Disclosure of Interests: None declared

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Objective: To identify the clusters of patients with multimorbidity and associated factors in OA and non-OA populations and to estimate the risk of developing multimorbidity clusters after the index date (after diagnosis).

Methods: The study used the Clinical Practice Research Datalink — a primary care database from the UK. Firstly, age, sex and practice matched OA and non-OA people aged 20+ were identified to explore patterns and associations of clusters of multimorbidity within each group. Non-OA controls were assigned with same index date as that of matched OA cases. Secondly, multimorbidity trajectories for 20 years after the index date were examined in people without any comorbidities at baseline in both OA and non-OA groups. Latent class analysis was used to identify clusters and latent class growth modelling was used for cluster trajectories. The associations between clusters and age, sex, body mass index (BMI), alcohol use, smoking habits at baseline were quantified through multinomial logistic regression.

Results: In total, 47 long-term conditions were studied in 443,822 people (OA: 221922; non-OA: 221900), with a mean age of 62 years (standard deviation ± 13 years), and 58% being women. The prevalence of multimorbidity was 76.6% and 68.9% in the OA and non-OA groups, respectively. In the OA group five clusters were identified including relatively healthy (18%), cardiovascular (CVD) and musculoskeletal (MSK) (12.3%), metabolic syndrome (28.2%), ‘pain and psychological’ (9.1%), and ‘musculoskeletal’ (32.4%). The non-OA group had similar patterns except that the ‘pain+ psychological’ cluster was replaced by ‘thyroid and psychological’. (Figure 1) Among people with OA, CVD+MSK and metabolic syndrome clusters were strongly associated with obesity with a relative risk ratio (RRR) of 2.04 (95% CI 1.95-2.13) and 2.10 (95% CI 2.03-2.17), respectively. Women had four times higher risk of being in the ‘pain+ psychological’ cluster than men when compared to the gender ratio in the healthy cluster, (RRR 4.28; 95% CI 4.12-4.45).

Conclusion: This nationwide, population-based cohort study demonstrated that patients with PR had an increased risk of developing various rheumatic diseases, not only RA but also psoriatic arthropathy. Therefore, patients with PR needs to be cautiously followed up for their potential of diverse outcome other than RA: SLE, SS, BD, and in younger patients, RA in males, and AS in females, in particular.

Disclosure of Interests: None declared

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OP0074

MULTIMORBIDITY CLUSTERS, DETERMINANTS AND TRAJECTORIES IN OSTEOARTHRITIS IN THE UK: FINDINGS FROM THE CLINICAL PRACTICE RESEARCH DATALINK


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Background: Multimorbidity (≥2 chronic conditions) escalates the risk of adverse health outcomes. However, its burden in people with osteoarthritis (OA) remains largely unknown.

Objectives: To identify the clusters of patients with multimorbidity and associated factors in OA and non-OA populations and to estimate the risk of developing multimorbidity clusters after the index date (after diagnosis).

Methods: The study used the Clinical Practice Research Datalink — a primary care database from the UK. Firstly, age, sex and practice matched OA and non-OA people aged 20+ were identified to explore patterns and associations of clusters of multimorbidity within each group. Non-OA controls were assigned with same index date as that of matched OA cases. Secondly, multimorbidity trajectories for 20 years after the index date were examined in people without any comorbidities at baseline in both OA and non-OA groups. Latent class analysis was used to identify clusters and latent class growth modelling was used for cluster trajectories. The associations between clusters and age, sex, body mass index (BMI), alcohol use, smoking habits at baseline were quantified through multinomial logistic regression.

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What is new in axial spondyloarthritis: clinical and imaging outcomes?

OP0075  SPINAL RADIOGRAPHIC PROGRESSION IN AXIAL SPONDYLOARTHRITIS AND THE IMPACT OF CLASSIFICATION AS NONRADIOGRAPHIC VERSUS RADIOGRAPHIC DISEASE

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Background: Data on spinal radiographic progression is more limited in nonradiographic axial spondyloarthritis (nr-axSpA) than in the radiographic disease state (r-axSpA). It remains unclear, whether sacro-vertebral spondylolysis is by itself associated with progression of spinal structural damage.

Objectives: To investigate whether spinal radiographic progression relates to structural damage at the sacroiliac level in axSpA by means of statistical mediation analyses in a large prospective real-life cohort of patients with axSpA.

