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Rheumatoid arthritis - non biologic treatment and small molecules

OP0231

COMPARATIVE EFFECTIVENESS OF JAK-INHIBITORS, TNF-INHIBITORS, ABATACEPT AND IL-6 INHIBITORS IN AN INTERNATIONAL COLLABORATION OF REGISTERS OF RHEUMATOID ARTHRITIS PATIENTS (THE "JAK-POT" STUDY)

K. Lauper[1], D. Mongin[1], S. A. Bergstra[2], D. Choquette[3], C. Codreanu[4], D. De Cock[5], L. Dreyer[6], O. Elkayam[7], K. Hyrich[8], F. Iannone[9], N. Inanc[10], E. Kristianslund[11], T. K. Kvien[11], B. Leeb[12], G. Lukina[13], D. Nordström[14], K. Pavelka[15], M. Pombo-Suarez[16], Z. Rotar[17], M. J. Santos[18], A. Strangfeld[19], D. Courvoisier[1], A. Finckh[1]. *[1]HUG, Geneva, Switzerland; [2]LUMC, Rheumatology, Leiden, Netherlands; [3]Institut de Recherche en Rhumatologie, Montréal, Canada; [4]Center of Rheumatic Diseases, Bucharest, Romania; [5]KU Leuven, Skeletal Biology and Engineering Research Unit, Leuven, Belgium; [6]Aalborg University Hospital, DANBIO, Aalborg, Denmark; [7]Tel Aviv University, Rheumatology,Tel Aviv, Israel; [8]University of Manchester, Centre for Epidemiology Versus Arthritis, Manchester, United Kingdom; [9]University Hospital of Bari, GISEA, Bari, Italy; [10]Marmara University, Rheumatology, Istanbul,Turkey; [11]Diakonhjemmet Hospital, Rheumatology, Oslo, Norway; [12]State Hospital Stockerau, Rheumatology, Stockerau, Austria; [13]V.A.Nasonova Research Institute of Rheumatology, Moscow, Russian Federation; [14]Helsinki University, ROB-FIN, Helsinki, Finland; [15]Institute of Rheumatology, Prague, Czech Republic; [16]Hospital Clinico Universitario, Rheumatology, Santiago de Compostela, Spain; [17]biorx.si, Rheumatology, Ljubljana, Slovenia; [18]Faculdade de Medicina, Reuma.pt, Lisboa, Portugal; [19]DRFZ, Programme Area Epidemiology, Berlin, Germany*

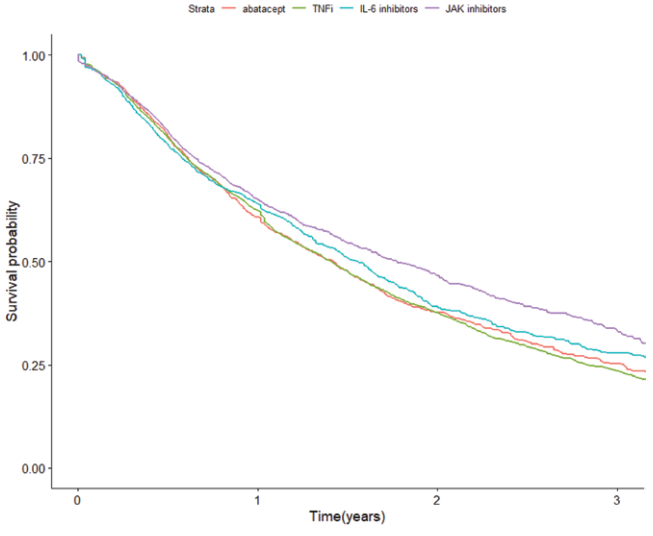
Background: In many countries, JAK-inhibitors (JAKi) have only recently been approved as treatment for patients with rheumatoid arthritis (RA).
Objectives: To evaluate the effectiveness of JAKi compared to bDMARDs in RA patients in the real-world population in an international collaboration of registers (the "JAK-pot" collaboration).
Methods: Patients initiating either JAKi, TNFi, IL-6i or abatacept (ABA) during a time period when JAKi were available in each country (19 registers, Table) were included. We compared the effectiveness of JAKi and bDMARDs in terms of retention using crude and adjusted survival analysis. Missing covariates were imputed using multiple imputation.
Results: Among 25521 included patients, 6063 initiated a JAKi, 13879 a TNFi, 2348 ABA, and 3231 an IL-6i. Patients were on average 55 years old, with a mean disease duration 10 years, mostly seropositive (67%), female (77%) and with moderate disease activity at treatment initiation. The main reason of stopping treatment was ineffectiveness (49%), followed by adverse events (21%). Patients on JAKi were treated more often as monotherapy, had higher CRP and disease activity at baseline and had experienced more previous ts/bDMARDs. Crude median retention was 1.4 (95% CI 1.2-1.5) years for JAKi, 1.6 (1.6-1.7) for TNFi, 1.5 (1.3-1.7) for IL6i and 1.1 (1.0-1.3) for ABA. After adjustment, the hazard ratio (HR) for discontinuation tended to be lower for JAKi (HR 0.86 (0.65-1.13)) compared to TNFi, but comparable for ABA (1.02 (0.94-1.10)) and IL6i (0.99 (0.88-1.10)) (Figure 1). HRs differed notably between countries (Figure 2).

