between BL statin use and MACE. However, pts in the higher risk categories, particularly those receiving tofacitinib 5 mg BID, had lower MACE IRs with vs without BL statin use. This analysis did not take into account initiation or dose adjustment of statin treatment during the study, and had low yrs of exposure in some categories.

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Acknowledgements: Study sponsored by Pfizer Inc. Medical writing support was provided by Lauren Hogarth, CMC Connect, and funded by Pfizer Inc.

Disclosure of Interests: Jon T Giles Consultant of: AbbVie, Bristol-Myers Squibb, Eli Lilly, Genentech, Gilead Sciences and UCB, Grant/research support from: Pfizer Inc, Christina Charles-Schoeman Consultant of: AbbVie, Gilead Sciences, Pfizer Inc and Sanofi-Regeneron, Grant/research support from: AbbVie, Bristol-Myers Squibb and Pfizer Inc, Maya H Buch Speakers bureau: AbbVie, Consultant of: AbbVie, Eli Lilly, Gilead Sciences, MSD, Pfizer Inc and Roche, Grant/research support from: Pfizer Inc, Roche and UCB, Maxime Dougados Consultant of: AbbVie, Bristol-Myers Squibb, Eli Lilly, Merck, Novartis, Pfizer Inc, Roche and UCB, Grant/research support from: AbbVie, Bristol-Myers Squibb, Eli Lilly, Merck, Novartis, Pfizer Inc, Roche and UCB, Zoltán Szekanecz Speakers bureau: AbbVie, Eli Lilly, Novartis, Pfizer Inc, Roche and Sanofi, Paid instructor for: AbbVie, Eli Lilly, Gedeon Richter, Novartis, Pfizer Inc and Roche, Consultant of: AbbVie, Eli Lily, Novartis, Pfizer Inc, Roche and Sanofi, Steven R. Ytterberg Consultant of: Corbus Pharmaceuticals, Kezar Life Sciences and Pfizer Inc, Gary G Koch Shareholder of: IQVIA, Grant/research support from: AbbVie, Acceleron, Amgen, Arena, AstraZeneca, Cytokinetics, Eli Lilly, Gilead Scienes, GlaxoSmithKline, Huya Bioscience International, Johnson & Johnson, Landos Biopharma, Merck, Momentum, Novartis, Otsuka, Pfizer Inc, Sanofi and vTv Therapeutics, Employee of: University of North Carolina at Chapel Hill, Joseph Wu Shareholder of: Pfizer Inc, Employee of: Pfizer Inc, Cunshan Wang Shareholder of: Pfizer Inc, Employee of: Pfizer Inc, Kenneth Kwok Shareholder of: Pfizer Inc, Employee of: Pfizer Inc, Sujatha Menon Shareholder of: Pfizer Inc, Employee of: Pfizer Inc, Yan Chen Shareholder of: Pfizer Inc, Employee of: Pfizer Inc, Teoman Yusuf Cesur Shareholder of: Pfizer Inc, Employee of: Pfizer Inc, Jose L. Rivas Shareholder of: Pfizer Inc, Employee of: Pfizer SLU, Arne Yndestad Shareholder of: Pfizer Inc, Employee of: Pfizer Inc, Annette Diehl Shareholder of: Pfizer Inc, Employee of: Pfizer Inc, Deepak L Bhatt Grant/research support from: Abbott, Afimmune, Amarin, Amgen, AstraZeneca, Bayer, Boehringer Ingelheim, Bristol-Myers Squibb, Cardax, Chiesi, CSL Behring, Eisai, Ethicon, Ferring Pharmaceuticals, Forest Laboratories, Fractyl, HLS Therapeutics, Idorsia, Ironwood, Ischemix, Janssen, Lexicon, Lilly, Medtronic, MyoKardia, Novo Nordisk, Owkin, Pfizer Inc, PhaseBio, PLx Pharma, Regeneron, Roche, Sanofi, Synaptic and The Medicines Company.

DOI: 10.1136/annrheumdis-2022-eular.1255

POS0521

RISKS OF SEVERE INFECTION AFTER THE INTRODUCTION OF BDMARDS IN NEWLY DIAGNOSED RHEUMATOID ARTHRITIS PATIENTS: A POPULATION-BASED INTERRUPTED TIME-SERIES ANALYSIS

