Objectives: Among enrolled RA patients, 82.7% was treated with pJAKi and 17.3% with sJAKi. Moreover, 35.6% of RA patients was b/ts-DMARDS naïve, 18.4% b/ts-DMARDS non-responder and 46.0% was difficult-to-treat (D2T) RA. In the whole cohort, 49.2% and 50.8% of RA patients achieved DAS28-CRP and CDAI low disease activity (LDA), respectively, after 12 weeks of JAKi treatment. Moreover, 37.7% and 5.9% of RA patients achieved DAS28-CRP and CDAI remission (REM), respectively, after 12 weeks of JAKi treatment regardless to JAKi category. Considering the immunological profile, RA patients achieving CDAI LDA were more likely rheumatoid factor (60.0%) and ACPA positive (60.5%) compared to RA patients not achieving this outcome (RF: 40.0%, p = 0.03 and ACPA: 39.5%, p = 0.02). Considering PB-derived B cell phenotype, b/ts-DMARDS naïve RA achieving DAS28-CRP LDA at 12 week had pre-treatment lower unswitched memory B (IgD<sup>+</sup>CD27<sup>-</sup>) cell rate (6.91±7.70%) compared to b/ts-DMARDS naïve RA not achieving the same outcome (13.2±5.68%, p = 0.009). ROC analysis identified a cut-off value of 6.89% for IgD<sup>+</sup>CD27<sup>-</sup> cells discriminating b/ts-DMARDS naïve RA achieving DAS28-CRP LDA at 12 week [AUC: 0.174±0.086, p = 0.008; OR(95%-CIs): 18.20 (1.761-188.069)]. Furthermore, b/ts-DMARDS naïve RA achieving DAS28-CRP REM at 12-week follow up visit, had been enrichment of naïve B cells (IgD<sup>+</sup>CD27<sup>-</sup>/6.88±17.38%), and lower percentage of unswitched memory B lymphocytes (5.10±4.29%) compared to RA not achieving the same outcome (IgD<sup>+</sup>CD27<sup>-</sup>/13.96±8.34%, p = 0.001). IgD<sup>+</sup>CD27<sup>-</sup> cells (cut-off: 62.6%, AUC: 0.727±0.101, p = 0.05; OR(95%-Cis): 7.33(1.22-42.249); IgD<sup>-</sup>CD27<sup>+</sup> cells cut-off: 6.89%, AUC: 0.139±0.073, p = 0.002; OR(95%-Cis): 12.37 (1.828-83.767). Interestingly, considering the D2T RA subgroup, patients achieving DAS28-CRP LDA at 12 week follow up had lower rates of PB-derived IgD<sup>+</sup>CD27<sup>-</sup> B cells (3.8±0.96%) compared to RA not achieving the same outcome (7.2±2.83%, p = 0.04; cut-off: 5.46%, AUC: 0.083±0.095, p = 0.041). Considering the pre-treatment synovitis degree, b/ts-DMARDS naïve RA achieving CDAI LDA status had significantly higher KSS at baseline (3.8±2.2) compared to RA not achieving the same outcome (1.7±1.4, p = 0.02; KSS cut-off: 3.00; AUC: 0.79±0.097, p = 0.018; OR(95%-Cis): 14.0 (1.39-141.49)). Finally, no significant associations were observed between PB-derived cell subpopulations rate and synovitis degree both in the whole RA cohort as well as stratifying patients for disease phase.

Conclusion: Pre-treatment immunological profile, peripheral blood-derived B cell phenotype and synovitis degree are associated with the early achievement of at least DAS28-CRP/CDAI LDA in RA patients receiving JAKi despite their selectivity.

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POS0106

THE MCP2 AND WRIST PLUS 2 TENDONS ARE THE MOST AFFECTED AND RESPONSIVE JOINTS/TENDONS OUT OF THE 'US7 SCORE' IN PATIENTS WITH RHEUMATOID ARTHRITIS – AN OBSERVATIONAL STUDY

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Background: There is no international consensus on an optimal ultrasound scoring system in patients with rheumatoid arthritis (RA) yet.

Objectives: To assess the musculoskeletal ultrasound score on seven joints (‘US7 score’) (1) for the identification of the most frequently pathologic and
responsive joint regions during 3 and 6 months of therapy in order to optimize the score. Furthermore, to evaluate the impact of disease duration on the performance of the score.

Methods: RA patients were recruited from 54 German rheumatology centers when starting or changing DMARD therapy. Patients were assessed by the US7 score in grayscale (GS) and power Doppler (PD) at baseline, after 3 and 6 months. The frequency of pathologic joint/tendon regions and their responsiveness to therapy were assessed including the comparison of palmar vs. dorsal regions. Differences between the palmar and the dorsal sides were analyzed using chi-square test, the gradings of the US-joint inflammation were compared between baseline, 3 months, and 6 months by Friedman test with Dunn test as post-hoc test. We used standard response mean to determine the responsiveness of possible reduced scores and linear regression to assess the amount of information retained from the original score. Analyses were also performed separately for early and established RA.

