**Conclusion:** In this validation study, the molecular signature of non-response identified patients who did not fulfill the EULAR good response criteria to TNFi therapies. The patient selection process for this study had limitations; additional analysis in an alternate cohort would further verify the performance of the MSRC test. Nevertheless, the test, previously validated for ACR50, now has been validated using EULAR good response criteria in a treat-to-target setting.

**REFERENCES:**

[1] Schipper LG et al, Time to achieve remission determines time to be in remis-

**Disclosure of Interests:** Lixia Zhang Shareholder of: Scipher Medicine Co-

**Background:** Rheumatoid arthritis (RA) is a chronic autoimmune inflammatory disease characterized by cartilage and bone destruction, which can lead to joint dysfunction and disability. Antibodies’ role as biomarkers in RA has been recently increasing: Anti-citrullinated protein antibodies (ACPAs) are the most specific one (60–70% of cases); whereas rheumatoid factor (RF) is seen in nearly 70% of cases, however, it is less specific than ACPA for RA diagnosis. ACPA/RF positivity is related to a more severe phenotype and a rapid progression to clinically apparent RA. Other biomarkers are Antinuclear Antibodies (ANA), which have been related to a worse response to bDMARD treatment. Anti-ANAs have long since been described as determinants for disease activity; nonetheless, our research provides insights for the consideration of ANA titers as a novel addition that enables the prelabal of triple-positivity as something to be acknowledged. Caution must be applied when interpreting these results, understanding the need for this matter to be subject of future research with greater sample size, and taking into account other potentially confounder variables.

**Disclosure of Interests:** None declared.

**Objectives:** Our aim was to compare in terms of mean differences the disease activity according to the presence of RF, ACPA, and ANA in an outpatient clinic-based cohort of Colombian RA patients.

**Methods:** We conducted a retrospective cohort study with clinical-epidemiological data obtained from May 2013 to Feb. 2020 of patients with RA diagnosis based on the 2010 ACR/EULAR classification criteria. The patients were stratified into eight subgroups according to their autoantibody status. Disease activity, assessed by the DAS28-ESR, was recorded at baseline and after 3, 12, 24, and 36 (±/-3) months. Mean DAS28-ESR differences were calculated by applying the Wilcoxon non-parametric rank test for two independent samples. Results: A total of 384 patients who all completed 36 months of follow-up, from an ongoing cohort of n=1100 patients, were included in the analysis. On our primary model (n=294, 76.8%) population, RF+/ ACPA+/ ANA+ subgroup was the most prevalent (n=183; 47.8%); interestingly, it was the one with the highest disease activity at baseline. After three months, all showed disease activity reduction; however, when completing follow-up, triple-positive, triple-negative and ANA-positive patients did not reach remission. Statistically significant mean differences were displayed when comparing overall and baseline mean DAS28-ESR scores for ANA+ vs ANA− patients, as shown in table 1.

**Table 1. Disease activity mean differences when comparing ANA+ vs ANA− patients**

<table>
<thead>
<tr>
<th>Baseline</th>
<th>ANA+ (n=218)</th>
<th>ANA− (n=165)</th>
<th>Mean difference</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>3.32</td>
<td>3.14</td>
<td>0.18</td>
<td>0.396</td>
</tr>
<tr>
<td>12</td>
<td>3.13</td>
<td>2.89</td>
<td>0.24</td>
<td>0.059</td>
</tr>
<tr>
<td>24</td>
<td>2.80</td>
<td>2.68</td>
<td>0.11</td>
<td>0.563</td>
</tr>
<tr>
<td>36</td>
<td>2.80</td>
<td>2.58</td>
<td>0.22</td>
<td>0.098</td>
</tr>
<tr>
<td>Overall</td>
<td>3.22</td>
<td>2.98</td>
<td>0.24</td>
<td>0.002</td>
</tr>
</tbody>
</table>