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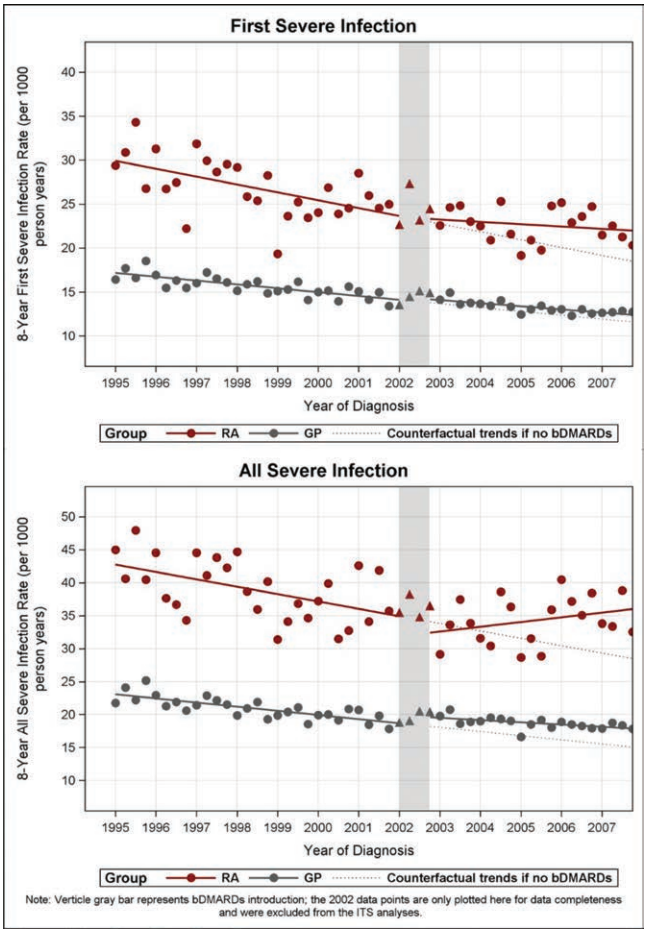

Figure 1. Unadjusted rates.

Background: Biological disease-modifying anti-rheumatic drugs (bDMARDs) are effective in suppressing inflammation and preventing joint damage. But bDMARDs may be associated with increased risk of severe infection. Evidence on this is contradictory with some studies showing increased risk, whereas others reporting no significant changes.

Objectives: To determine the impact of the introduction of bDMARDs on severe infection among patients newly diagnosed with RA compared with non-RA individuals.

Methods: In this age- and gender-matched cohort study using administrative health data for the population of BC, Canada, all incident RA patients diagnosed between 1995–2007 were identified. Non-RA individuals were randomly selected from the general control population to match with RA. Incident RA/non-RA individuals were then divided into quarterly cohorts according to their diagnosis date. Two outcomes were examined: (1) first severe infection (FSI) after RA onset necessitating hospitalization or occurring during hospitalization; and (2) all severe infections (ASI) after RA onset. We calculated the 8-year FSI and ASI rate for each cohort. We conducted interrupted time-series analyses to compare levels and trends of FSI and ASI in RA and non-RA individuals diagnosed

Table 1. Results of interrupted time-series analysis of FSI/ASI rates, adjusting for age, gender, chronic obstructive pulmonary disease, Romano Charlson Comorbidity Index, diabetes, chronic kidney diseases, alcoholism, cancer, prior hospitalization with infection and socio-economic status at disease diagnosis year, using stepwise model selection

Outcome	Parameter	RA		Non-RA	
		Unadj. Diff (95% CI)	Adj. Diff (95% CI)	Unadj. Diff (95% CI)	Adj. Diff (95% CI)
		p-value	p-value	p-value	p-value
FSI	Trend	0.63 (0.03, 1.22) 0.0441	0.68 (0.09, 1.27) 0.0292	0.08 (-0.08, 0.25) 0.3237	0.03 (-0.12, 0.19) 0.6728
	Level (1 year post-intervention)	0.50 (-2.00, 2.99) 0.6989	0.31 (-1.88, 2.49) 0.7847	0.41 (-0.21, 1.03) 0.2041	0.26 (-0.24, 0.75) 0.3103
	5 years post-intervention	3.01 (-0.85, 6.87) 0.1331	3.02 (-0.48, 6.52) 0.0986	0.75 (-0.24, 1.73) 0.1433	0.39 (-0.46, 1.25) 0.3721
ASI	Trend	1.84 (0.83, 2.84) 0.0009	1.85 (0.81, 2.89) 0.0011	0.28 (0.04, 0.53) 0.0305	0.12 (-0.10, 0.34) 0.2877
	Level (1 year post-intervention)	-1.21 (-5.41, 3.00) 0.5763	-1.44 (-5.44, 2.56) 0.4850	1.46 (0.42, 2.49) 0.0085	1.20 (0.38, 2.02) 0.0064
	5 years post-intervention	6.14 (0.26, 12.01) 0.0466	5.97 (0.02, 11.93) 0.0560	2.60 (1.08, 4.12) 0.0017	1.69 (0.45, 2.92) 0.0109

