is). The higher the Boruta importance score, the stronger the impact the particular variable has on the outcome variable.

Results: The cohort comprised 1,329,698 new opioid users (801,533 women [60.3%]; 528,165 White patients [88.2%]), with a mean age of 60 years [SD 17]. The proportion patients with different RMDs in order of frequency were OA: 1,246,574 (93.7%); RA: 50,000 (3.8%), fibromyalgia [47,708, 3.6%], PsA [11,181 (0.8%)], SLE [6,757 (0.5%)] and AS [6,560 (0.5%). Of our study population, 4,016 individuals (0.3%) experienced a hospitalization for opioid-related harms within our follow-up period of five years after first prescription date. Logistic regression and random forest models showed consistent results when ranking the most important variables associated to opioid-related hospital admissions. The main risk factor identified consistently across both methods was history of alcohol excess, with an odds ratio (OR) of 10.7, 95% confidence interval (95% CI): 8.1–14.2 and Boruta Importance (Imp) of 93.6. Other main risk factors included history of attempted suicide and self-harm (OR 7.5, 95% CI: 5.6–9.9; Imp: 80.3), major depression (OR 2.0, 95% CI: 1.7–2.3; Imp: 39.7) and lower socioeconomic status (OR: 10.4, 95% CI: 4.6–23.4; Imp: 34.0).

Conclusion: Patients with a documented history of alcohol excess, severe psychological problems and those most socioeconomically deprived were found to have a higher risk of opioid-related hospitalisations. Medical providers should be made aware of psychosocial factors associated with opioid hospital admissions when prescribing opioids to patients with RMDs. By determining patient subgroups most vulnerable to opioid-related harms and further analysing patient risk factors, we hope to contribute to the development of targeted interventions for safer future clinical care.

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POS0939

PROLONGED PHYSICAL STRAIN AT WORK CONFRONS RISK FOR DEVELOPMENT OF RHEUMATOID ARTHRITIS IN PATIENTS WITH CLINICALLY SUSPECT ARTHRALGIA: CUES FOR MECHANICAL FACTORS AS FINAL PATHOPHYSIOLOGICAL HIT

Keywords: Rheumatoid arthritis, Epidemiology, Work-related issues

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Background: Some case-control studies have identified physical workload as a risk factor for rheumatoid arthritis (RA).

Objectives: To better understand its influence on the pathophysiological trajectory of RA-development, we studied the relation of work-related physical strain with MRI-detected joint-inflammation in clinically suspect arthralgia (CSA) and the general population, and with progression from CSA to clinical arthritis.

Methods: 501 consecutively presenting CSA-patients and 155 symptom-free persons filled out questionnaires on their occupation. Physical strain was determined using the International Standard Classification of Occupations (ISCO) per subject-reported occupation. Contrast-enhanced hand-MRIs were evaluated for synovitis/tenosynovitis/osteitis (summed as joint-inflammation) using the RAMRIS-method. CSA-patients were followed on clinical arthritis development for synovitis/tenosynovitis/osteitis (summed as joint-inflammation) using the RAMRIS-method. CSA-patients were followed on clinical arthritis development.

Results: In CSA-patients, the degree of physical strain was associated with the severity of subclinical joint-inflammation, independent of BMI/smoking/education-level: there was a positive interaction between age and physical strain: p=0.007. Plotting the age-dependent effects showed a positive relationship in CSA-patients aged ≥50 years (Figure 1A), suggesting the effect relates to prolonged physical strain. Especially tenosynovitis was increased in relation to higher physical strain (Figure 1B). Prolonged physical strain in symptom-free persons was not associated with MRI-detected joint-inflammation. Older (≥50 years) CSA-patients with higher physical strain developed clinical arthritis more often (Figure 1B; HR: 1.17 [95%CI 1.00–1.35]) per 10 percentage-points physical strain increase; p=0.043). This was partially mediated by subclinical joint-inflammation. Moreover, physical strain partially mediated the known association between low educational attainment and clinical arthritis development.

Conclusion: Prolonged work-related physical strain increases the risk of developing RA in CSA-patients, which is partially mediated by an effect on increased subclinical joint-inflammation. This points to mechanical factors as a final hit in the pathophysiology of RA-development.

Figure 1.

Acknowledgements: We thank dr. B. Ravesteijn for sharing occupation-specific physical strain data (see Ravesteijn et al., Health Econ. 2018, and www.bastian-ravesteijn.com).

Disclosure of Interests: None Declared.