**Conclusion:** In our study population, triple-positive and ACPA+/ANA− patients showed higher disease activity at baseline and on average during the follow-up period; furthermore, ANA positivity was shown to be conditional on a significant difference for higher disease activity. RF and ACPA positive have long since been described as determinants for disease activity; nonetheless, our research provides insights for the consideration of ANA as a novel addition that enables the prelabal of triple-positivity as something to be acknowledged. Caution must be applied when interpreting these results, understanding the need for this matter to be subject of future research with greater sample size, and taking into account other potentially confounder variables.
Large Joint Disease in Rheumatoid Arthritis and the Role of Rheumatoid Factor. Results from the Early Rheumatoid Arthritis Study

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Background: Rheumatoid arthritis (RA) is classically described as a symmetric small joint polyarthritis with additional involvement of large joints. There is a paucity of information concerning the time course of damage in large joints, such as shoulder, elbow, hip, knee and ankle, from early to established RA, or of the influence of Rheumatoid Factor (RF) status. There is a historic perception that patients who do not have RF follow a milder less destructive course, which might promote less aggressive treatment strategies in RF-negative patients. The historic nature of the Early Rheumatoid Arthritis Study (ERAS) provides a unique opportunity to study RA in the context of less aggressive treatment strategies.

Objectives: To examine the progression of large joint involvement from early to established RA in terms of range of movement (ROM) and time to joint surgery, according to the presence of RF.

Methods: ERAS was a multi-centre inception cohort of newly diagnosed RA patients (<2 years disease duration, csDMARD naive), recruited from 1985-2001 with yearly follow-up for up to 25 (median 10) years. First line treatment was csDMARD monotherapy with/without steroids, favouring sulphasalazine for the overall population and stratified by RF status.

Disclosure of Interests: None declared, Bruce Kirkham Speakers bureau: Professor Bruce Kirkham has received speaker fees/ honoraria from Abbvie, BMS, Celgene, Chugai, Gilead, Janssen, Lilly, Novartis, Pfizer, Roche, Sanofi, Sobi and UCB, Sam Morton: None declared, Bruce Kirkham Speakers bureau: Professor Bruce Kirkham has received speaker fees/honoraria from Abbvie, Avbi, Janssen, Lilly, Novartis, Pfizer, and UCB. Grant/research support from: Professor Bruce Kirkham has received research support from Lilly, Novartis and UCB. Professor Bruce Kirkham has received speaker fees/honoraria from Abbvie, Gilead, Janssen, Lilly, Novartis, Pfizer and UCB.

Results: A total of 1458 patients from the ERAS cohort were included (66% female; mean age 55 years) and 74% were RF-positive. The prevalence of any loss of ROM, from year 3 through to 14 was highest in the wrist followed by ankle, knee, elbow and hip. The proportion of patients at year 9 with greater than 25% loss of ROM was: wrist 30%, ankle 12%, elbow 7%, knee 7% and hip 5%. Odds of loss of ROM increased over time in all joint regions, at around 7 to 13% per year from year 3 to 14. There was no significant difference between RF-positive and RF-negative patients (see Figure 1). Larsen erosion and damage scores at the wrists progressed in all patients; annual odds of developing any erosions were higher in RF-positives OR 1.28 (95% CI 1.24-1.32) than RF-negatives OR 1.17 (95% CI 1.09-1.26), p 0.013. Time to surgery was similar according to RF-status for the wrist and ankle, but RF-positive cases had a lower hazard of surgery at the elbow (HR 0.37, 0.15-0.90), hip (HR 0.69, 0.48-0.99) and after 10 years at the knee (HR 0.41, 0.25-0.68). Adjustment of the models for Lawrence assessed osteoarthritis of hand and feet radiographs did not influence these results.

Conclusion: Large joints become progressively involved in RA, most frequently affecting the wrist followed by ankle, which is overlooked in some composite disease activity indices. We confirm a higher burden of erosions and damage at the wrists in RF-positive patients, but have not found RF-negative patients to have a better prognosis over time with respect to involvement of other large joints. In contrast RF-negative patients had more joint surgery at the elbow, hip, and knee after 10 years. There is no justification to adopt a less aggressive treatment strategy for RF-negative RA. High vigilance and treat-to-target approaches should be followed irrespective of RF status.

Disclosure of Interests: None declared

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