Supplementary Materials

Title: A JAK Inhibitor for Treatment of Rheumatoid Arthritis: The Baricitinib Experience

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Supplementary Table S1. Baseline demographics and characteristics of patients baricitinib-treated patients in real-world settings and RCTs.

	Patients, n[a]	Age, yrs (mean)	Disease duration, yrs (mean)	Disease severity (mean)	Bio-naïve (%)	3rd line or more (%)	Dosage, 2 mg/day (%)	Comorbidities (%)
RWE								
Baricitinib registry/multicentre								
ORBIT-RA (Spain) [60]	182	62.2	14.6		22.0	36.8	9.9	2.4 CCI
RABBIT (Germany) [67]	117/286[b]	59/59[b]	11/14[b]	4.7/4.[4b] DAS28-ESR	38/5[b]	25/58[b,c]	11/17[b]	NR
BIO-REG (Austria) [69]	74	64	14.1	3.8 DAS28-ESR	18.9	37.8	NR	65% overall (25% of which was heart disease)
BSRBR-RA (UK) [31]	561	60.0	13.1	5.7 DAS28-ESR	46.0	NR	15	NR
IPS (Italy) [64]	446	59	9	4.7 DAS28-CRP; 25.8 CDAI	34.0	NR		12.5 cardiomyopathy; 29.1 hypercholesterolaemia; 8.5 diabetes
ANSWER (Japan) [70]	166	60.2	12.6	4.3 DAS28-ESR	22.3	54.2	NR	NR
FIRST (Japan) [71]	138	57.2	6.4[d]	5.3 DAS28-ESR	32.6	24.6	11.6	NR
Iwamoto et al. (Japan) [75]	81	66[d]	11[d]	5.1 DAS28-ESR[d]; 18 CDAI[d]	22.2	NR	NR	NR
BIO-1 (Spain) [61]	63	63.0	7.5	NR	NR	NR	NR	NR
SCQM-RA (Switzerland) [62,63]	273	59	13	NR	NR	NR	NR	NR
ARTIS (Sweden) [65]	1,420	61[d]	13[d]	4.7 DAS28-ESR[d]; 20 CDAI[d]	NR	NR	NR	29.8 mood disorders; 9.9 diabetes; 7.9 cancer; 5.5 severe infection; 4.7 obstructive lung disease; 3.0 VTE
ARTIS (Sweden) [79]	1,837	61	13.2	4.3 DAS28	15	NR	NR	8.0 diabetes; 4.4 cancer; 15.1 severe infection;

								4.2 obstructive lung disease
ARTIS (Sweden) [80]	1,825	NR	NR	NR	NR	NR	NR	NR
DANBIO (Denmark) [66]	275	58.8	13.7	4.4 DAS28	3.3	NR	NR	NR
TBCR-RA (Japan) [73,74]	113	66.1	14.0	3.5 DAS28-CRP	28.9	NR	NR	NR
Baricitinib single centre								
LTHT (England) [81]	69	55.8	14[d]	NR	14.5	NR	NR	NR
ERLANGEN (Germany) [82]	139	58.4	9.7	4.3 DAS28-ESR; 4.0 DAS28-CRP	39.6	NR	NR	11.9 diabetes; 40.7 hypertension
	93 (monotherapy)	59.5	9.6	4.3 DAS28-ESR; 4.0 DAS28-CRP	41.9	NR	NR	14.6 diabetes; 44.9 hypertension
Careggi University Hospital, Florence (Italy) [83]	43	56.1	12.6	5.3 DAS28-ESR; 4.7 DAS28-CRP	27.9		4 mg/day (100)	NR
AMIENS (France) [84]	55	58.0[d]	11.0[d]	4.2 DAS28-ESR[d]; 4.2 DAS28-CRP[d]	NR	NR	NR	2.0 CCI
Southampton study (UK) [85]	83	55.3	14.1	NR	NR	NR	NR	NR
Daegu (Korea) [86]	20	53.5[d]	7.1[d]	5.6 DAS28-ESR[d]	75.0	NR	NR	5.0 diabetes; 15.0 hypertension
Sapienza University of Rome (Italy) [78]	59	58.1[d]	12.0[d]	4.7 DAS28-CRP[d]; 24 CDAI[d]	15.3	64.4	0	NR
Baricitinib administrative claims data								
IT-NHS 2019 (Italy) [88]	445	59.2	8.2	NR	63.6	17.1	NR	0.1 CCI
IT-NHS 2018 (Italy) [87]	149	57.6	NR	NR	51.0	8.1	NR	NR
JAKi registry								
BIOBADASER 3.0 (Spain) [89]	NR	NR	NR	NR	NR	NR	NR	NR
BIOBADASAR 3.0 (Argentina) [90]	4,817	NR	NR	NR	NR	NR	NR	NR
SCQM (Switzerland) [91]	81	NR	15[d]	3.7 DAS28-CRP;	27.2	39.5	NR	NR