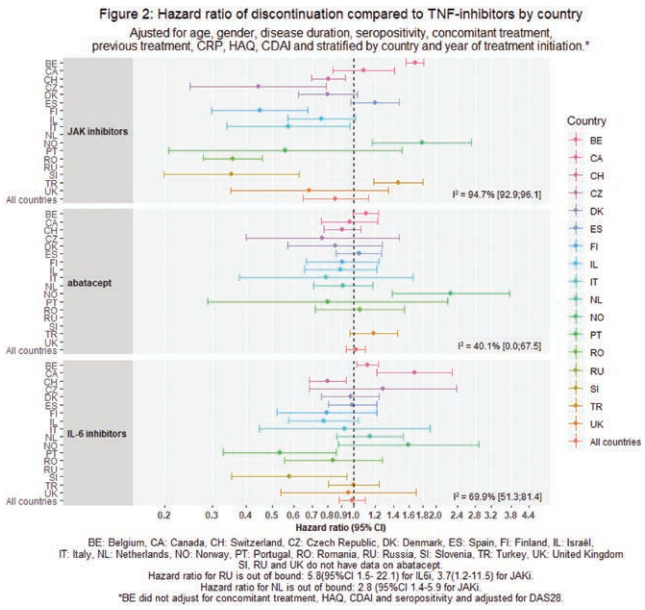
Table 1. Registers

Country, register	N	JAKi, n (%)
Austria, BIOREG*		
Belgium, TARDIS	6288	2113 (33.6)
Canada, RHUMADATA	528	114 (21.6)
Czech Republic, ATTRA	374	253 (67.6)
Denmark, DANBIO	4721	506 (10.7)
Finland, ROB-FIN	807	234 (29.0)
Germany, RABBIT*		
Italy, GISEA	757	250 (33.0)
Israel, I-RECORD	400	94 (23.5)
Netherlands, METEOR	1642	4 (0.2)
Norway, NOR-DMARD	507	99 (19.5)
Portugal, REUMA.PT	797	44 (5.5)
Romania, RRBR	593	328 (55.3)
Russia, ARBITER	526	483 (91.8)
Slovenia, BIORX.SI	583	146 (25.0)
Spain, BIOBADASER	781	139 (17.8)
Switzerland, SCQM	2956	796 (26.9)
Turkey, TURKBIO	2150	397 (18.5)
UK, BSRBR	1111	63 (5.7)

*Registers planning to participate in future studies but not included yet

Figure 1: Multivariable Cox model of drug discontinuation by type of treatment
Ajusted for age, gender, disease duration, seropositivity, previous treatment, concomitant treatment, CRP, HAQ, CDAI and stratified by country and year of treatment initiation.





Conclusion: The adjusted overall drug retention of JAKi tended to be higher than for TNFi, with large variation between countries. Other measures of effectiveness, such as the evaluation of CDAI remission and low disease activity are planned to shape a more comprehensive picture of JAKi effectiveness in the real world.

