AB0387 PREDICTIVE FACTORS OF DETECTION OF ULTRASOUND SYNOVITIS IN RHEUMATOID ARTHRITIS PATIENTS WITH CONCOMITANT FIBROMYALGIA

Keywords: Rheumatoid arthritis, Fibromyalgia, Ultrasonography


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Background: Recent studies have shown that ultrasound (US) assessment of disease activity in rheumatoid arthritis (RA) with associated fibromyalgia (FM) before disease-modifying antirheumatic drug (DMARD) escalation is primordial. The objective of this study was to identify predictive factors of detection of US synovitis and Doppler activity in RA patients with and without concomitant FM.

Methods: Cross-sectional study that included patients with diagnosis of RA (ACR/EULAR, 2010 criteria) with concomitant FM (ACR 2016) and to compare it to RA patients without FM. Demographic and RA characteristics were collected. US examination of 22 joints was blindly performed by a single physician. US-detected synovitis was defined and scored 0-3 using the OMERACT scoring system at the joint level for both grey-scale (GS) and Doppler power (DP). The number of joints with ≥ grade 1 GS synovitis and those with ≥ grade 1 DP were calculated. Multiple linear regression analysis was performed, adjusting for clinical and demographic variables.

Results: Eighty patients distributed into 40 patients in each group were recruited. Epidemiological characteristics and RA characteristics were comparable between groups. No significant difference was observed between the groups in regards to mean DAS28 and the three-variables (DAS28 V3). Multiple linear regression showed that in RA-FM group US synovitis detection was positively associated with male gender (B=0.135, p=0.045) and with DAS28 V3 (B=0.454, p=0.004) and negatively associated with the Patient global assessment (PGA) (B=-1.092, p=0.007). In RA group (without FM), US synovitis was positively associated with Swollen joints count (SJC) (B=0.837, p=0.001). In RA-FM group, Doppler activity was positively associated with: the DAS28 V3 (B=0.637, p=0.04) and with Physician global assessment (B=-0.873, p=0.023), negatively associated with the PGA (B=-0.642, p=0.005) while it was positively associated with: the DAS28 (p=0.308, p=0.047) in RA group.

Conclusion: Our study shows that a high DAS28 V3 seems to be significantly associated with active synovitis in US assessment in RA patients with comorbid FM.

REFERENCES: NIL.

Acknowledgements: NIL.

Disclosure of Interests: None Declared.

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AB0388 RHEUMATOID ARTHRITIS WITH CONCOMITANT FIBROMYALGIA: THE ROLE OF ULTRASOUND IN ASSESSING DISEASE ACTIVITY

Keywords: Fibromyalgia, Rheumatoid arthritis, Ultrasound


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Background: Fibromyalgia (FM) is a chronic painful condition frequently associated with rheumatoid arthritis (RA) which may falsely increase RA activity by modifying the subjective components of disease activity scores.

Objectives: The aim of our study was to compare clinical scoring and ultrasound (US) assessment in RA patients with concomitant FM to RA patients without FM.

Methods: Cross-sectional study that included patients with diagnosis of RA (ACR/EULAR 2010 criteria) with concomitant FM (ACR 2016) and to compare it to RA patients without FM. Demographic and RA characteristics were collected. US examination of 22 joints was blindly performed by a single physician. US-detected synovitis was defined and scored 0-3 using the OMERACT scoring system at the joint level for both grey-scale (GS) and Doppler power (DP). The number of joints with ≥ grade 1 GS synovitis and those with ≥ grade 1 DP were calculated. Multiple linear regression analysis was performed, adjusting for clinical and demographic variables.

Results: Eighty patients distributed into 40 patients in each group were recruited. Epidemiological characteristics and RA characteristics were comparable between groups. Biologic DMARDs prescription was more frequent in RA with FM patients than control group (p<0.04). Subjective activity parameters were higher in RA with FM group (p<0.05). DAS28 was significantly greater than DAS28 V3 in RA with FM group (p=0.000), FM group had significantly less US synovitis (p=0.035) and less Power Doppler (PD) activity (p=0.035). Grey scale (GS) US score (p=0.87) and DP US score (p=0.162) were similar in the two groups. Multivariate analysis in RA with FM group showed that DAS28 V3 and male gender were positively associated with the presence of US synovitis, while Patient Global Activity expressed a negative association.