Results: A total of 435 patients (n=138 early RA) were included (56.5 (SD 13.1) years old, 8.2 (9.1) years disease duration, 80% female). The dorsal wrist, palmar MCP2, extensor digitorum communis (EDC) and carpi ulnaris (ECU) tendons out of 7 joints were most frequently affected by GS/PD synovitis (wrist: 45%/43%; MCP2: 35%/28%; EDC: 30%/11% and ECU: 25%/11%) and significantly changed within 6 months of therapy (all p<0.003 in GS/PD). The dorsal vs. palmar side of the wrist by GS/PD (p<0.001) and the palmar vs. dorsal side of the finger joints by PD (p<0.001) were more frequently pathologic. The reduced US7 score (GS and PD: dorsal MCP2, dorsal wrist, EDC and ECU, only GS: palmar MCP2) showed therapy response (SRM 0.433) after 6 months and retained 76% of the information of the full US7 score. No major differences between the groups of early and established RA could be detected.

Conclusion: The wrist, MCP2, EDC and ECU tendons were most frequently pathologic and responsive to therapy, representing an optimized score for monitoring of RA patients for both early and established RA and should therefore be included in comprehensive scores for monitoring RA patients.

References:

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ACPA POSITIVITY DETERMINES REMISSION IN PATIENTS WITH RA TREATED WITH IV AND SC ABATACEPT: A POST HOC ANALYSIS OF THE REAL-WORLD OBSERVATIONAL ACTION AND ASCORE STUDIES

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Background: The goal of treatment for RA is achieving low disease activity and/or remission1;2; however, disease course and management can be complicated by additional factors that may be influenced by serostatus. Anti-citrullinated protein antibodies (ACPAs) and RF contribute to a more severe RA disease pattern3 and may be useful in predicting response to treatment.5 ACTION (AbataCepT In OutNe clinical practice; NCT02109666) and ASCORE (Abatacept SubCutaneOus in Routine Clinical PracticeE; NCT02090556) were 2-year, international, observational, prospective, multicenter studies of IV and SC abatacept, respectively, for the treatment of RA in routine clinical practice.1;2 Previous analyses have shown that ACPA/RF double-positive serostatus was associated with better treatment outcomes compared with ACPA/RF double-negative serostatus.4;6

Objectives: To assess the independent effect of ACPA or RF single seropositivity among patients with RA on achieving remission after treatment with abatacept for 2 years, and to compare outcomes among patients with single versus double serostatus.

Methods: This post hoc analysis included patients from ACTION and ASCORE who initiated IV (body weight–adjusted dosing) or SC abatacept (125 mg once weekly), respectively. Patients were stratified by baseline ACPA/RF status: ACPA+/RF− (ACPA+ only), ACPA+/RF+ (ACPA+ only), ACPA+/RF−/RF+ (RF+ only), and ACPA/RF double negative (−/−). DAS28 (CRP) and CDAI remission rates (defined as < 2.6 and 0–2.8, respectively) at 2 years for patients who were ACPA+ or RF+ only at baseline were assessed and compared with those who were ACPA+ and RF+. Patients with missing baseline ACPA/RF status were excluded. Last observation carried forward efficacy analyses were used to impute missing values.

Results: This analysis included 1679 patients from ACTION (ACPA+ only, n = 98; +/+ n = 1028; RF+ only, n = 161; and −/− n = 392) and 1748 patients from ASCORE (ACPA+ only, n = 184; +/+, n = 1079; RF+ only, n = 142; and −/− n = 343). Across studies and serogroups, baseline demographics and disease characteristics were similar (data not shown). In both ACTION and ASCORE, a higher proportion of patients who were only ACPA+ achieved DAS28 (CRP) and CDAI remission at 2 years compared with patients who were only RF+ (Figure 1). Additionally, a similar proportion of patients who were only ACPA+ achieved DAS28 (CRP) and CDAI remission at 2 years compared with patients who were only RF+. In contrast, a lower proportion of patients who were only ACPA+ achieved DAS28 (CRP) and CDAI remission at 2 years compared with patients who were +/+.

Conclusion: In this post hoc analysis of real-world data from ACTION and ASCORE, ACPA positivity was associated with an increased likelihood of achieving DAS28 (CRP) and CDAI remission at 2 years. Patients who were ACPA+ only were as likely to achieve remission as +/+ patients, suggesting that RF serostatus had less influence than ACPA serostatus on remission status at 2 years. In line with this, patients who were RF+ only were less likely to achieve remission at 2 years. This is the first large, real-world study to show that ACPA positivity plays a more important role than RF positivity in achieving remission whilst on abatacept. These results highlight the importance of assessing baseline ACPA status when considering treatment options for patients with RA.

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