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OP0232

TREATMENT WITH METHOTREXATE AND RISK OF LUNG DISEASE IN PATIENTS WITH RHEUMATOID ARTHRITIS: A NATIONWIDE POPULATION-BASED COHORT STUDY FROM DENMARK

E. Helene Ibfelt[1], R. Kart Jacobsen[2], T. I. Kopp[3], R. Cordtz[4], A. Svarre Jakobsen[5], N. Seersholm[6], S. Burhan Shaker[6], L. Dreyer[4,7]. *[1]Steno Diabetes Center, Gentofte, Denmark; [2]Bispebjerg and Frederiksberg Hospital, Frederiksberg, Denmark; [3]Rigshospitalet, Copenhagen, Denmark; [4]Aalborg University Hospital, Aalborg, Denmark; [5]Furesø Reumatologerne, Farum, Denmark; [6]Herlev and Gentofte University Hospital, Hellerup, Denmark; [7]DANBIO Registry, Denmark, Denmark*

Background: Methotrexate (MTX) is the recommended first-line drug in EULAR and ACR treatment guidelines for rheumatoid arthritis (RA) and hence the most commonly prescribed DMARD in the treatment of this group of patients. However, lung disease is considered a potential adverse effect of MTX treatment.

Objectives: To investigate the risk of interstitial lung disease (ILD) and acute and chronic respiratory failure in RA patients treated with MTX and other medications.

Methods: From the Danish National Patient Register (DNPR) and the clinical DANBIO Register for rheumatic diseases, we retrieved data on RA patients registered between 1997 and 2015. Information on ILD and respiratory failure outcomes was obtained from DNPR, and information on redeemed prescriptions for MTX and other medications was obtained through linkage to the Danish Prescription Register. Associations between MTX and lung disease outcomes were analyzed in Cox regression models adjusted for age, calendar time, sex and use of other medications possessing the potential for pulmonary toxicity. Standardized Incidence Ratios (SIRs) of lung disease were calculated to compare RA patients to the general population.

Results: Of the 30,512 RA patients identified, 60% patients had redeemed at least one prescription for MTX, 35% had redeemed a prescription for sulphasalazine, 6% had redeemed a prescription of either amiodarone or

Table. Hazard ratios (HR) with 95% confidence intervals (95%CI) for the risk of interstitial lung disease (ILD) and acute or chronic respiratory failure in 30,512 patients with rheumatoid arthritis up to 5 years after diagnosis.

ILD (incl. drug-induced cases)	1 year of follow up		5 years of follow up	
	Events, N	HR (95% CI)	Events, N	HR (95% CI)
Methotrexate, ≥1 redeemed prescription(s) vs. none	62	1.03 (0.71 to 1.48)	166	1.00 (0.78 to 1.27)
Sulphasalazine, ≥1 redeemed prescription(s) vs. none	21	0.88 (0.54 to 1.43)	90	1.14 (0.89 to 1.48)
Amiodarone and/or nitrofurantoin, ≥1 redeemed prescription(s) vs. none	1	0.57 (0.08 to 4.10)	7	0.65 (0.31 to 1.38
Women	72	Ref.	155	Ref.
Men	55	1.51 (1.06 to 2.16)	130	1.74 (1.38 to 2.21)
Acute or chronic respiratory failure	**1-year of follow up**		**5-years of follow up**	
	Events, N	**HR (95% CI)**	**Events, N**	**HR (95% CI)**
Methotrexate, ≥1 redeemed prescription(s) vs. none	36	0.48 (0.32 to 0.73)	158	0.54 (0.43 to 0.67)
Sulphasalazine, ≥1 redeemed prescription(s) vs. none	14	0.70 (0.39 to 1.26)	99	1.09 (0.86 to 1.38)
Amiodarone and/or nitrofurantoin, ≥1 redeemed prescription(s) vs. none	6	3.01 (1.31 to 6.94)	22	1.33 (0.86 to 2.06)
Women	71	Ref.	239	Ref.
Men	38	1.07 (0.72 to 1.59)	120	1.04 (0.83 to 1.29)