Infliximab Biosimilar use in Rheumatoid Arthritis, Ankylosing Spondylitis, and Psoriatic Arthritis : The RHUMADATA® Registry Experience

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Background

- Biosimilars hold the potential to improve access to needed therapies at reduced cost.
- Inflectra® (infliximab biosimilar) was the first biosimilar for arthritis and inflammatory bowel disease (IBD) approved in Canada.

Objectives

- To describe recent use of infliximab biosimilar (infliximab-B) and to compare therapy persistence with the infliximab originator (infliximab-O) Remicade® in patients with rheumatoid arthritis (RA), ankylosing spondylitis (AS), and psoriatic arthritis (PsA).

Methods

- Data from patients initiating infliximab-B (either biologic-naïve or switching from infliximab-O) were extracted from Rhumadata®, a practice-based registry (12 Quebec rheumatologists) for July 2000 to July 2018
- For comparison, we identified patients initiating infliximab-O, matched 1:1 for age at diagnosis, sex, and condition (RA, AS, PsA)
- Therapy persistence (continued use over time) in infliximab-B versus infliximab-O initiators was compared using Kaplan-Meier methods and adjusted hazard ratios (HR).
- Models were adjusted for baseline disease duration and comorbidities (age-adjusted Charlson Comorbidity Index [CCI] score).

Results

- We studied 86 infliximab-B initiators including 36 AS, 30 RA, and 20 PsA patients. Just over half (N=50, 58%) were switchers from infliximab-O.
- Compared to infliximab-O initiators, infliximab-B initiators at baseline had longer disease duration (difference between means: 4.0 years, 95% CI 1.1-6.9) and more comorbidities (based on age-adjusted CCI score – see Table 1).
- Almost two-thirds of patients on infliximab-O were biologic-naïve, versus only 13% of infliximab-B patients.
- Persistence on therapy was similar in both groups: 80.4% of infliximab-B initiators remained on treatment after 7.5 months versus 86.1% of infliximab-O initiators. At 15 months, treatment persistence was >60% in both groups.
- The adjusted HR for therapy persistence in infliximab-B versus infliximab-O was 1.30, 95% CI 0.73, 2.32.
- In infliximab-B initiators, those with past exposure to infliximab-O had longer disease duration (18.3±11.6 years) versus those in the infliximab-naive group (4.9±7.0), difference between means: 13.4 95% CI: 9.1-17.7.
- Among infliximab-B initiators, the adjusted HR for treatment persistence in those with past infliximab exposure (versus those who were infliximab-naïve) was 0.49, 95% CI: 0.10, 2.33).

Table 1 –Selected baseline characteristics of Infliximab-B and Inflixmab-O users, Rhumadata®, 2000-2018

	Inflximab-B (N=86)	Inflximab-O (N=86)
Disease duration, mean±SD	12.7±10.8	8.7±8.3
Switchers (Infliximа-O), n (%)	50 (58.1)	-
Biologic-naïve, n (%)	11 (13)	55 (65)
Any csDMARD, n (%)	50 (58)	45 (52)
Age-Adjusted CCI score, mean±SD	1.8±1.2	1.2±1.0
DAS-28-ESR*	2.9±1.0	4.3±1.7
BASDAI**	4.1±3.0	5.8±1.9
HAQ, mean±SD	1.1±0.8	1.3±0.6

CCI: Charlson Comorbidity Index, DAS-28-ESR: Disease Activity Score – Erythrocyte sedimentation rate, BASDAI: Bath Ankylosing Spondylitis Disease Activity Index, HAQ: Health Assessment Questionnaire. * RA and PsA patients only ** AS patients only

Conclusions

- As expected, patients initiating an infliximab biosimilar were different from initiators of the infliximab originator, in terms of disease duration, prior biologics, and comorbidity.
- Adjusting for these factors, we were unable to identify clear differences in treatment persistence between the two groups. Further work is ongoing to study outcomes in a larger, multicentre group of patients.

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