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Figure 1. Associations between baseline predictors and response to MTX according to different outcome criteria and at different time points, in odds ratios with 95% confidence interval.

Odds ratios are shown as diamonds: White diamonds represent univariate analyses; black diamonds multivariate analyses; and whiskers 95% confidence intervals. Used response criteria and time points of clinical response are shown in grey type for each study. DAS28: disease activity score assessing 28 joints; DAS44: disease activity score assessing 44 joints; LDA: low disease activity (definition not specified in article); M: months; W: weeks.

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AB0277 EFFECT OF DISEASE DURATION AND OTHER PATIENT BASELINE CHARACTERISTICS ON OUTCOMES IN TOCILIZUMAB-TREATED RHEUMATOID ARTHRITIS PATIENTS: A POOLED ANALYSIS

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Background: Tocilizumab (TCZ) efficacy and safety in rheumatoid arthritis (RA) have been well established by numerous phase 3 and 4 studies and observational studies.

Objectives: To explore the extent to which disease duration, inflammation, disease burden, and other baseline factors explain variations in outcomes in studies of RA patients treated with TCZ.

Methods: This was a pooled analysis of methotrexate-inadequate responding (IR)/conventional synthetic disease-modifying antirheumatic drug (csDMARD)-IR patients with RA allocated to TCZ (intravenous or

subcutaneous, monotherapy + combination therapy) in phase 3 and 4 studies. End points were change from baseline to week 24 in Clinical Disease Activity Index (CDAI) and quality of life (Health Assessment Questionnaire-Disability Index [HAQ-DI]) and week 24 ACR50 and CDAI remission (≤2.8). Using a combination of clinically informed and mathematically driven variable selection techniques, models (with study included as a random effect to account for intracorelation of observations within each study) were built to optimize fit and explain outcome variance. Analysis of covariance and logistic regression were used for CDAI/HAQ-DI change from baseline and for ACR50/CDAI remission, respectively.

Results: The analyses were performed on 5462 patients from 12 studies. Analysis of baseline characteristics (before TCZ administration) revealed that patients with longer disease duration had been exposed to more csDMARDs and had worse HAQ-DI than patients with shorter disease duration. Statistical modeling of clinical outcomes showed that disease duration accounted for <2% of the variation in HAQ-DI and CDAI change from baseline. Baseline CDAI explained 32% of the variation in CDAI change from baseline. Patients with higher baseline CDAI values tended to have greater improvements, likely due to having more "room" for improvement and to a higher risk for regression to the mean resulting from the fact that inclusion criteria for most trials required defined thresholds of disease activity, including joint counts. Baseline HAQ-DI, neither an inclusion criterion itself nor influenced by other inclusion criteria, explained 15% of the variation in HAQ-DI change from baseline. The odds of achieving ACR50 decreased by 9.2% if disease duration was doubled. The odds of achieving CDAI remission decreased by 15% per 5 additional years of disease duration and decreased by 22% per 10 additional score units of CDAI at baseline.

Conclusion: In this pooled analysis of TCZ-treated RA patients, disease duration explained statistically significant but practically small variations in clinical outcomes. These findings indicate that TCZ treatment outcomes are not heavily influenced by disease duration or other baseline characteristics.

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AB0278 DISCRIMINANT VALIDITY OF THE HANDGRIP STRENGTH TEST IN PATIENTS WITH RHEUMATOID ARTHRITIS: A COHORT STUDY

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Background: Hand involvement is one of the major determinants of disease outcome affecting the ability to perform activities of daily living and other functional activities in rheumatoid arthritis (RA). Handgrip strength (HS) provides a clinically validated marker of functional disability.

Objectives: The aim of this study was to assess discriminant validity of HS and to compare it with the Quick Disabilities of Arm Shoulder and Hand (Quick-DASH) (1), Arthritis Impact Measurement Scales 2 (AIMS-2), Hand Health Assessment Questionnaire (Hand HAQ) and Recent-Onset Arthritis Disability (ROAD) upper extremity index (2).

Methods: In this transversal study, a total of 291 patients with RA responding to the ACR 2010 criteria were evaluated. HS was measured twice for both hands by the use of an electronic grip device. The instrument consists of a cylindrical-shape grip device made of 5 force sensors connected to a microcontroller. The correlations between indices were studied through the Pearson's correlation coefficient (r). The discriminatory ability of HS [cut-off values, male ≤ 27Kg, female ≤ 16Kg], QuickDASH [range 0-100], AIMS-2 hand/finger function [range 0-10], Hand HAQ [range 0-21], and ROAD upper extremity function [range 0-10] were assessed using receiver operating characteristic (ROC) curves analysis. The external anchor was the general question on Patient Acceptable Symptom State (PASS) (3).

Results: The 239 female and 52 male patients (sex ratio: 4.5F/1M) were of a mean age of 56.5 ± 12.3 years (20-81) and a disease duration of