Summary of studies on the assessment of inflammatory activity in RA patients with comorbidities

<table>
<thead>
<tr>
<th>Supplemental table 5</th>
<th>Study design</th>
<th>Study population (n)</th>
<th>BMI range</th>
<th>RA patients with comorbidity</th>
<th>Reference standard</th>
<th>Other diagnostic test</th>
<th>Difference in US-clinical SJC (mean (SD, 95%CI))</th>
<th>Specificity, % (95% CI)</th>
<th>PPV, % (95% CI)</th>
<th>Odds ratio (95% CI)</th>
<th>Other diagnostic test</th>
<th>Risk of bias1</th>
<th>Concerns regarding applicability2</th>
</tr>
</thead>
</table>

**Supplemental Table 5.** Summary of studies on the assessment of inflammatory activity in RA patients with comorbidities.

<table>
<thead>
<tr>
<th>Study design</th>
<th>Study population (n)</th>
<th>BMI range</th>
<th>RA patients with comorbidity</th>
<th>Reference standard</th>
<th>Other diagnostic test</th>
<th>Difference in US-clinical SJC (mean (SD, 95%CI))</th>
<th>Specificity, % (95% CI)</th>
<th>PPV, % (95% CI)</th>
<th>Odds ratio (95% CI)</th>
<th>Other diagnostic test</th>
<th>Risk of bias1</th>
<th>Concerns regarding applicability2</th>
</tr>
</thead>
</table>

**Notes:**

1. **BMI:** Body Mass Index; **RA:** Rheumatoid Arthritis; **ACR:** American College of Rheumatology; **SDAI:** Simplified Disease Activity Index.

2. **US:** Ultrasound; **PDUS:** Power Doppler Ultrasound; **SJC:** Swollen Joint Count; **ESR:** Erythrocyte Sedimentation Rate; **CRP:** C-Reactive Protein.

3. **OR:** Odds Ratio; **CI:** Confidence Interval; **CI:** Confidence Interval.

4. **PDUS:** The chance/odds for synovitis (PDUS) is lower in obese RA patients [BMI ≥30; predictors] predicting lower extremity SJC (mean (95%CI): 0.30-0.93, p=0.03); Per higher category of BMI, the "chance/odds" for synovitis (PDUS) - 25 = 1, BMI ≥ 30 = 2, and BMI > 30 = 3, correcting for age, gender and clinically swollen joint (95% CI 0.30-0.93, p=0.03).

5. **PDUS:** Linear regression ACOE (Clues forothof diagnoses [patient global, physician global, ESR (ln), TJC44] and BMI ≥ 30; predictors predicting lower extremity SJC (mean (95%CI): 0.30-0.93, p=0.03).

6. **PDUS:** Multivariate logistic model for PDUS (excluding for comorbidity among different patients in the same patient) using BMI (median = 1.818 (2.7, 0.743-2.894), p=0.001; Comparison between groups p=0.0.046; Comparison between groups p=0.203; Original study p=0.203; Conclusion (null hypothesis) for prediction BMI ≥ 30, ESR (ln), TJC44).

7. **PDUS:** Multivariate logistic model for PDUS (excluding for comorbidity among different patients in the same patient) using BMI (median = 1.818 (2.7, 0.743-2.894), p=0.001; Comparison between groups p=0.0.046; Comparison between groups p=0.203; Original study p=0.203; Conclusion (null hypothesis) for prediction BMI ≥ 30, ESR (ln), TJC44).

8. **PDUS:** Multivariate logistic model for PDUS (excluding for comorbidity among different patients in the same patient) using BMI (median = 1.818 (2.7, 0.743-2.894), p=0.001; Comparison between groups p=0.0.046; Comparison between groups p=0.203; Original study p=0.203; Conclusion (null hypothesis) for prediction BMI ≥ 30, ESR (ln), TJC44).
Background: Fibromyalgia (FM) is a chronic condition with significant morbidity. Its presence in rheumatoid arthritis (RA) patients has been shown to be associated with more severe RA disease activity. We aimed to evaluate the effect of the presence of FM on the score difference between traditional and modified composite scores, adjusted by age, sex and nodular disease.

Methods: Cross-sectional study design. RA patients without FM (n=95) and RA patients with FM according to ACR criteria (n=35) were included. Modified composite scores were used: CDAI, modifiedDAS28-ESR, modifiedDAS28-CRP, modifiedSDAI and modifiedCDAI. Composite scores were adjusted by age, sex and nodular disease and compared with traditional scores: DAS28-ESR, DAS28-CRP, SDAI and CDAI.

Results: Effect of the presence of fibromyalgia on the score difference between traditional and modified composite scores, adjusted by age, sex and nodular disease, mean increment (95%CI, p-value): CDAI 11.34 (3.80-18.89, 0.0158), modifiedCDAI 12.48 (4.29-20.67, 0.0016), modifiedDAS28-ESR 2.22 (0.87-3.57, 0.0017), modifiedDAS28-CRP 1.55 (0.63-2.48, 0.0018), modifiedSDAI 10.45 (3.23-18.34, 0.0061).