Clinical aspects of axial spondyloarthritis — science meets daily practice.

OP0046
CAN PATIENTS WITH AXIAL SPONDYLOARTHROPSIS INDICATE WHETHER PAIN IS MAINLY RELATED TO INFLAMMATION OR STRUCTURAL DAMAGE?
1Medical Center Leeuwarden, Rheumatology, Leeuwarden, Netherlands; 2University Medical Center Groningen, Rheumatology and Clinical Immunology, Groningen, Netherlands

Background: Patients with axial spondyloarthritis (axSpA) mainly rate disease activity on experienced symptoms such as pain (1). Pain is also included in the assessments (ASDAS and BASDAI) used to monitor disease activity in axSpA. However, besides disease activity, also other factors including the presence of structural damage may be related to experienced pain and discomfort.

Objectives: To explore to what extent axSpA patients relate their experienced pain in neck, back and hips to inflammation and/or structural damage.

Methods: Patients from the Groningen Leeuwarden Axial Spondyloarthritis (GLAS) cohort visiting the out-patient clinic between May 2016 and October 2019 were included in this cross-sectional analysis. Patients filled out two additional questions related to question 2 of the BASDAI: To what extent do you think pain in your neck, back and hips is related to: 1. inflammation caused by axSpA? 2. damage of spine and joints caused by axSpA? These questions were answered on a NRS from 0 (none) to 10 (very much). A correlation of 0.44 (0.40 to 0.47) was observed between BASDAI and BASDI-Q2, and a correlation of 0.41 (0.35 to 0.46) between ASDAS and BASDAI-Q2. The BASDAI-Q2 score was able to relate pain to inflammation or damage, it seems in accordance with the role of NLRP12 in maintaining positive interferon signature as well as disease activity.

Conclusion: Expression level of NLRP12 has been demonstrated to be a biomarker of disease activity in axSpA patients. The NLRP12 was involved in the interferon signature, which was also negatively regulated by TF-1. Both clinical samples and animal models revealed NLRP12 in maintaining the positive interferon signature, indicating the possible role of exacerbating factor for lupus disease activity.

Disclosure of Interests: None declared
DOI: 10.1136/annrheumdis-2021-eular.4215

Table 1. Patients characteristics and clinical assessments of axSpA patients who related pain mainly to inflammation versus to structural damage.

<table>
<thead>
<tr>
<th>Inflammation group (n = 102)</th>
<th>Structural damage group (n = 69)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>39.5 ± 12.4</td>
<td>48.9 ± 12.4</td>
</tr>
<tr>
<td>Symptom duration (years)</td>
<td>12 (6 – 20)</td>
<td>28 (17 – 35)</td>
</tr>
<tr>
<td>Diagnosis non-radiographic axSpA</td>
<td>39 (40%)</td>
<td>8 (13%)</td>
</tr>
<tr>
<td>Male gender</td>
<td>60 (59%)</td>
<td>44 (64%)</td>
</tr>
<tr>
<td>BASDAI-Q2</td>
<td>4.2 ± 1.8</td>
<td>3.9 ± 2.0</td>
</tr>
<tr>
<td>Patient global disease activity</td>
<td>3.5 (3 – 7)</td>
<td>4 (2 – 6)</td>
</tr>
<tr>
<td>ASDASILM</td>
<td>2.6 ± 0.9</td>
<td>2.2 ± 0.8</td>
</tr>
<tr>
<td>CRP</td>
<td>3.0 (2.0 – 8.0)</td>
<td>2.5 (2.0 – 4.4)</td>
</tr>
<tr>
<td>Occiput wall distance (cm)</td>
<td>0.0 (0.0 – 4.0)</td>
<td>4.0 (0.0 – 10.0)</td>
</tr>
<tr>
<td>Chest expansion (cm)</td>
<td>5.8 (4.0 – 7.0)</td>
<td>3.0 (3.0 – 6.0)</td>
</tr>
<tr>
<td>Modified Schober test (cm)</td>
<td>14.0 ± 1.6</td>
<td>13.5 ± 1.6</td>
</tr>
<tr>
<td>Lateral flexion mean (cm)</td>
<td>15.3 ± 6.5</td>
<td>12 ± 5.9</td>
</tr>
<tr>
<td>Cervical rotation mean (degrees)</td>
<td>80 (70 – 90)</td>
<td>70 (45 – 81)</td>
</tr>
</tbody>
</table>

- only available in a subgroup of patients. Inflammation group (n=31), structural damage group (n=39).

Patients who reported their pain as mainly related to structural damage showed significantly worse spinal mobility on almost all spinal mobility tests. In the subgroup of patients with available mSASSS data, there was also a trend towards more spinal radiographic damage (Table 1).

