Impairment. The ACE-III scores in the cases were compared with scores from 29 healthy population-based controls matched for age and sex.

**Results:** The mean age of the patient and control groups was 69 years. The RA patients had a mean disease duration of 9.8 years and had been taking DMARDs for 7.1 years. Among the patient group with RA, 14 (37%) scored below 82 compared with none in the group of healthy controls. The mean ACE-III scores of both groups are shown in the table below:

<table>
<thead>
<tr>
<th></th>
<th>Controls</th>
<th>RA N=38</th>
</tr>
</thead>
<tbody>
<tr>
<td>N=29</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACE-III Total</td>
<td>95.2 (3.7)</td>
<td>85.2 (7.4)</td>
</tr>
<tr>
<td>Attention</td>
<td>17.0 (5.5)</td>
<td>16.5 (1.9)</td>
</tr>
<tr>
<td>Memory</td>
<td>24.6 (1.9)</td>
<td>19.8 (4.0)</td>
</tr>
<tr>
<td>Fluency</td>
<td>12 (1.4)</td>
<td>11.9 (2.6)</td>
</tr>
<tr>
<td>Language</td>
<td>25.5 (0.8)</td>
<td>24.6 (1.7)</td>
</tr>
<tr>
<td>Visuospatial</td>
<td>15.8 (0.5)</td>
<td>14.4 (1.5)</td>
</tr>
</tbody>
</table>

After adjusting for age, sex, BMI and smoking status, significant differences were seen in the ACE-III total (adjusted mean difference(SE)=8.671(1.77); p<0.001), memory (adjusted mean difference(SE)=4.16(1.03); p<0.001), fluency (adjusted mean difference(SE)=2.29(0.87); p=0.001) and visuospatial (adjusted mean difference(SE)=1.36(0.38); p<0.001). There was no difference in attention (p=0.19) or language (p=0.10).

Among the patients with RA there was no clear association between disease duration and ACE-III Total scores; however, there was a trend for increasing cognitive scores in those who had been taking DMARDs for longer (<5 years: mean ACE-III Total=84.1, 5-10 years: 85.0, >14 years: 89.6).

**Conclusion:** This study provides evidence to suggest that patients with established RA are at increased risk of cognitive decline when compared with healthy controls. The pattern of cognitive deficit, predominantly involving visuospatial and memory function, is consistent with an Alzheimer's disease profile. Our data suggest a potential role for DMARDs in reducing the rate of cognitive decline in patients with RA.

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**Scientific Abstracts**

**THU0131**

**LOCALISATION OF RHEUMATOID LUNG NODULES IN PATIENTS WITH RHEUMATOID ARTHRITIS-RELATED INTERSTITIAL LUNG DISEASE: RIGHT OR LEFT?**


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**Background:** The frequency of pulmonary rheumatoid nodules closely relates to the diagnostic modality and changes from <0.4% to 32% [1]. However, data regarding pulmonary rheumatoid nodules in RA-related interstitial lung disease (RA-ILD) is scarce.

**Objectives:** The aim of this study was to describe the general features and localisation of pulmonary rheumatoid nodules in RA-ILD patients followed up in a single tertiary center.

**Methods:** During January 2010 and March 2019, 826 RA patients had lung computerized tomography (CT) in Hacettepe University. Three radiologists re-evaluated lung CTs and 156/826 (18.8%) patients had RA-ILD. Pulmonary nodules suggesting pulmonary rheumatoid nodules were identified by radiologist from lung CTs. In addition to demographic, clinical and laboratory data; number of the pulmonary rheumatoid nodules, size and localization of the biggest nodule – named as dominant nodule, - type of ILD (UIP, NSIP and isolated airway disease (AD)) were recorded. p value less than 0.05 was considered as statistically significant.

**Results:** Of 156 patients, 68 (26, 38.2% male) patients (43.5%) had at least one pulmonary rheumatoid nodule. The mean (SD) follow-up duration was 68 (88) months for RA, and 72 (48) months for RA-ILD. Thirty patients had UIP (44.1%), 31 (45.6%) had NSIP and 7 (10.3%) had AD pattern. 35 (51.5%) of patients had exposed smoking (current or past). Rheumatoid factor and anti-CCP were positive in 60/68 (88.2%) and 33/45 (73.3%) patients, respectively. Median number of nodules was 3 (2-3). Median size of the dominant nodule was 6.8 (5.0-11.5) mm. While 41 (60.3%) of dominant nodules localised in right lung, 27 (39.7%) of dominant nodules localised in left lung (p<0.09). In addition, right inferior lobe (21, 39.9%) was the most common localisation and right middle lobe (7, 10.3%) was the least common localisation of dominant nodule (Figure 1).

**Figure 1.** Localisation of dominant pulmonary rheumatoid nodules LUL: Left upper lobe, LIL: Left inferior lobe, RIL: Right inferior lobe, RML: Right middle lobe, RUL: Right upper lobe

**Conclusion:** We found a high prevalence of pulmonary rheumatoid nodules in RA-ILD patients and right inferior lobe was the most common localization of dominant nodules. Prospective studies are needed to determine how the presence and localization of pulmonary rheumatoid nodules affect the RA-ILD disease process.

**References:**

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**THU0132**

**ASSOCIATION OF RHEUMATOID ARTHRITIS AND DEMENTIA: A NATIONWIDE POPULATION-BASED STUDY**


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- Chungbuk National University, Preventive Medicine, Cheongju-si, Chungcheongbuk-do, Korea, Rep. of (South Korea)

**Background:** Rheumatoid arthritis (RA) and dementia have a mechanism that systemic inflammation is involved in the onset, and its relationship can be predicted, but still controversy about the relationship between them. According to the prior literature, rheumatoid arthritis has reduced the risk of progression to Alzheimer’s disease (AD).

**Objectives:** To investigate the risk of dementia in RA patients based on Korean National Health Insurance Service (NHIS) claim database.

**Methods:** We conducted a nationwide population-based study using a Korean NHIS consisting of 1 million individuals, who submitted medical care claims between 2002 and 2013. RA was identified using as the International Classification of Diseases code (ICD-10) M05 (seropositive RA) and dementia was defined as having a prescription of anti-dementia drugs with satisfying the AD (ICD 10 F00 or G30) or vascular dementia (VD, ICD 10 F1 .0-1 .3, F1 .8 and F1 .9) codes.

The control groups were matched to the RA cohort by age and sex.

**Results:** Of the total 6,028 dementia patients, 100 were diagnosed with RA. In patients with RA over 65 years of age compared to age and sex-matched control group, the dementia risk was shown as whole dementia OR 1.011 (95% CI, 0.811-1.260), AD 1.043 (0.826-1.318), Vascular dementia (VD, ICD 10 F10.1-1.3, F18 and F19) codes. The control groups were matched to the RA cohort by age and sex.

**Conclusion:** Of the total 6,028 dementia patients, 100 were diagnosed with RA. In patients with RA over 65 years of age compared to age and sex-matched control group, the dementia risk was shown as whole dementia OR 1.011 (95% CI, 0.811-1.260), AD 1.043 (0.826-1.318), Vascular dementia (VD, ICD 10 F10.1-1.3, F18 and F19) codes. The control groups were matched to the RA cohort by age and sex.