POS1007

MRI CHANGE SCORE BUT NOT THE STATUS SCORE IS RELATED TO DISEASE ACTIVITY AND CLINICAL RESPONSE OVER TIME IN PATIENTS WITH AXIAL SPONDYLOARTHRITIS: RESULTS FROM ESTHER STUDY.

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Background: Magnetic resonance imaging (MRI) of the spine and sacroiliac joints (SIJ) are important tools for the diagnosis of axial SpA. However, there is very little data investigating how clinical symptoms and response to treatment relate to the degree of MRI inflammation and to its change over time.

Objectives: To evaluate the relationship between clinical response in axial SpA patients and inflammation in MRI of spine and SIJ after 6 months of treatment.

Methods: In the ESTHER study[1], a total of 76 patients with early axial SpA with a symptom duration less than 5 years, and with active inflammation on MRI in the spine and/or SIJ at baseline were randomized to be treated with etanercept (n=40) or sulfasalazine (n=36) for one year.

Clinical and laboratory outcome assessments included C-reactive protein (CRP), Bath ankylosing spondylitis disease activity index (BASDAI), Bath ankylosing spondylitis functional index (BASFI) and ankylosing spondylitis disease activity score (ASDAS). The following efficacy parameters were calculated: change in CRP, BASDAI, BASFI and ASDAS between baseline and Week 24; response of the ASAS response criteria for 20 and 40% improvement in disease activity (ASAS20 and ASAS40); and ASAS criteria for partial remission at Week 24.

MRI of spine and SIJ were performed at weeks 0, 24, and 48; and were scored by two radiologists, who were blinded for all clinical data, treatment arm and time point, according to the Berlin scoring system. The final osteitis score for the SIJ and for the spine was calculated as the mean score of both readers. Residual inflammation in MRI at Week 24 was defined as an osteitis score of ≥5 for SIJ and >0 for the spine (median values at Week 24).

To understand the relationship between MRI and clinical outcomes, two types of models were performed: 1) a model with status scores at baseline and Week 24 for MRI and clinical outcome parameters; and 2) a model with change scores between baseline and Week 24 for MRI and clinical outcome parameters.

Results: A total of 67 patients with axial SpA were included in this analysis due to availability of MRIs at baseline and Week 24. The characteristics of patients included for this analysis were similar to the whole group of the ESTHER study. SIJ and spine osteitis score on MRI at baseline (mean±SD) was 6.9±6.1 and 1.5±2.5, respectively. The status scores showed no association at baseline, neither at Week 24, with the only exception of ASAS20 at Week 24 (Figure 1). However, changes in osteitis score of SIJ and spine were associated to clinical response outcomes between baseline and Week 24 (Figure 1). Further, we compared patients with and without residual inflammation on MRI of the spine and SIJ as defined above. There were no differences between the groups regarding clinical response and disease activity at week 24.

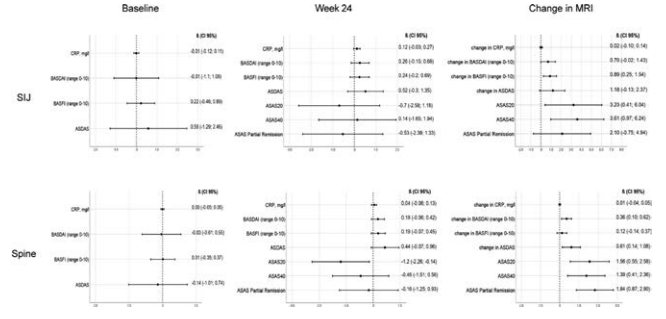

Figure 1. Association between disease activity parameters and MRI osteitis score in spine and SIJ in patients with axial spondyloarthritis over 6 months of treatment. Each line in the figure refers to an outcome (dependent variable) in the multivariable regression analysis, which were adjusted for age, sex, symptom duration and HLA-B27 positivity. MRI, magnetic resonance imaging; SIJ, sacroiliac joints.

