

## Comparing academic and community practices in the management of rheumatoid arthritis: data from the OBRI registry

Hepworth E<sup>1</sup>, Mirza R<sup>2</sup>, Movahedi M<sup>3</sup>, Aydin S<sup>4</sup>, Cesta A<sup>3</sup>, Bombardier C<sup>3,5,6</sup>

<sup>1</sup>University of Ottawa, <sup>2</sup>University of Toronto, <sup>3</sup>Toronto General Hospital Research Institute, University Health Network, Toronto, ON, <sup>4</sup>Faculty of Medicine, Division of Rheumatology, University of Ottawa, the Ottawa Hospital Research Institute, Ottawa, Canada, <sup>5</sup>Department of Medicine (DOM) and Institute of Health Policy, Management, and Evaluation (IHPE), University of Toronto, Toronto, ON, <sup>6</sup>Division of Rheumatology, Mount Sinai Hospital, Toronto, ON.

**Background:** There is variation among rheumatologists in managing rheumatoid arthritis (RA) that bears on patient important outcomes. The treat-to-target paradigm requires responsive treatment escalation to obtain low disease activity and prevent morbidity. Advanced Therapy (bDMARD or tsDMARD) initiation requires time and effort on the part of the treating rheumatologist. Some academic centres, such as the Rheumatology Divisions at the Universities of Ottawa and Toronto employ Biologics Coordinators to manage the drug-funding application process. In many community practices, this falls on the rheumatologist. Given disparate resources, including access to trainees, we aimed to determine if time to Advanced Therapy (AT) initiation, or switch, in patients with moderate-high disease activity differed between community and academic practices in Ontario. We are not aware of any published comparison of RA management between academic and community practices.

**Methods:** We included adult patients enrolled in the Ontario Best Practices Research Initiative (OBRI) registry between 2008-2019 with at least 2 visits and 6 months of follow-up with moderate-high disease activity. Population A included those with at least 2 months of combined csDMARD therapy (either Methotrexate and Leflunomide; or Methotrexate, Sulfasalazine and Plaquenil) who ultimately started AT. Population B included those on any AT who ultimately switched AT. We used independent adjusted for age, sex, disease duration, and comorbidity cox proportional hazards models to compare academic and community settings in time from first recorded moderate-high disease activity to initiation, or switch in AT. We completed exploratory analyses to assess disease activity at the 3 visits prior to therapy change in all patients and between those started on bDMARDs and tsDMARDs.

**Results:** Baseline characteristics were similar between community and academic settings in both population A and B. The notable differences are swollen joint count and RA duration, which were 1 higher, and slightly longer in the academic group, respectively. There was no difference between community and academic settings in time to initiation or switch in AT before and after adjustment. In both settings, there was a significant delay in starting AT: on average 241 days following first moderate-severe disease activity while on combination csDMARDs. Across three visits leading up to therapy change, disease activity, and swollen joint count were high (mean CDAI: 24; mean SJC: 6.3). These were lower numerically for new tsDMARD starts (mean CDAI: 5.9; mean SJC: 1.8).

**Conclusion:** Due to the study's small sample size and observational nature, conclusions drawn are limited. The data suggest no difference in time to initiation or switch of AT in response to moderate-high disease activity between community and academic settings as hypothesized. Ontario Rheumatologists are allowing for significant delays during which disease is uncontrolled prior to initiating AT. We propose that paperwork burden may be contributing, thus we will next compare time to initiation of AT with and without Limited Use codes in those with active disease on combined csDMARDs.