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POS0940

PLEUROPARENCHYMAL FIBROELASTOSIS: A SPECIAL CLINICAL SITUATION IN PATIENTS WITH INTERSTITIAL LUNG DISEASE ASSOCIATED WITH CONNECTIVE TISSUE DISEASES. DESCRIPTIVE STUDY FROM A REFERRAL CENTRE

Keywords: Comorbidities, Lungs

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Background: Pleuroparenchymal fibroelastosis (PPFE) is a rare interstitial lung disease (ILD) that can be idiopathic or associated with a variety of different conditions, including connective tissue diseases (CTD) [1-2]. In this regard, the presence of PPFE has been reported as an independent predictor of worse
prognosis in CTD-ILD patients [3]. Approximately one third of the patients with ILD meet criteria for a CTD [4].

**Objectives:** A) To determine the prevalence of PPFE in a cohort of Spanish patients with CTD-ILD, and B) to compare the characteristics between CTD-ILD patients with and without PPFE.

**Methods:** A total of 99 patients with CTD-ILD (31 rheumatoid arthritis (RA), 31 systemic sclerosis (SSc), 21 idiopathic inflammatory myositis (IIM), 6 primary Sjögren’s syndrome (SS), 4 systemic lupus erythematosus (SLE) and 6 with other CTDs) from the Hospital Universitario Marqués de Valdecilla (Santander, Spain) were included in this study. The presence of PPFE was confirmed by experienced radiologists evaluating chest high-resolution computed tomography images from all patients. In addition, demographic, clinical and radiological characteristics were collected.

**Results:** The presence of PPFE was found in 9 (9.1%) of the 99 CTD-ILD patients, whereas the remaining 90.9% had no signs of PPFE. In particular, it was confirmed in 4 patients with RA (12.9%), 2 with SSc (6.5%), 1 with IIM (4.8%), 1 with primary SS (16.7%) and 1 with SLE (25.0%) (Figure 1). The prevalence of bronchial dilatation was statistically higher in CTD-ILD patients with PPFE compared to those without PPFE (44.4% versus 6.74%, respectively, p=0.006, Table 1). There were no significant differences in age at CTD or ILD diagnosis, sex, smoking history; body mass index and pulmonary function tests at ILD diagnosis between both groups (Table 1).

**Conclusion:** We provide the prevalence and clinical data of PPFE in patients with CTD-ILD from a national referral centre. Approximately 1 out of 10 of our patients presented associated PPFE, closely correlated to bronchial dilatation. The identification of this condition in CTD-ILD patients should be considered routinely since it may worsen their prognosis.

**REFERENCES:**


**Table 1.** Demographic, clinical and radiological characteristics between CTD-ILD patients with and without PPFE

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>CTD-ILD patients</th>
<th>CTD-ILD patients p</th>
<th>without PPFE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age at CTD diagnosis (years), mean ± SD</td>
<td>57.4 ± 11.3</td>
<td>64.3 ± 12.6</td>
<td>0.35</td>
</tr>
<tr>
<td>Age at ILD diagnosis (years), mean ± SD</td>
<td>54.9 ± 12.6</td>
<td>64.2 ± 12.5</td>
<td>0.73</td>
</tr>
<tr>
<td>Sex (men/women), n (%)</td>
<td>3/6 (37.5/62.5)</td>
<td>43/47 (47.8/52.2)</td>
<td>0.50</td>
</tr>
<tr>
<td>Smoking history, n (%)</td>
<td>4 (50.0)</td>
<td>52 (62.7)</td>
<td>0.48</td>
</tr>
<tr>
<td>Body mass index</td>
<td>23.5 ± 5.5</td>
<td>26.2 ± 4.6</td>
<td>0.14</td>
</tr>
<tr>
<td>PF4s at ILD diagnosis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FVC ml, mean ± SD</td>
<td>1296 ± 1268</td>
<td>740 ± 943.5</td>
<td>0.16</td>
</tr>
<tr>
<td>FVC (% predicted), mean ± SD</td>
<td>71.3 ± 38.1</td>
<td>84.1 ± 25.4</td>
<td>0.22</td>
</tr>
<tr>
<td>DDLCO (% predicted), mean ± SD</td>
<td>36.2 ± 19.2</td>
<td>47.0 ± 16.0</td>
<td>0.15</td>
</tr>
<tr>
<td>DDLCOA (% predicted), mean ± SD</td>
<td>66.8 ± 18.6</td>
<td>72.9 ± 23.2</td>
<td>0.57</td>
</tr>
<tr>
<td>Radiological features</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any bronchial dilatation, n (%)</td>
<td>4 (44.4)</td>
<td>6 (6.74)</td>
<td>0.006</td>
</tr>
</tbody>
</table>

**CTD: connective-tissue disease; DDLCO: diffusion capacity of the lung for carbon monoxide; FEV1: forced expiratory volume in one second; FVC: forced vital capacity; ILD: interstitial lung disease; PFTs: pulmonary function tests; PPFE: pleuroparenchymal fibroelastosis; SD: standard deviation; VA: alveolar volume. Signiﬁcant results are highlighted in bold.**

**Figure 1.** Prevalence of PPFE in each CTD-ILD.

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