBP, non-SpA).

Methods: Consecutive patients with cBP < 45 years were included if they had at least one pathologic lesion of any type in the SIJ-MRI performed at the time point of cBP symptoms. AxSpA patients diagnosed by 2 experienced rheumatologists in consensus also had to fulfil ASAS classification criteria. Two experienced readers, blinded for diagnosis and patient's demographics, evaluated all MRIs independently. Lesions were only counted as positive if both readers were in agreement and mean values of both readers were calculated for the final analysis. Both the coronal (assessing the upper and lower sacral and iliac SIJ part) and axial (assessing the ventral, middle and retroauricular as well as the upper and lower sacral and iliac SIJ part) MRI orientations were analyzed for the localization of BME, FL, sclerosis and erosions. In addition, length and width were digitally measured for BME, FL and sclerosis, and signal intensity was measured electronically in each individual patient in comparison to the cerebrospinal fluid signal for BME and the subcutaneous fat for FL (no units).

Comparisons were calculated by Mann-Whitney-U-test for patients classified as positive by both readers for the respective lesions.

Results: A total of 200 consecutive patients (100 axSpA, 100 non-SpA), mean age 36.1 ± 11.3 and 40.3 ± 11.0 years, respectively, were analyzed. BME was found in 85% vs. 80% of patients, while 80% vs. 69% had FL, 54% vs. 40% had sclerosis and 64% vs. 12% had erosions, respectively. The largest surface area covered by BME in axSpA vs. non-SpA was found in the lower and dorsal SIJ: $60 \pm 10.1 \text{ mm}^3$ in the iliac and $47.3 \pm 9.4 \text{ mm}^3$ in the sacral part vs. the upper and ventral SIJ: $18.7 \pm 3.4 \text{ mm}^3$ in the sacral and $5.2 \pm 0.1 \text{ mm}^3$ in the iliac part.

Patients with axSpA showed a larger surface area covered by FL was found in the upper and anterior sacral SIJ ($305.5 \pm 56.3 \text{ mm}^3$), whereas patients with non-SpA showed larger FL areas in the lower and posterior sacral SIJ ($197.9 \pm 1.2 \text{ mm}^3$). Regarding sclerosis, the upper and anterior iliac part had more surface involvement in both SpA ($139.3 \pm 11.6 \text{ mm}^3$) and non-SpA ($81.8 \pm 2.8 \text{ mm}^3$) patients.