Persistence with Biologic Monotherapy in Comparison with Combination Therapy with Disease-Modifying Anti-rheumatic Drugs in Patients with Rheumatoid Arthritis; Results from a Rheumatoid Arthritis Cohort

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Abstract

Background/Purpose:
Clinical evidence suggests concomitant treatment with a biologic Disease-Modifying Antirheumatic Drug (bDMARD) and a conventional synthetic DMARD (csDMARD), especially with methotrexate (MTX) has greater efficacy than treatment with a bDMARD as monotheapy in patients with rheumatoid arthritis (RA). However, not all patients are able to tolerate a csDMARD. Our objective was to compare the persistence of a bDMARD used as monotherapy, versus combination therapy in patients with active RA.

Methods:
Physician data were collected from the Ontario Best Practices Research Initiative Rheumatoid Arthritis Registry (OBRI- RA), a clinical registry of RA patients followed in routine care. Inclusion criteria comprised of patients over age 18 years, active RA (defined as ?1 swollen joint) and started on their 1st bDMARD within 30 days before registry enrolment, or started after enrolment. Combination therapy was defined as treatment with a bDMARD plus at least one csDMARD, while monotherapy was defined as treatment with only a bDMARD. The primary outcome was persistence with 1st bDMARD therapy, which was defined as the length of time the patients continued to receive their first bDMARD therapy. Persistence treatment was examined using Kaplan-Meier survival analysis. Patients were censored at date of 1st bDMARD stop, switch to another bDMARD or at date of last follow-up, whichever came first.

Results:
Among 2591 RA patients, 701 patients started their 1st bDMARD within 30 days before cohort enrolment or after enrolment with the mean (standard deviation) of follow-up 1.9 (1.6) person-years. A total of 598 (85.3%) patients were on combination therapy, and 103 (14.7%) patients were on monotherapy. At baseline, there was a similar mean age, proportion of females between the two groups. A TNFα inhibitor was the biologic used in 22.6% and 14.5% of the monotherapy and combination group respectively.
The mean time to failure of 1st bDMARD was 4.3 years (95%CI: 3.7-4.9) and 4.6 years (95%CI: 4.3-4.8) in the monotherapy and combination group respectively. At 12 months follow-up, 74% (95%CI: 64-81) in the monotherapy group and 81% (95%CI: 77 -84) in the combination group remained on their first bDMARD (table 1).

Conclusion:
Our study demonstrates that a higher proportion of patients on monotherapy failed therapy at 12 months, and the mean time to treatment failure was shorter with monotherapy, but these results were not statistically significant. Although combination therapy is recommended, these real-world results suggest that patients who are unable/unwilling to continue on a csDMARD, bDMARD monotherapy can still provide an efficacious option.