Conclusion: Our study confirms the overestimation of disease activity by the clinical scores in RA with concomitant FM. DAS28 V3 score and US assessment would represent a better alternative.

REFERENCES: NIL.

Acknowledgements: NIL.

Disclosure of Interests: None Declared.

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AB0389 EXTRA-ARTICULAR MANIFESTATIONS ARE FREQUENT IN SOUTH INDIAN PATIENTS WITH RHEUMATOID ARTHRITIS AND ARE INDEPENDENT OF THE DISEASE ACTIVITY OR SEROPOSITIVE STATUS.

Keywords: Rheumatoid arthritis, Comorbidities, Inflammatory arthritides

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Background: Extra-articular manifestations are seen in around 40% of patients with Rheumatoid arthritis (RA) in western studies and increase the mortality in patients with RA [1]. There is a paucity of data from India, especially from South India on the prevalence and associations of extra-articular manifestations in RA.

Objectives: To estimate the frequency of extra-articular manifestations (EAM) and their associations with disease characteristics in patients with Rheumatoid arthritis attending the Rheumatology clinic of a tertiary care teaching hospital in South India.

Methods: A cross-sectional study of 316 consecutive patients fulfilling the 2010 ACR EULAR classification criteria of RA was done at a Rheumatology clinic in South India between October 2020 and December 2022. The various EAM studied were keratoconjunctivitis SIICCA, Interstitial lung disease (ILD), pleuritis/ pleural effusion, bronchiectasis, small airway disease, pericarditis/ pericardial effusion, myocarditis, subcutaneous nodules, peripheral neuropathy, anemia and Rheumatoid vasculitis. The comorbidities studied were diabetes mellitus, systemic hypertension, coronary artery disease, chronic obstructive pulmonary
disease, hypothyroidism, and stroke. Various parameters like age, gender, dis-
ease duration, comorbidities, seropositivity, erythrocyte sedimentation rate
(ESR), smoking, disease activity score (DAS28 ESR), and methotrexate use
were compared between patients with EAM and those without EAM. Compar-
isons between groups were made with the chi-squared test when testing cate-
gorical variables and the Mann-Whitney U test or independent samples t test
for continuous data. A binomial logistic regression analysis was also carried out
to find the independent factors associated with EAM.

**Results:** Among the 316 patients, 272 were female (86.1%). The mean age
of the study population was 51.6 ± 11.38 years and the median disease
duration was 36 months (84). 141 patients (44.6%) had at least one comorbidity
and 23 patients (7.3%) were current or former smok-
ers. 264 patients (84.1%) were Rheumatoid factor (RF) positive and 298
patients (94.6%) were cases of seropositive RA (RF and/or Anti CCP
positive) The median ESR was 50 mm/hour and the median DAS 28
ESR was 4.85. 164 patients (51.9%) were methotrexate naive. At least
one EAM was seen in 134 patients (42.4%) and the most frequently seen
EAM was anaemia (48 patients, 15.2%). Keratoconjunctivitis SICCA
was seen in 32 patients (10.1%) and symptomaticILD was seen in 30
patients (9.5%). Rheumatoid vasculitis was seen in 20 patients (6.3%).

Age, disease duration, and ESR (table 1) were found to have significant
association with extra-articular manifestations by univariate analysis.
On binomial logistic regression, disease duration (p=0.002) and ESR
(p=0.047) were found to have a significant association with the presence
of extra-articular manifestations.

**Conclusion:** Extra- articular manifestations were seen in a significant proportion
of our RA patients irrespective of the seropositivity status, disease activity, or
methotrexate use and had a positive association with disease duration and ESR.

**REFERENCES:**
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articular manifestations in rheumatoid arthritis. Autoimm Rev. 2021
Feb;20(2):102735.