Conclusion: In our large observational cohort of axSpA patients, the vast majority (75%) could not rate whether experienced pain in neck, back and hips was more related to inflammation or structural damage. However, if patients were able to relate pain to inflammation or damage, it seems in accordance with the outcome of their clinical assessments.

REFERENCES:

Disclosure of Interests: None declared
DOI: 10.1136/annrheumdis-2021-eular.293

OP0047
IDENTIFICATION OF CLINICAL PHENOTYPES IN PATIENTS WITH AXIAL SPONDYLOARTHROPSIS, PERIPHERAL SPONDYLOARTHRITIS AND PSORIATIC ARTHRITIS ACCORDING TO PERIPHERAL MUSCULOSKELETAL MANIFESTATIONS: A CLUSTER ANALYSIS IN THE INTERNATIONAL ASAS-PERSPA STUDY
C. López-Medina, S. Chevrel, A. Moltó, J. Sieper, M. T. Duruöz, U. Klitz, B. Zórzany, N. Hajaïj-Hassouni, R. Burgos-Vargas, J. Maldonado-Cocco, N. Zilada, M. Gavilán, V. NAVarro-Compán, V. T. Kim, J. Kim, M. Kishimoto, F. Pimentel Dos Santos, J. Gu, L. M. L. Muntean, F. A. Van Gaalen, P. Ghéret, M. Magrey, S. Ibáñez, W. Bautista-Molano, W. P. M. Maksmowych, R. B. M. Landewé, D. Van der Heijde, M. Dougdados, C. Cochin Hospital, Rheumatology, Paris, France; 2University of Paris, INSERM (U1153): Clinical Epidemiology and Biostatistics, France; 3CIrrito University Hospital of Gautemala, Infectious Diseases and Rheumatology, Berlin, Germany; 4Marmara University School of Medicine, PMR Department, Rheumatology, Istanbul, Turkey; 5Rheumatismen Ruhgebiet, Ruhr-University Bochum, Rheumatology, Herne, Germany; 6Cairo University, Cairo, Cairo, Egypt; 7Health Sciences College, International University of Rabat (UIR), Rabat, Morocco; 8Hospital General de México Eduardo Liceaga, Rheumatology, Mexico City, Mexico; 9Buenos Aires School of Medicine, Rheumatology, Buenos Aires, Argentina; 10Rheumatology, Saint-Joseph University and Mount Lebanon Hospital, Beirut, Lebanon; 11Nizam’s Institute of Medical Sciences, Rheumatology, Hyderabad, India; 12Rheumatology, University Hospital La Paz, Madrid, Spain; 13Chang Gung Memorial Hospital-Linkou, Rheumatology, Allergy and Immunology, Taoyuan, Taiwan, Republic of China; 14Fondazione IRCCS Policlinico S. Matteo, University of Pavia, Rheumatology, Pavia, Italy; 15Chonnam National University Medical School and Hospital, Rheumatology, Donggu Gwangju, Korea, Rep. of South Korea; 16Kyorin University School of Medicine, Department of Nephrology and Rheumatology, Tokyo, Japan; 17Nova University of Lisbon, NOVA Medical School, Lisboa, Portugal; 18Third Affiliated Hospital of Sun Yat-Sen University, Rheumatology, Guangzhou, China; 19Iuliu Hatageasan University of Medicine and Pharmacy, Rheumatology, Cluj-Napoca, Romania; 20Leiden University Medical Center, Rheumatology, Leiden, Netherlands; 21Semmelweis University, Rheumatology, Budapest, Hungary; 22Cases Western Reserve University School of Medicine, Rheumatology, Cleveland, United States

Disclosure of Interests: None declared
DOI: 10.1136/annrheumdis-2021-eular.805

Results: NLRP12 expression was significantly lower in PBMC isolated from SLE patients compared to healthy donors. The inverse correlation was observed in NLRP12 and IFNA gene expression as well as NLRP12 expression and amount of double-stranded DNA autobody in SLE patients. NLRP12 expression showed negative correlations with IFN-γ treatment, as well as herpes simplex virus-1 (HSV-1) infection. Results from ChiP and EMSA analysis indicated a potential transcription factor 1 (TF-1) regulating NLRP12 promoter activity. TF-1 lead to transcriptional suppression of NLRP12 in SLE PBMC, and it was gradually induced after IFN treatment. Recruitment of TF-1 to NLRP12 promoter in SLE PBMC compared to the healthy PBMC was detected, and increased when treating with IFN. Human CD14+ monocytes collected from lupus and healthy control stimulating with different type of nucleic acids revealing significant increasing level of IFN-γ and IL-6 in lupus patients. Among animal models, both pristine induced mice and Fas tm mice revealed increasing autoantibodies production and severity of glomerulonephritis in Nlrp12−/− group in comparison with Nlrp12+/+ ones, indicating the role of NLRP12 in maintaining positive interferon signature as well as disease activity.