Conclusion: Change of score for osteitis in MRI of spine and SIJ was associated to disease activity in patients with axial SpA during 6 months of treatment. Presence of residual inflammation on MRI after 6 months of treatment seems to be irrelevant regarding clinical response and clinical disease activity.

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POS1008

FACTORS ASSOCIATED WITH HIP INVOLVEMENT AND ITS IMPACT ON TREATMENT DECISION IN PATIENTS WITH AXIAL SPONDYLOARTHRITIS; TREASURE EXPERIENCE

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Background: Axial spondyloarthritis (axSpA) is a chronic inflammatory rheumatic disease affecting sacroiliac joints, spine and peripheral joints. In addition to spinal and peripheral manifestations, root joints (hip or sholder) involvement may also develop. Hip involvement is reported 24-36% in patients with Ankylosing Spondylitis (AS) by clinical evaluation of the rheumatologists. However, there is limited data regarding the factors related with the presence of hip involvement and treatment preference in patients with axSpA.

Objectives: The aim of this study was to evaluate the factors/covariates associated with the hip involvement and its impact on the treatment preferences in patients with axSpA patients who initiated their first biologic therapy.

Methods: In total, 1600 axSpA patients who initiated his/her first biologic were included in the study. The data for the current study was obtained from the TReasure web-based registry. Baseline demographics and disease related characteristics were collected. Characteristics and treatment preference of patients with and without hip involvement were compared. The factors/covariates associated with the presence of hip involvement were evaluated by regression analysis.

Results: Hip involvement was reported in 375 patients (23.4%). Patients with hip involvement were more common male patients in addition they had lower education level, lower BMI and more frequent HLA-B27 positivity as well as longer disease duration. Hip involvement was more frequent in patients with r-axSpA than patients with nr-axSpA. We found lower percentages of peripheral arthritis, enthesitis and dactylitis, higher BASFI or ASDAS-CRP scores, higher serum CRP levels and ESR values in patients with hip involvement. Moreover, patients with hip involvement had less frequently SpA-related family history (Table 1). When we analyzed patients according to age at diagnosis (≥ 16 years, <16 years) we found that patients with hip involvement were more common in juvenile onset axSpA group. In multivariate analysis, we found that lower education level (OR:2.029, 95%CI:[1.461-2.817]; p<0.001), diagnosis (r-axSpA) (OR:0.532, 95%CI:[0.337-0.839]; p=0.007) longer disease duration (OR:1.002, 95%CI:[1.001-1.004]; p=0.002), lower percentages of enthesitis (OR:0.405, 95%CI:[0.283-0.579]; p<0.001), higher BASFI scores (OR:1.086, 95%CI:[1.025-1.151]; p=0.005) and serum CRP levels (OR:1.005, 95%CI:[1.001-1.010]; p=0.019) absence of SpA family history (OR:0.713, 95%CI:[0.528]; p=0.027) were associated with hip involvement.

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Table 1. Characteristics of patients with axSpA

	All patients (n=1600)	Hip involvement (+) (n=375)	Hip involvement (-) (n=1225)	P*
Juvenile (<16 years) onset, n(%)	30 (1.9)	12 (3.2)	18 (1.5)	0.031
Male sex, n(%)	940 (58.8)	255 (68)	685 (55.9)	<0.001
HLA-B27 positivity, n(%)	605 (55)	178 (62.7)	427 (52.3)	0.002
BMI, kg/m^{2}mean (SD)	27.2 (5.2)	26.7 (5.0)	27.4 (5.2)	0.023
Education duration (≤12 years), n (%)	1014 (65.9)	263 (71.3)	751 (64.2)	0.013
mNY positivity, n(%)	1276 (79.8)	338 (90.1)	938 (76.6)	<0.001
Disease duration (month) median (IQR 25-75)	82 (36-151)	111 (52-200)	74.5 (32-139)	<0.001
SPA-related family history, n (%)	544 (34)	110 (29.3)	434 (35.4)	0.029
BASFI, mean (SD)	3.9 (2.5)	4.3 (2.1)	3.8 (2.7)	0.007
ASDAS-CRP, mean (SD)	3.1 (1.5)	3.7 (1.4)	2.9 (1.5)	<0.001
CRP (mg/dl), median (IQR 25-75)	8.6 (3-21)	12.0 (4.0-27.9)	7.6 (2.5-19)	<0.001