Methods: Patients from the Swiss Clinical Quality Management cohort were included if they fulfilled the ASAS classification criteria and could be classified as nr-axSpA or r-axSpA after central scoring of pelvis radiographs. Spinal radiographs performed every 2 years were scored according to the modified Stoke Ankylosing Spondylitis Spine Score (mSASSS). The relationship between classification status and spinal progression over 2 years was investigated using binominal generalized estimating equations models with adjustment for sex, ankylosing spondylitis disease activity score (ASDAS) and tumor necrosis factor inhibitor treatment. Baseline spinal damage was considered an intermediate variable and included in sensitivity analyses, as were additional variables potentially influencing radiographic progression.

Results: In total, 88 nr-axSpA and 418 r-axSpA patients contributed to data for 725 radiographic intervals (Table 1). Mean (SD) mSASSS change over 2 years was 0.16 (0.62) units in nr-axSpA and 0.92 (2.78) units in r-axSpA, p<0.01. Nr-axSpA was associated with a significantly lower progression over 2 years (defined as an increase in ≥2 mSASSS units) in adjusted analyses (OR 0.33, 95%CI 0.13; 0.83), confirmed with progression defined as the formation of ≥1 syndesmophyte. Mediation analyses revealed that sacroiliitis exerted its effect on spinal progression indirectly by being associated with the appearance of a first syndesmophyte (OR 0.09, 95%CI 0.02; 0.36) for nr-axSpA vs r-axSpA (Fig. 1 and 2). Baseline syndesmophytes were predictors of further progression.

Table 1. Baseline characteristics at first radiograph.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>N</th>
<th>nr-axSpA</th>
<th>r-axSpA</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female sex, %</td>
<td>506</td>
<td>54.5</td>
<td>33.7</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Age, y</td>
<td>506</td>
<td>39.5±11.1</td>
<td>40.4±11.0</td>
<td>0.52</td>
</tr>
<tr>
<td>Symptom duration, y</td>
<td>498</td>
<td>10.0±9.9</td>
<td>14.0±9.8</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>HLA-B27 positive, %</td>
<td>452</td>
<td>71.6</td>
<td>80.7</td>
<td>0.09</td>
</tr>
<tr>
<td>BASDAI</td>
<td>427</td>
<td>4.6±2.0</td>
<td>4.2±2.3</td>
<td>0.26</td>
</tr>
<tr>
<td>ASDAS</td>
<td>408</td>
<td>2.8±0.9</td>
<td>2.8±1.1</td>
<td>0.74</td>
</tr>
<tr>
<td>Elevated CRP, %</td>
<td>422</td>
<td>30.6</td>
<td>40.6</td>
<td>0.14</td>
</tr>
<tr>
<td>BASFI</td>
<td>433</td>
<td>2.8±2.2</td>
<td>3.1±2.5</td>
<td>0.71</td>
</tr>
<tr>
<td>BASMI</td>
<td>435</td>
<td>1.1±1.4</td>
<td>2.5±2.0</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>mSASSS</td>
<td>506</td>
<td>0.9±1.5</td>
<td>6.8±12.7</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Syndesmophytes, %</td>
<td>506</td>
<td>9.1</td>
<td>35.2</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>On TNFi, %</td>
<td>506</td>
<td>19.3</td>
<td>36.4</td>
<td>0.002</td>
</tr>
</tbody>
</table>

Conclusion: Spinal structural damage is mainly restricted to patients with r-axSpA, leading to relevant prognostic and therapeutic implications.

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What is new in axial spondyloarthritis: clinical and imaging outcomes?

Osteoarthritis (OA) (n=24139) and Non-OA (n=221900) group COPD: Chronic Obstructive Pulmonary Disease; CVD: Cardiovascular; MSK: Musculoskeletal

OA (n=24139) and non-OA (n=24144) groups had five and four multimorbidit y trajectory clusters, respectively. Among the OA population, 2.7% had rapid onset of multimorbidity, 9.5% had gradual onset and 11.6% had slow onset, whereas among the non-OA population, there was no rapid onset cluster, 4.6% had gradual onset and 14.3% had slow onset of multimorbidity. (Figure 2)

Conclusion: Distinct identified groups in OA and non-OA suggests further research for possible biological linkage within each cluster. The rapid onset of multimorbidity in OA should be considered for chronic disease management. Supported by:

Figure 1 : Posterior probability distribution of chronic conditions across the clusters in Osteoarthritis (OA, n=221922) and Non-Osteoarthritis (Non-OA, n=221900) group COPD: Chronic Obstructive Pulmonary Disease; CVD: Cardiovascular; MSK: Musculoskeletal

Figure 2 : Clusters of multimorbidity trajectories after index date in OA (n=24139) and Non-OA (n=24144)

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