Disclosure of Interests: None declared
DOI: 10.1136/annrheumdis-2021-eular.4215

Ann Rheum Dis first published as 10.1136/annrheumdis-2021-eular on 19 May 2021. Downloaded from http://ard.bmj.com/ on September 21, 2023 by guest. Protected by copyright.
Background: Patients with a diagnosis of Spondyloarthritids (SpA) or Psoriatic Arthritis (PsA) may have predominant axial or peripheral symptoms, and the frequency and distribution of these symptoms may determine the clinical diagnosis by the rheumatologist (“clinical clusters”). Clustering analysis represents an unsupervised exploratory analysis which tries to identify homogeneous groups of cases (“statistical clusters”) without prior information about the membership for any of the cases.

Objectives: To identify “statistical clusters” of peripheral involvement according to the specific location of these symptoms in the whole spectrum of SpA and PsA (without prior information about the diagnosis of the patients), and to evaluate whether those “statistical clusters” are in agreement with the “clinical clusters”.

Methods: Cross-sectional and multicentre study with 24 participating countries. Consecutive patients considered by their treating rheumatologist as suffering from either PsA, axial SpA (axSpA) or peripheral SpA (pSpA) were enrolled. Four different cluster analyses were conducted: the first one using information about the specific location from all the peripheral musculoskeletal manifestations (i.e., peripheral arthritis, enthesitis and dactylitis), and thereafter a cluster analysis for each peripheral manifestation individually. Multiple correspondence analyses and k-means clustering methods were used. Distribution of peripheral manifestations and clinical characteristics were compared across the different clusters.

Results: 4465 patients were included in the analysis. Two clusters were found with regard to the location of all the peripheral manifestations (Fig. 1). Cluster 1 showed a low prevalence of peripheral manifestations in comparison with cluster 2; however, when peripheral involvement appeared in cluster 1, this was mostly represented by arthritis of hip, knee and ankle, as well as enthesitis of the heel. Patients from cluster 1 showed a higher prevalence of males (63% vs 44%), HLA-B27 positivity (69% vs 38%) and axial involvement (80% vs 52%), as well as more frequent diagnosis of axSpA (66% vs 21%) and more frequently fulfilling the ASAS axSpA criteria (69% vs 41%). Patients from cluster 2 showed a higher prevalence of psoriasis (63% vs 25%), a more frequent diagnosis of PsA (61% vs 19%), and they fulfilled more frequently the peripheral ASAS (26% vs 11%) and the CASPAR criteria (57% vs 19%).

Figure 1. Distribution of the peripheral involvement across clusters

Three clusters were found with regard to the location of the peripheral arthritis. Clusters 2 and 3 showed a high prevalence of peripheral joint disease, although this was located more predominantly in the lower limbs in cluster 2, and in the upper limbs in cluster 3. Cluster 1 showed a higher prevalence of males, HLA-B27 positivity, axial involvement, a lower presence of psoriasis, a more frequent diagnosis of axSpA and fulfilling the ASAS axSpA criteria in comparison with clusters 2 and 3, respectively. Clusters 2 and 3 showed a higher prevalence of enthesitis and dactylitis in comparison with cluster 1, a more frequent diagnosis of PsA and fulfillment of the CASPAR criteria. Information about the location of enthesitis exhibited three groups: cluster 1 showed a very low prevalence of enthesitis, while cluster 2 and 3 showed a high prevalence of enthesitis, with a predominant involvement of axial enthesis in cluster 2 and peripheral enthesitis in cluster 3.

Finally, the analysis of dactylitis also exhibited three clusters that showed a very low prevalence of dactylitis, predominantly toes and predominantly fingers involvement, respectively.

Conclusion: These results suggest the presence of heterogeneous patterns of peripheral involvement in SpA and PsA patients without clearly defined groups, confirming the clear overlap of these peripheral manifestations across the different underlying diagnoses.

Acknowledgements: This study was conducted under the umbrella of ASAS with unrestricted grant of Abbvie, Pfizer, Lilly, Novartis, UCB, Janssen and Merck.

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2021-eular.805

Figure 1. The relationship between the likelihood ratio product and the post-test probability of axial SpA in patients with different pre-test disease probability.

The relationship between the likelihood ratio product and the post-test probability of axial SpA is depicted for patients referred via an online screening tool (pre-test probability of axial SpA = 20%) and in patients referred via a physician-based referral tool (pre-test probability of axial SpA = 40%).

IBP: inflammatory back pain; MRI: magnetic resonance imaging; SpA: spondyloarthritis.