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POS0221

COMPARISON OF TOFACITINIB AND BARICITINIB BY INVERSE PROBABILITY OF TREATMENT WEIGHTING ANALYSES BASED ON PROPENSITY SCORE IN PATIENTS WITH RHEUMATOID ARTHRITIS IN REAL CLINICAL PRACTICE

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Background: Tofacitinib (TOFA) and baricitinib (BARI) have been widely used in many regions for treatment of rheumatoid arthritis (RA). The selection of JAK inhibitor for RA treatment based on patient type remains a major concern.

Objectives: The differences of efficacy between each Janus kinase (JAK) inhibitors have not been clarified in the patients with RA in clinical practice. Here, we compared the efficacy between TOFA and BARI in clinical practice.

Methods: A retrospective observational study. The efficacy of TOFA (n=156) in patients with RA was compared with BARI (n=138). Selection bias was reduced to a minimum using propensity score-based inverse probability of treatment weighting (IPTW). We analyzed the trajectories of changes in disease activity in patients receiving TOFA or BARI using growth mixture modeling (GMM). Multivariable logistic regression analysis was performed to identify factors contributing to belonging to treatment-resistance group defined by GMM. The observation period of the study was 24 weeks.

Results: No significant difference was observed in patient characteristics between the TOFA and BARI groups in after adjustment by propensity score-based IPTW. The retention rates over 24 weeks did not differ between the TOFA and BARI groups. No difference was observed in the incidence of adverse events in the TOFA and BARI groups. Clinical disease activity index (CDAI) at week 24 after the introduction of JAK inhibitors was 8.0 ± 8.9 and 6.2 ± 7.2 in the TOFA and BARI group, respectively. The rates of CDAI-remission at week 24 in the TOFA and BARI groups were 43/153 (28.3%) and 57/141 (40.4%), respectively. Compared to the TOFA group, the BARI group showed a significantly lower CDAI (Δ CDAI=-1.9, 95% confidence interval: -3.7 to -0.3, $p=0.02$) and a significantly higher rate of CDAI-remission (odds ratio: 1.7, 95% CI: 1.1-2.7, $p=0.04$) at week 24. Similarly, at week 24, SDAI was significantly lower in the BARI group (TOFA

vs. BARI = 10.1 ± 9.9 vs. 7.3 ± 7.5 , Δ SDAI=-2.2, 95% CI: -4.2 to -0.2, $p=0.04$), and the rates of SDAI-remission (OR: 1.6, 95% CI: 1.0-2.6, $p=0.04$).

The patients were divided into two groups: patients with MDA to HDA at baseline (Group 1) and patients with HDA at baseline than Group 1 (Groups 2 and 3) based on the analysis of the trajectories of CDAI using GMM. In Groups 1 and 2, disease activity was improved immediately after the introduction of JAK inhibitors. In Group 3, disease activity was partially improved, and LDA was not achieved at week 24 after the introduction of JAK inhibitors. The patients in Group 3 were resistant to treatment (Group 3: treatment-resistance group).

When multivariable logistic regression analysis was performed for all patients receiving JAK inhibitors, the factors contributing to belonging to treatment-resistance group were: high baseline HAQ-DI score (OR: 1.76, 95% CI: 1.09-2.84, $p=0.02$) and high number of biological disease-modifying anti-rheumatic drugs (bDMARDs) used before JAK inhibitors (OR: 1.51, 95% CI: 1.16-1.95, $p=0.002$) and TOFA use (OR: 2.13, 95% CI: 1.05-4.30, $p=0.03$).

Next, multivariable logistic regression analysis was separately performed for each treatment group. The patients receiving more bDMARDs before the JAK inhibitor were more likely to belong to treatment-resistance group in the TOFA group (OR: 1.76, 95% CI: 1.24-4.06). Among patients with RA who received TOFA, those who had received ≥ 4 bDMARDs before the introduction of TOFA were more likely to be classified into the treatment-resistant group.

In the BARI group, multivariable logistic regression analysis did not identify any factors associated with belonging to treatment-resistance group.

Conclusion: TOFA may be partially effective in patients resistant to many bDMARDs. Consequently, efficacy may differ between TOFA and BARI. Because TOFA was less effective in RA patients resistant to ≥ 4 bDMARDs, the present study suggests that BARI may be more appropriate for RA patients resistant to many bDMARDs.

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POS0222

PREDICTORS OF RESPONSE: BASELINE CHARACTERISTICS AND EARLY TREATMENT RESPONSES ASSOCIATED WITH ACHIEVEMENT OF REMISSION AND LOW DISEASE ACTIVITY AMONG UPADACITINIB-TREATED PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: Upadacitinib (UPA) 15mg once daily (QD) has demonstrated efficacy in phase 3 studies of patients with rheumatoid arthritis (RA). 1-4 Early prediction of response to treatment with UPA could help to optimize therapy.

Objectives: To identify baseline (BL) characteristics or Week (Wk) 12 disease activity measures that may predict the achievement of remission (REM) or low disease activity (LDA) at 6 months in patients with RA receiving UPA 15mg.

Methods: This ad hoc analysis included patients who were randomized to UPA 15mg QD, as monotherapy in methotrexate (MTX)-naïve patients (SELECT-EARLY) or in combination with conventional synthetic disease-modifying anti-rheumatic drugs (csDMARDs), in patients with an inadequate response (IR) to MTX (SELECT-COMPARE) or ≥ 1 tumor necrosis factor inhibitors (TNFis) (SELECT-BEYOND and SELECT-CHOICE). The association of BL characteristics (including age, disease duration, prior/concomitant treatments, C-reactive protein [CRP], seropositivity, and disease activity) and Wk 12 disease activity parameters with the achievement of Clinical Disease Activity Index (CDAI) REM (≤ 2.8) or LDA (≤ 10) at Wk 24 (or Wk 26 in SELECT-COMPARE) was assessed by concordance statistics (C-statistics), or area under the