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OP0027

EFFECT OF SHORT-TERM METHOTREXATE DISCONTINUATION ON THE DISEASE ACTIVITY IN PATIENTS WITH RHEUMATOID ARTHRITIS: POSTHOC-ANALYSIS OF TWO RANDOMIZED CLINICAL TRIALS

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Background: Patients with rheumatoid arthritis (RA) require a continuous, potentially life-long immune suppression with disease modifying antirheumatic drugs (DMARDs) including methotrexate (MTX). However, in special circumstances such as life-threatening infections, vaccinations or major surgeries, use of MTX should be minimized to restore the treatment-associated immune suppression. While a long-term or permanent discontinuation of MTX is associated with a

disease flare or relapse, the effect of short-term discontinuation on disease activity has not been fully elucidated.

Objectives: To investigate the effect of short-term discontinuation of MTX on the disease activity in patients with RA on stable dose of MTX.

Methods: This is a posthoc analysis of 2 randomized controlled studies investigating effect of MTX discontinuation for 2 weeks or 4 weeks on vaccine response to seasonal influenza vaccination in patients with RA. In the 4-week discontinuation study, 54 patients continued MTX and 44 patients discontinued it for 4 weeks before vaccination with trivalent seasonal influenza vaccine. In the 2-week discontinuation study, 159 patients continued MTX and 161 patients held it for 2 weeks after a seasonal quadrivalent influenza vaccine. Disease activity (DAS28 change, DAS28 flare rate and flare-free survival) was compared between the patients who continued MTX and those held it. A RA flare was defined as an increase in DAS28 of >1.2 or >0.6 if the baseline DAS28 was ≥3.2.

Results: In the 4-week MTX-hold group, the mean DAS28 increased at the 4 weeks after MTX discontinuation by 0.38 ± 0.94 and then improved back to baseline after reintroduction of MTX, whereas the mean DAS28 in the MTX-continue group remained stable over time (Figure 1A). The overall flare-free survival during 20 weeks did not differ between the groups (log rank $p=0.142$) (Figure 1B). However, numerically more patients in the MTX-hold group experienced a flare than those in the MTX-continue group during the 4-weeks MTX discontinuation (20.5% vs. 7.4%, $p=0.058$). After resuming MTX, the flare rate did not differ between the groups up to 20 weeks of observations (Figure 1C). A temporary MTX discontinuation for 2 weeks was not associated with any clinically meaningful change in disease activity.

Figure 1. Changes in disease activity of rheumatoid arthritis after MTX discontinuation over time. (A) DAS28-CRP and (B) RA flare free survival in the MTX continue and the MTX hold group were depicted. (C) RA flare rates over time were shown. MTX, methotrexate.

Conclusion: A short-term MTX discontinuation for 2 weeks is safe without any change in disease activity. A 4-week MTX discontinuation is associated with transient increase in disease activity without affecting long-term outcomes.

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OP0028

POST-APPROVAL COMPARATIVE SAFETY STUDY OF TOFACITINIB AND BIOLOGIC DMARDs: FIVE-YEAR RESULTS FROM A US-BASED RHEUMATOID ARTHRITIS REGISTRY

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Background: Tofacitinib is an oral JAK inhibitor for the treatment of rheumatoid arthritis (RA). Real-world data (RWD) complement clinical trial data in assessing