

The correlation between four adherence measurements methods in patients with rheumatoid arthritis using methotrexate

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April 20, 2023

Abstract

Objective Methotrexate (MTX) is the cornerstone in the treatment of rheumatoid arthritis (RA) patients. However, adherence to MTX therapy is not optimal, and instruments to assess medication non-adherence are warranted. To date there is no consensus on the best method to determine adherence to MTX. The aim of this study was to assess the correlation between adherence assessed with a Medication Event Monitoring System (MEMS) versus pill count, MTX-polyglutamate (PG) concentration and Compliance-Questionnaire-Rheumatology (CQR) in patients with established RA. Second, the correlations between these methods and the Disease Activity Scores of 28 joints (DAS28) were examined. Methods Adult RA patients currently treated with MTX were included. Multivariable linear and logistic regression were used, with adherence assessed with MEMS as dependent variable versus pill count, MTX-PG concentrations, CQR as independent variables, and DAS28 versus each of the four adherence measurements. Covariates were included, such as comedication, age and use of corticosteroids. Results 190 consecutive RA patients were included. Pill count was correlated with adherence assessed with MEMS (linear regression, $\beta = .690$, $p = <.001$), whereas CQR and MTX-PGs were not. Logistic regression confirmed the correlation between dichotomized adherence and pill count only ($\beta = 5.64$, $p = <.001$). No other correlations were found, neither for all adherence outcomes and DAS28. Conclusion Measuring adherence with MEMS is correlated with pill count, whereas other methods were not correlated with MEMS, nor with DAS28. Pill count can be used to estimate adherence to MTX therapy, in case MEMS is not achievable.

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