				16.8 CDAI				
ARTIS (Sweden) [80]	2150	60[d]	13[d]	4.7 DAS28-ESR[d]; 4.4 DAS28-CRP[d]	NR	NR	NR	10 diabetes
OPAL (Australia) [92]	3,850	NR	NR	NR	NR	NR	NR	NR
RABBIT (Germany) [68]	2,030	59.9	12.6	4.2 DAS28-ESR	NR	NR	NR	2.9 sum of comorbidities
RABBIT (Germany) [93]	NR	>70[e]	NR	NR	NR	NR	NR	NR
FIRST (Japan) [72]	387	58.1	7.3[d]	26.0 CDAI	NR	NR	NR	NR
JAKi pooled registries								
JAK-Pot (Multinational) [94]	9,329	57.6	13.7	4.7 DAS28; 23.7 CDAI	28.2	48.9	NR	52.7 with ≥1 comorbidity
JAK-Pot (Multinational) [95]	2,000	NR	NR	NR	NR	NR	NR	NR
JAKi administrative claims data								
VIGIBASE (Multinational) [96]	39,097	60.6	NR	NR	NR	NR	NR	NR
SNDS (France) [97]	8,481	59.3	NR	NR	33.0	22.9	NR	10.8 diabetes; 22.3 hypertension; 4.3 malignancy
	Baricitinib: 5065	NR	NR	NR	NR	NR	20.5	NR
SNDS (France) [98]	5,870 (baricitinib: 3,110; RA: 5,497)	58.0	NR	NR	NR	NR	NR	NR
Baricitinib observational study								
PMS study (Japan) [76]	4,731	63.9			28.9		35	
RA-BE-REAL (Multinational) six months [77]	509	59.1	9.1	5.2 DAS28	48.1			
B023 (Multinational: multi-source meta-analysis) [34]	7,606	NR	NR	NR	NR	NR	NR	NR
Clinical trials								
RA-BEAM (International) [6]	487	54	10	6.5 DAS28-ESR;	100	0	0	NR

RA-BEACON (International) [8]	351	56.0	14.0	5.8 DAS28-CRP 6.6 DAS28-ESR; 5.9 DAS28-CRP	0	NR	50	NR

Data are reported as mean values or percentages, unless otherwise indicated.

[a]Number of patients receiving baricitinib or JAKi; patients could be included in multiple studies.

[b]Patients treated with baricitinib and new to RABBIT/Switchers to baricitinib while in RABBIT.

[c]Fourth-line or more.

[d]Median values.

[e]Analysis only included patients aged >70 years.

ANSWER, Kansai Consortium for Well-being of Rheumatic Disease Patients (major university-related hospitals: Kyoto University, Osaka University, Osaka Medical College, Kansai Medical University, Kobe University, Nara Medical University and Osaka Red Cross Hospital); ARTIS, Anti-Rheumatic Therapy in Sweden (the Swedish Rheumatology Quality [SRQ] register); BIO-REG: Australian Registry for Biologicals, Biosimilars and tsDMARDs in Rheumatology; B023, metanalysis of patients coming from registries (CorEvitas US, ARTIS, CorEvitas Japan) and administrative claim (Aetna/Healthagen, Anthem [HIRD], HealthVerity PS20, Humana, Marketscan, MDR, Optium Clinformatics, PharMetrics Plus, BKK, JMDC and SNDS); BKK, Betriebskrankenkasse; BSRBR-RA, British Society for Rheumatology Biologics Register for Rheumatoid Arthritis; CCI, Charlson Comorbidity Index; CDAI, Clinical Disease Activity Index; DAS28, Disease Activity Score in 28 joints; DAS28-CRP, DAS28-C-reactive protein; DAS28-ESR, DAS28-erythrocyte sedimentation rate; HIRD, HealthCore Integrated Research Database; IPS, Italian prospective study in 11 centres (Division of Rheumatology and Clinical Immunology, Humanitas Clinical and Research Center – IRCCS, Rozzano, Milan; Rheumatology, Azienda Ospedaliera Universitaria Integrata, Verona, University of Verona; Rheumatology, IRCCS San Raffaele Scientific Institute, Milan and Vita-Salute San Raffaele University, Milan; Rheumatology, Azienda Sanitaria Universitaria Integrata, Udine and University of Udine; Internal Medicine, AOU San Giovanni di Dio e Ruggi d'Aragona, Salerno; Rheumatology, Policlinico Le Scotte, University of Siena; Rheumatology, Allergy and Clinical Immunology, Department of Medicina dei Sistemi, University of Rome Tor Vergata; Rheumatology and Clinical Immunology, Spedali Civili, Brescia; Rheumatology, ASST Papa Giovanni XXIII, Bergamo; Rheumatology, San Gerardo Hospital, Monza; Humanitas University, Department of Biomedical Sciences, Pieve Emanuele, Milan; Rheumatology, ASL3 Genovese, Genova, Italy); IT-NHS 2018, administrative databases from selected Italian settings, including the 'beneficiaries' database' containing patients' demographic data and 'pharmaceutical databases' (inpatient and out- patient) providing data on prescriptions; IT-NHS 2019, integrated administrative databases from a pool of Italian entities from Veneto, Marche, Abruzzo, Apulia and Calabria Regions; JMDC, JMDC, Inc.'s claims database; LTHT, Leeds Teaching Hospitals NHS Trust database; MDR, military health system data repository; OPAL, Optimising Patient outcome in Australian Rheumatology; PMS, post-marketing surveillance – mandated in Japan; RCTs, randomised controlled trials; RWE, real-world evidence; SCQM, Swiss Clinical Quality Management in Rheumatic Diseases Foundation; SNDS, Système National des Données de Santé (French national health data system); TBCR, Tsurumai Biologics Communication Registry; VTE, venous thromboembolism.