during pre-bDMARDs (1995–2001) and post-bDMARDs (2003–2007) periods. Adjusted 8-year FSI and ASI rates for RA and non-RA cohorts diagnosed five years after bDMARDs introduction were compared with expected rates assuming no bDMARDs introduction, based on extrapolation of pre-bDMARDs trends.
Results: A total of 60,226 and 588,499 incident RA/non-RA individuals were identified. We identified 8,954 FSI and 14,245 ASI in RA, and 56,153 FSI and 79,819 ASI in non-RA. The 8-year FSI rates among RA patients diagnosed in the pre-bDMARDs period decreased over time but leveled off among those diagnosed in the post-period (Figure 1). The adjusted difference between the post- and pre-bDMARDs secular trends of 8-year FSI rates was 0.68 (p=0.03) in RA and 0.03 (p=0.67) in non-RA (Table 1). The 8-year ASI rates among RA patients diagnosed in the pre-bDMARDs period decreased over time but increased significantly among those diagnosed in the post-period (Figure 1). The adjusted difference between the post- and pre-bDMARDs secular trends of 8-year ASI rates was 1.85 (p=0.001) in RA and 0.12 (p=0.29) in non-RA (Table 1). For RA cohort diagnosed 5 years after bDMARDs introduction, ASI rate increased by 20.4% than expected rates assuming no bDMARDs introduction. In contrast, ASI rate in non-RA increased by only 10.9%.
Conclusion: Arthritis onset after bDMARDs introduction is associated with an elevated risk of severe infection in RA patients, compared with matched non-RA individuals.
Acknowledgements: We would like to thank the Ministry of Health of British Columbia and Population Data BC for providing access to the administrative data. All inferences, opinions, and conclusions drawn in this publication are those of the authors, and do not reflect the opinions or policies of the Data Stewards or the [British Columbia] Ministry of Health. No personal identifying information was made available as part of this study. Procedures used were in compliance with British Columbia's Freedom in Information and Privacy Protection Act. Ethics approval was obtained from the University of British Columbia's Behavioral Research Ethics Board (H15-00887).
Disclosure of Interests: None declared.
DOI: 10.1136/annrheumdis-2022-eular.1298

POS0522 ASSOCIATED FACTORS WITH PHYSICAL DYSFUNCTION OF ELDERLY-ONSET RHEUMATOID ARTHRITIS TREATED WITH A TREAT-TO-TARGET STRATEGY