When we compared the treatment patterns of axSpA patients with and without hip involvement, we found that the percentages of NSAID as well as csDMARD use were similar in groups. However, the percentages of patients who were prescribed etanercept were higher in axSpA patients with hip involvement (p<0.001).
Conclusion: In addition to inflammation and function, hip involvement seems to be related with diagnosis (r-axSpA), education level and absence of SpA family history. Moreover, enthesitis may not accompany hip involvement.
Disclosure of Interests: None declared
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POS1009 COMPARING OF DISEASE ACTIVITY, FUNCTION AND QUALITY OF LIFE IN PATIENTS FROM THE CLINICAL AND IMAGING ARM OF NONRADIOGRAPHIC AXIAL SPONDYLOARTHRITIS

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Background: The concept of axial spondyloarthritis (axSpA) and non-radiographic axSpA (nr-axSpA), a subgroup of axSpA, has recently emerged. There are several studies proving the similar levels in disease activity and quality of life in patients with or without structural damage in spondyloarthritis.
Objectives: The aim of this study is to compare disease activity, functional status and quality of life in patients from the clinical and imaging arm of nonradiographic axial spondyloarthritis in Bulgaria.
Methods: A cross-sectional survey was conducted with rheumatologists and their consulting patients in Bulgaria from February 2012 through April 2019. Patients who had a rheumatologist confirmed diagnosis of nr-axSpA were eligible to participate. An information about patient demographics and symptoms duration were collected. Acute- phase reactants, patients' reported data for disease activity (BASDAI), functional status (BASFI) and quality of life (ASQoL) were compared between the patients with or without MRI data for sacroiliitis. The level of significance was set to 0.05.
Results: A total of 98 patients from the imaging arm of nonradiographic arm and 62 patients from the clinical arm of nr-axSpA patients were included in this analysis. A higher proportion of patients from the imaging arm were male patients (51% vs 37%). The mean age was 33.8±7.71 in the imaging arm and 34.12±6.95 in the clinical arm (p>0.05), with mean symptoms duration in both groups- respectively 0.76±0.26 and 0.48±0.13 years (p>0.05). The mean value of C-reactive protein in the imaging arm was 14.81±28.59 and 7.05 ± 10.04, p=0.02 in both groups. The disease activity determined using patients reported data from BASDAI was 4.1±0.67 vs 4.01±0.78 (p>0.05) and using ASDAS-CRP 2.31±0.87 vs 2.05±0.52 (p>0.05) in the imaging and clinical arm. The evaluation of the function BASFI was 5.06±1.28vs 4.48±1.18, p>0.05 in both groups of patients with nr-ax SpA. The QoL, determined by ASQoL revealed non statistical significant values between the groups – 4.79±3.27 and 5.18±3.03, p>0.05.
Conclusion: Patients from the imaging and clinical arm of nr-axSpA share the same clinical features. The burden of the disease, as assessed by ASQoL measurement, is also similar in the investigated subgroups of Bulgarian nr-axSpA patients.
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POS1010 SPINAL RADIOGRAPHIC PROGRESSION AND ITS ASSOCIATION WITH PROGRESSION TO ANKYLOSING SPONDYLITIS IN PATIENTS WITH NON-RADIOGRAPHIC AXIAL SPONDYLOARTHRITIS.

