Comparing Academic and Community Practices in the Management of Rheumatoid Arthritis: Data from the OBRI Registry

***Elliot Hepworth[1], *Reza Mirza[2], Mohammad Movahedi[3], Sibel Aydin[4], Angela Cesta[3], Claire Bombardier[3,5]**

[1]Division of Rheumatology, Department of Medicine, University of Ottawa, ON; [2]Division of Rheumatology, Department of Medicine, University of Toronto, Toronto, ON [3]Toronto General Hospital Research Institute, University Health Network, Toronto, ON; [4]Faculty of Medicine, Division of Rheumatology, University of Ottawa, the Ottawa Hospital Research Institute, Ottawa, ON [5]Department of Medicine (DOM) and Institute of Health Policy, Management, and Evaluation (IHPME), University of Toronto, Toronto, ON; [6]Division of Rheumatology, Mount Sinai Hospital, Toronto, ON.

BACKGROUND

- Rheumatologists vary in management of rheumatoid arthritis (RA) that bear on patient important outcomes.
- The current paradigm of treat-to-target requires responsive treatment escalation to obtain low disease activity to prevent morbidity. Advanced Therapy (bDMARD or tsDMARD) initiation requires time and effort on the part of the treating rheumatologist.
- Community and academic settings have different resources and little data exists about differences between the two.

OBJECTIVES

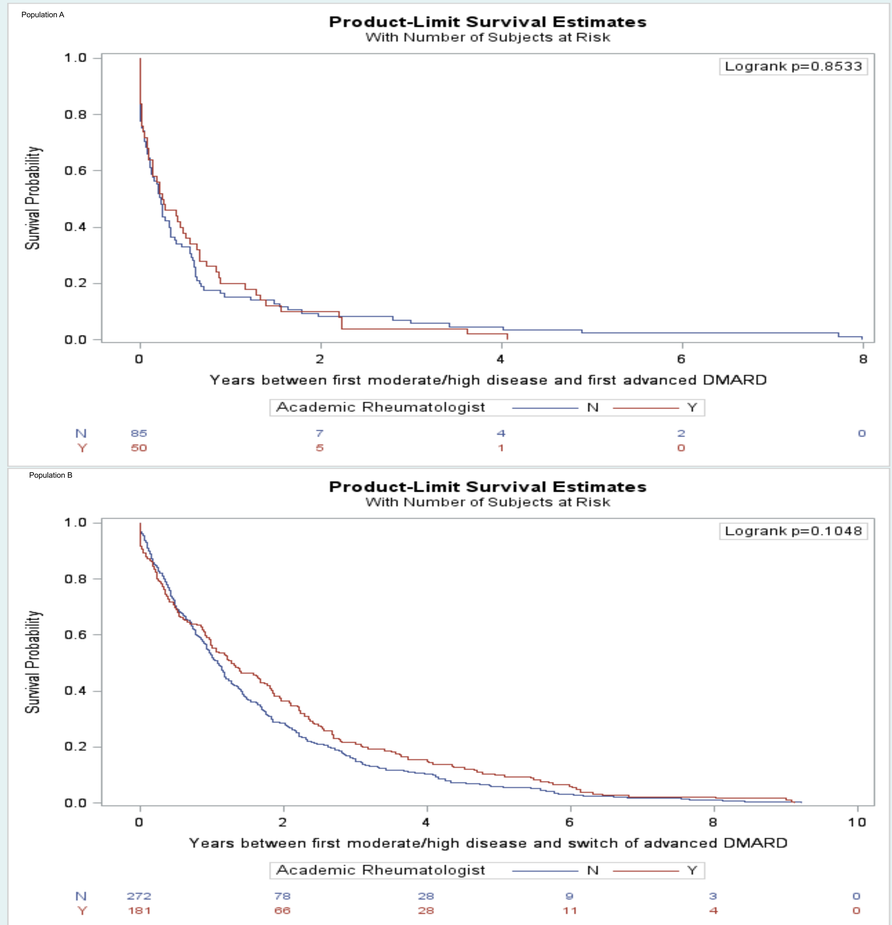
- We aimed to determine if time to Advanced Therapy (AT) initiation, or switch, in patients with moderate-high disease activity differed between community and academic practices in Ontario.

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.

- In the biologic-naive group mean age (SD) and disease duration was 56.5 (12.2) and 8.0 (8.8), respectively. Patients in the non-TNFi group had significantly more post-secondary education, more additional private drug coverage and less concurrent use of csDMARDs (Table 1).
- Overall the relative use of non-TNFi agents increased overtime in both the total population and biologic naïve population. (Figures 1 and 2).
- Non-TNFi use in biologic naïve was 0% in 2008, 12.0% in 2013, and 26.6% in 2017

Figure 1: Time from first recorded moderate-high disease activity to advanced therapy initiation (A) and switch (B)



RESULTS

- Baseline characteristics including clinical, socioeconomic and disease-related variables were largely similar between community and academic settings in both population A and B. The notable differences are swollen joint counter which was 1 higher in the academic group and RA duration which was slightly longer in the academic group.
- There was no difference between community and academic settings in time to initiation to or switch between advanced therapies before and after adjustment. In both settings, there were significant delay to starting advanced therapy: on average it took 241 days following the first moderate-to-severe disease activity while on combination DMARD therapy.
- On average across the three visits leading up to therapy change, disease activity was high (mean CDAI: 24) and mean swollen joint count was high (SJC = 6.3). These values were markedly lower numerically only for new starts of tsDMARDs (mean CDAI: 5.9 and mean SJC: 1.8), not so when switching to tsDMARD from bDMARDs (mean CDAI: 18.7 and mean SJC :4.9).

CONCLUSIONS

- 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.

Funding: OBRI was funded by peer reviewed grants from CIHR (Canadian Institute for Health Research), Ontario Ministry of Health and Long-Term Care (MOHLTC), Canadian Arthritis Network (CAN) and unrestricted grants from: Abbvie, Amgen, Celgene, Hospira, Janssen, Lilly, Merck, Novartis, Pfizer, Roche, Sanofi, & UCB
Acknowledgment: Dr. Bombardier holds a Canada Research Chair in Knowledge Transfer for Musculoskeletal Care and a Pfizer Research Chair in Rheumatology
Correspondence to: OBRI at: obri@uhnresearch.ca

OBRI Investigators: Drs. Ahluwalia, V., Ahmad, Z., Akhavan, P., Albert, L., Alderdice, C., Aubrey, M., Aydin, S., Bajaj, S., Bell, M., Bensen, B., Bhavsar, S., Bobba, R., Bombardier, C., Bookman, A., Cabral, A., Carette, S., Carmona, R., Chow, A., Chow, S., Choy, G., Ciaschini, P., Cividino, A., Cohen, D., Dixit, S., Haaland, D., Hanna, B., Haroon, N., Hochman, J., Jaroszynska, A., Johnson, S., Joshi, R., Kagal, A., Karasik, A., Karsh, J., Keystone, E., Khalidi, N., Kuriya, B., Larche, M., Lau, A., LeRiche, N., Leung, Fe., Leung, Fr., Mahendira, D., Matsos, M., McDonald-Blumer, McKeown, E., Midzic, I., Milman, N., H., Mittoo, S., Mody, A., Montgomery, A., Mulgund, M., Ng, E., Papneja, T., Pavlova, P., Perlin, L., Pope, J, Purvis, J., Rohekar, G., Rohekar, S., Ruban, T., Samadi, N., Sandhu, S., Shaikh, S., Shickh, A., Shupak, R., Smith, D., Soucy, E., Stein, J., Thompson, A., Thorne, C., Wilkinson, S.