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Background: Achievement of normal physical function is an important outcome for older patients. Previous studies of younger cohorts showed that aging, comorbidities, and joint damage influenced the physical function of patients with RA who achieved clinical remission or low disease activity (LDA). We previously demonstrated that a treat-to-target (T2T) strategy for methotrexate (MTX)-naïve elderly-onset RA (EORA) was effective with an acceptable safety profile. It showed that 60.9% of 197 patients achieved HAQ Disability Index (HAQ-DI) ≤0.5 at three years by following the T2T strategy targeting LDA (1).
Objectives: We aimed to evaluate associated factors with HAQ-DI in the T2T strategy targeting LDA for patients with EORA during three-year observational period.
Methods: Treatment was adjusted to target LDA with conventional synthetic disease-modifying antirheumatic drugs (DMARDs), followed by biological DMARDs (bDMARDs) in 197 MTX-naïve EORA patients (mean age 74.9 years) with moderate-to-high disease activity. HAQ-DI was evaluated at week 0, 24, 52, 76, 104, 128, and 156. To evaluate associated factors with SDAI and HAQ-DI over the 36-month follow-up, Bayesian hierarchical logistic regression modeling was applied for 1067 periods from the 197 patients.
Results: At baseline, the enrolled 197 patients with EORA who had normal physical function (HAQ-DI ≤0.5) in 29.4%, HAQ-DI >0.5 and <1.5 in 36.5%, and HAQ-DI ≥1.5 in 33.0%, and the mean age (standard deviation [SD]) in each group was 72.7 (5.9), 74.8 (7.3), and 75.6 (6.7), respectively. Baseline SDAI increased in the group with higher HAQ-DI. The proportions of patients with each comorbidity and estimated creatinine clearance at baseline were not significantly different across the 3 groups. In the multilevel logistic model, the association of MTX, bDMARDs, and GC use with changes in SDAI in each period was evaluated. Age, sex, and comorbidities (chronic lung disease, cardiovascular disease, history of malignancy, osteoporosis, history of serious infections, and osteoarthritis) were included as inter-individual factors. The model indicated that the use of bDMARDs was associated with a reduction of the SDAI (ΔSDAI: -9.75, SD 0.75, p<0.001), while neither MTX (ΔSDAI: -1.25, SD 1.13, p=0.270) nor GCs (ΔSDAI: -0.78, SD 0.88, p=0.372) was associated with changes in SDAI. Chronic lung diseases (ΔSDAI: 4.64, SD 1.44, p=0.001) and osteoporosis (ΔSDAI: 3.78, SD 1.46, p=0.001) at baseline were associated with the increment of SDAI. The association of age, sex, the comorbidities, and MTX, bDMARDs, and GC use with physical function in each period was evaluated by the multilevel logistic model. The model indicated that older age (ΔHAQ-DI: 0.03, SD 0.01, p <0.001), chronic lung diseases (ΔHAQ-DI: 0.15, SD 0.10, p=0.001), and osteoporosis (ΔHAQ-DI: 0.30, SD 0.10, p=0.010) at baseline were associated with the increment of HAQ-DI. When the mean SDAI during the observation period was added to the model as an inter-individual factor, the associations of HAQ-DI with the chronic lung diseases and osteoporosis at baseline were not statistically significant.
Conclusion: These data indicate that bDMARDs had a central role in reducing disease activity in the T2T strategy targeting LDA in EORA patients. Chronic lung diseases and osteoporosis at baseline were associated with increase in disease activity and worsening of physical function. However, disease activity had a greater impact on physical function than the comorbidities at baseline.
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Disclosure of Interests: takahiko sugihara Speakers bureau: TS has received honoraria from Abbvie Japan Co., Ltd., AsahiKASEI Co., Ltd., Astellas Pharma Inc., Ayumi Pharmaceutical, Bristol Myers Squibb K.K., Chugai Pharmaceutical Co., Ltd., Eli Lilly Japan K.K., Mitsubishi-Tanabe Pharma Co., Ono Pharmaceutical, Pfizer Japan Inc., Takeda Pharmaceutical Co. Ltd., and UCB Japan Co. Ltd., Grant/research support from: TS has received research grants from AsahiKASEI Co., Ltd., Daiichi Sankyo., Chugai Pharmaceutical Co., Ltd., and Ono Pharmaceutical., Tatsuro Ishizaki: None declared, Hiroyuki Baba: None declared, Takumi Matsumoto: None declared, Kanae Kubo Speakers bureau: KK has received honoraria from Asahi KASEI, Astellas Pharma, Bristol Myers Squibb, Eisai, AbbVie GK, Boehringer Ingelheim, Daiichi-Sankyo, Chugai Pharmaceutical, Mitsubishi Tanabe Pharma and Nippon Shinyaku., Grant/research support from: KK has received research grants from Asahi KASEI, Mari Kamiya: None declared, Fumio Hirano: None declared, Tadashi Hosoya: None declared, Masayo Kojima Speakers bureau: MK has received speakers bureau from AbbVie, Astellas, Ayumi Pharma, Chugai, Eisai, Eli Lilly, Janssen, Ono Pharmaceutical, Pfizer, Tanabe-Mitsubishi, and Takeda Pharmaceutical Co., Ltd., Nobuyuki Miyasaka: None declared, Masayoshi Harigai Speakers bureau: MH has received speaker's fee from AbbVie Japan GK, Ayumi Pharmaceutical Co., Boehringer Ingelheim Japan, Inc.,Bristol Myers Squibb Co., Ltd., Chugai Pharmaceutical Co., Ltd., Eisai Co., Ltd., Eli Lilly Japan K.K., GlaxoSmithKline K.K., Kissei Pharmaceutical Co., Ltd., Pfizer Japan Inc., Takeda Pharmaceutical Co., Ltd., and Teijin Pharma Ltd., Consultant of: MH is a consultant for AbbVie, Boehringer-ingelheim, Bristol Myers Squibb Co., Kissei Pharmaceutical Co.,Ltd. and Teijin Pharma., Grant/research support from: MH has received research grants from AbbVie Japan GK, Asahi Kasei Corp., Astellas Pharma Inc., Ayumi Pharmaceutical Co., Bristol Myers Squibb Co., Ltd., Chugai Pharmaceutical Co., Daiichi-Sankyo, Inc.,Eisai Co., Ltd., Kissei Pharmaceutical Co., Ltd., Mitsubishi Tanabe Pharma Co., Nippon Kayaku Co., Ltd., Sekiui Medical, Shionogi & Co., Ltd., Taisho Pharmaceutical Co., Ltd., Takeda Pharmaceutical Co., Ltd., and Teijin Pharma Ltd.
DOI: 10.1136/annrheumdis-2022-eular.1302

POS0523 FATIGUE TRAJECTORIES IN PATIENTS WITH EARLY RHEUMATOID ARTHRITIS: A LONGITUDINAL ANALYSIS OF DATA FROM THE CARERA TRIAL

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Background: Fatigue is a common and impactful symptom of rheumatoid arthritis (RA). Given its heterogeneity and unpredictable nature, studies on contributing factors of RA-related fatigue should include multidimensional measures of