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Background: Prevention of structural damage of the axial skeleton is an important goal of treatment in axial spondyloarthritis (axSpA)[1]. Most studies concerning spinal radiographic progression focused on ankylosing spondylitis (AS). Data on spinal radiographic progression in patients with non-radiographic (nr)-axSpA is limited and data on the relation between spinal and sacroiliac radiographic progression in this population is lacking.
Objectives: To assess long-term spinal radiographic progression in patients with nr-axSpA. Secondly, to explore the association between radiographic progression to AS and spinal radiographic progression in these patients.
Methods: Patients enrolled in the ongoing Groningen Leeuwarden Axial SpA (GLAS) cohort, classified as nr-axSpA at baseline, with pelvic and spinal (lumbar and cervical) radiographs available at baseline and at least one follow-up visit at 2, 4 or 6 years were selected for analyses. Progression from nr-axSpA to AS was defined as progression to modified New York (mNY) sacroiliitis score ≥2 bilaterally or ≥3 unilaterally. Radiographs of nr-axSpA patients were randomized with radiographs of AS patients and scored in known time sequence by two trained readers blinded for patient characteristics. SK and RW scored the SI joints and in case of disagreement in axSpA classification, the score of a third independent reader (AS) was used. SK and MS scored the spinal radiographs according to the modified stoke ankylosing spondylitis spinal score (mSASSS; 0-72), and the mean of both total scores was calculated. In case of >5 points discrepancy between both readers, the mSASSS of a third independent reader (FM) together with the closest of the scores of the primary readers was used. The mSASSS change of nr-axSpA patients who did en did not progress to AS was compared with Mann-Whitney U tests.
Results: Included were 60 patients with a clinical diagnosis of nr-axSpA, confirmed by their sacroiliac radiographic score at baseline. Mean age was 37±10 years, 53% were male, median symptom duration was 9 (IQR 2-17) years, 75% were HLA-B27$^+$, and mean ASDAS was 2.6±1.1.
In total 15 patients progressed to AS. Median mSASSS at baseline was 1.5 (IQR 0.5 – 4.4). Median change in mSASSS from baseline was 0.0 (IQR 0.0 – 1.0) vs. 1.0 (IQR 0.0 – 1.5) at 2 years; 1.2 (IQR 0.3 – 3.5) vs. 2.0 (0.5 – 2.7) at 4 years; and 1.8 (1.0 – 3.8) vs. 2.5 (0.5 – 3.5) at 6 years for non-AS progressors and AS progressors, respectively (Figure 1). These mSASSS changes weres were not significantly different at any timepoint (p = 0.456, p=0.814, p=0.929 for 2-, 4-, and 6-year follow-up, respectively).

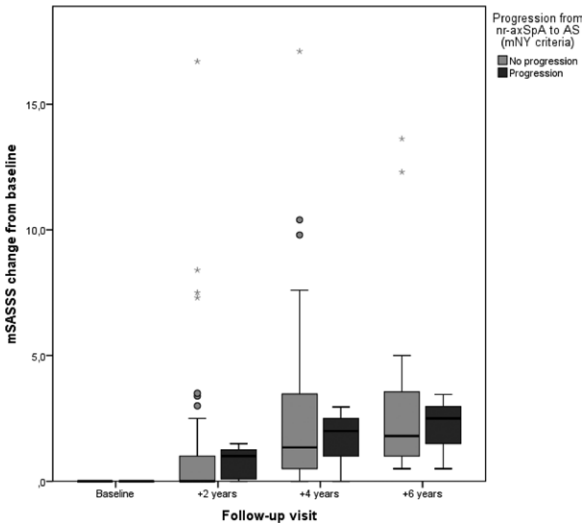

Figure 1. Comparison of mSASSS progression between patients with and without progression to AS during the first 6 years of follow-up.

Conclusion: In our observational cohort of patients with nr-axSpA with up to 6 years of follow-up, mSASSS progression was low (< 1 mSASSS unit/year) and was not different between patients who did and did not progress to AS.
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