**TABLE 1.** Comparison of parameters between patients with extra articular
manifestations and patients without extra articular manifestations

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>PATIENTS WITH EXTRA ARTICULAR MANIFESTATION (n=134)</th>
<th>PATIENTS WITHOUT EXTRA ARTICULAR MANIFESTATION (n=182)</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Age (years)</td>
<td>53.1 ± 10.3</td>
<td>50.5 ± 11.5</td>
<td>0.039*</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>119</td>
<td>153</td>
<td>0.229</td>
</tr>
<tr>
<td>Male</td>
<td>15</td>
<td>29</td>
<td></td>
</tr>
<tr>
<td>Male disease duration in months</td>
<td>60 (108)</td>
<td>36 (60)</td>
<td>0.003</td>
</tr>
<tr>
<td>Smoker</td>
<td>8</td>
<td>15</td>
<td>0.442</td>
</tr>
<tr>
<td>Comorbidities</td>
<td>57</td>
<td>84</td>
<td>0.523</td>
</tr>
<tr>
<td>Median ESR (mm/hr)</td>
<td>58 (52)</td>
<td>49 (44.8)</td>
<td>0.026</td>
</tr>
<tr>
<td>Median DAS28 (1.224)</td>
<td>4.81</td>
<td>4.58 (1.61)</td>
<td>0.479</td>
</tr>
<tr>
<td>ESR</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seropositive RA</td>
<td>298</td>
<td>18</td>
<td>0.678</td>
</tr>
<tr>
<td>RF positive</td>
<td>114</td>
<td>150</td>
<td>0.497</td>
</tr>
<tr>
<td>Methotrexate</td>
<td>69</td>
<td>90</td>
<td>0.868</td>
</tr>
<tr>
<td>naive</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant (p<0.05)

**Acknowledgements:** Departments of Pulmonary Medicine, Ophthalmology and
Dermatology at Government Medical College Kottayam, Kerala India.

**Disclosure of Interests:** None Declared.

**DOIs:**
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**AB0390**

**OVERACTIVATION OF THE RENIN ANGIOTENSIN SYSTEM AS A POSSIBLE CONTRIBUTOR TO THE INCREASED CARDIOVASCULAR RISK IN RHEUMATOID ARTHRITIS (RA): EVALUATION OF LEUKOCYTE EXPRESSION OF ANGIOTENSIN II RECEPTOR TYPE 1 AND TYPE 2 IN A POPULATION OF RA PATIENTS.**

**Keywords:** Rheumatoid arthritis, Cardiovascular disease

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**Background:** rheumatoid arthritis (RA) is a chronic systemic inflammatory
disease of unknown etiology characterized by joint inflammation and multiple
comorbidities, with a prevalence of approximately 1% of the adult population. It
is considered an independent cardiovascular (CV) risk factor, in fact it is asso-
ciated with significantly increased CV morbidity and mortality. The renin angio-
tensin system (RAS) is a hormonal cascade with pleiotropic effects. Not only is it
a crucial in blood pressure regulation but also plays an important role, among
many other effects, in inflammation. High circulating levels of proinflammatory
cytokines such as TNF-α and IL-6 are critical in the pathogenesis of RA as well
as in determining increased CV morbidity and mortality among these patients.
TNF-α and IL-6 activate the systemic and local RAS; in turn, Angiotensin II (Ang
II) increases several proinflammatory cytokines among which TNF-α and IL-6.
Therefore, a self-perpetuating vicious circle between RAS and cytokines is trig-
gered. Activation of the classical RAS leads to Angiotensin II (Ang II) formation
which binds to Ang II receptors type 1 (AT1R) and 2 (AT2R). RAS overactivation
is essential in determining vascular inflammation and endothelial dysfunction
through its proinflammatory and profibrotic effects.

**Objectives:** To determine whether RAS activity is higher among RA patients.

**Methods:** leukocyte AT1R and AT2R mRNA was extracted and measured by
real-time polymerase chain reaction analysis (RT-PCR) from 18 RA patients
with stable disease and no traditional CV risk factors (mean age 52.17±11.4)
and 10 healthy controls (mean age 43.8±6.81). Intergroup comparisons were made
using the Mann-Whitney U test.

**Results:** A significantly higher expression of AT1R was found in RA patients
compared to healthy controls (p<0.01). Even though the finding did not reach sta-
tistical significance, AT2R expression was also higher in RA patients (p=0.072).

**Conclusion:** the results suggest AT1R and possibly AT2R upregulation in RA
patients, indicating that RAS overactivation could contribute to the increased CV
risk observed in RA patients. If such findings are confirmed by further research,
they could have important implications in terms of prevention and treatment strat-
egies for RA patients as RA is associated with an elevated CV risk that is often
overlooked and underdiagnosed in these populations.

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S2665-9913(20)30221-6

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