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Drug Discontinuation in Inflammatory Arthritis Following Mandatory Non-Medical Switching from Bio-originator to Bio-similar in Quebec, Canada.

Background: In April 2022, the Canadian province of Quebec introduced a mandatory non-medical switch to biosimilars for persons on bio-originators to manage healthcare costs.

Objective: To describe real-world experience with biosimilars used for inflammatory arthritis in the context of this policy change.

Methods: We used data from three adult clinical registries in Quebec: the RHUMADATA prospective arthritis registry, the Early Undifferentiated Polyarthritis (EUPA) cohort, and the University of Sherbrooke Registry of Advanced Therapies (USRAT). We studied individuals who transitioned from the originator biologics to their equivalent biosimilars – infliximab, etanercept (ETA), adalimumab (ADA), and rituximab– from one year before the time of the non-medical switching policy (April 2021) through May 2023. Baseline characteristics were assessed at the time of biosimilar initiation, including age, sex, underlying condition (ankylosing spondylitis, rheumatoid arthritis, psoriatic arthritis), disease duration, body mass index, alcohol and tobacco use, and quality of life (Health Assessment Questionnaire for RHUMADATA, and the Modified HAQ for EUPA and USRAT). Prior medication history, including other biologics, corticosteroids, and non-biologic immunosuppressants, was also reviewed. Reasons for discontinuation were documented by treating physicians. Discontinuation was estimated using Kaplan-Meier methods.

Results: We studied 110 individuals with inflammatory arthritis, most switching to ADA (68%) or ETA (20%) biosimilars. Females were 61% of the cohort, and at biosimilar transition, the mean age was 56.9 years (standard deviation 15.8). Individuals were followed for a median of 1.5 years (interquartile range 0.5 to 1.9 years). During this time, 16 individuals discontinued their treatment, for a discontinuation rate of 115.7 (95% confidence interval, CI 66.1-187.8) events per 1,000 person-years. The probability of discontinuation was 11.2% (95% CI: 4.4%-17.6%) by year 1 and 18.2% (95% CI: 9.3% to 26.2%) by year 2. The most common reason for discontinuation was treatment failure in 7 individuals.

Conclusion: Among individuals with arthritis who underwent mandatory non-medical switching from bio-originators to biosimilars, about 80% remain on the biosimilar at 2 years. Thus, discontinuation rates appear consistent with those observed among experienced biologic users, suggesting relative stability despite the policy-driven switch.