SUPPLEMENTARY MATERIALS

Real-world Use and Outcomes in Rheumatoid Arthritis Patients Treated With Upadacitinib: An Analysis From the CorEvitas Registry

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Supplementary Table 1: Baseline demographic and clinical characteristics among UPA initiators and TNFi-experienced cohorts with 6-month follow-up

	UPA Initiators		
Characteristic	All N=469	First-line[a] N=87	TNFi-Experienced[b] N=205
Age [years], mean±SD	60.9±11.3	61.2±11.7	61.9±10.6
Duration of RA [years], mean ±SD	11.4±10.5	3.9±6.4	13.5±10.1
Female, n (%)	373 (79.5)	61 (70.1)	165 (80.5)
White Race, n (%)	410 (88.7)	78 (89.7)	192 (94.6)
Insurance, n (%)[c]			
Commercial	284 (60.6)	60 (69.0)	119 (58.0)
Medicare	192 (40.9)	32 (36.8)	86 (42.0)
Medicaid	43 (9.2)	6 (6.9)	27 (13.2)
None	8 (1.7)	3 (3.4)	4 (2.0)
Work Status, n (%)			
Full-time	140 (30.5)	30 (34.5)	56 (27.6)
Part-time	34 (7.4)	9 (10.3)	15 (7.4)
Retired	145 (31.6)	31 (35.6)	55 (27.1)
Other	140 (30.5)	17 (19.5)	77 (37.9)
Smoking Status, n (%)			
Never	229 (49.1)	44 (51.2)	93 (45.4)
Previous	142 (30.5)	27 (31.4)	60 (29.3)
Current	95 (20.4)	15 (17.4)	52 (25.4)
BMI Category, n (%)			
Underweight (<20 kg/m^2)	13 (2.8)	1 (1.2)	8 (4.0)
Normal weight (20 – 25 kg/m^2)	82 (17.8)	13 (15.1)	32 (15.9)
Overweight (25 – 30 kg/m^2)	119 (25.8)	22 (25.6)	53 (26.4)
Obese (≥30 kg/m^2)	247 (53.6)	50 (58.1)	108 (53.7)
Seropositivity, n (%)			
CCP+ and/or RF+	228 (48.6)	41 (47.1)	113 (55.1)
CCP- and RF-	88 (18.8)	24 (27.6)	32 (15.6)
Missing[d]	153 (32.6)	22 (25.3)	60 (29.3)
Comorbidities, n (%)			

CVD[e]	95 (20.3)	22 (25.3)	39 (19.0)
Hypertension	181 (38.6)	34 (39.1)	81 (39.5)
Hyperlipidemia	106 (22.6)	23 (26.4)	43 (21.0)
Malignancy[f]	67 (14.3)	12 (13.8)	28 (13.7)
Serious infections[g]	61 (13.0)	8 (9.2)	30 (14.6)
Diabetes	60 (12.8)	12 (13.8)	27 (13.2)
Fractures	204 (43.5)	35 (40.2)	96 (46.8)
Osteoporosis	38 (8.1)	4 (4.6)	15 (7.3)
DVT/PE	15 (3.2)	3 (3.4)	6 (2.9)
Depression	110 (23.5)	15 (17.2)	52 (25.4)
CDAI, mean±SD	23.7±11.2	25.2±12.5	22.9±10.9
CDAI Category, n (%)			
Moderate (>10 and ≤22)	266 (56.7)	46 (52.9)	122 (59.5)
Severe (>22)	203 (43.3)	41 (47.1)	83 (40.5)
Tender joint count 28, mean±SD	8.6±6.6	8.6±6.9	8.4±6.8
Swollen joint count 28, mean±SD	5.6±5.1	6.8±5.6	5.1±5.0
PGA, mean±SD	40.4±20.8	46.1±20.7	37.7±19.0
PtGA, mean±SD	54.6±23.9	52.3±26.0	55.9±22.7
HAQ-DI, mean±SD	1.2±0.7	1.04±0.66	1.2±0.6
Patient-reported pain, mean±SD	58.7±24.0	56.3±27.6	60.5±22.2
Patient-reported fatigue, mean±SD	57.6±27.0	52.4±29.2	59.**0**±25.6
Prior cDMARD use, n (%)			
0	17 (3.6)	7 (8.0)	3 (1.5)
1	161 (34.3)	35 (40.2)	66 (32.2)
≥2	291 (62.0)	45 (51.7)	136 (66.3)
Prior TNFi use, n (%)			
0	128 (27.3)	87 (100.0)	0 (0.0)
1	133 (28.4)	0 (0.0)	66 (32.2)
≥2	208 (44.3)	0 (0.0)	139 (67.8)
Prior non-TNFi use, n (%)	199 (42.4)	0 (0.0)	106 (51.7)
Prior JAKi use, n (%)	189 (40.3)	0 (0.0)	99 (48.3)
Prednisone use, n (%)			
None	332 (70.8)	59 (67.8)	150 (73.2)
Current dose <10 mg/day	100 (21.3)	18 (20.7)	41 (20.0)

Current dose ≥10 mg/day	37 (7.9)	10 (11.5)	14 (6.8)
UPA Line of Therapy, n (%)			
1st	87 (18.6)		
2nd	108 (23.0)		
3rd	66 (14.1)		
4th or higher	208 (44.3)		
Reason for UPA Initiation, n (%)[h]			
Safety	23 (10.7)	3 (9.7)	11 (11.8)
Efficacy	163 (75.8)	24 (77.4)	70 (75.3)
Other[i]	33 (15.3)	4 (12.9)	13 (14.0)
Concomitant Therapy, n (%)			
Monotherapy	183 (39.0)	29 (33.3)	88 (42.9)
Combination therapy with cDMARD	286 (61.0)	58 (66.7)	117 (57.1)

[a]First-line UPA initiators are a stratum of all UPA initiators. [b]The TNFi experienced group consists of patients with ≥3 months of TNFi experience prior to baseline. [c]Totals may be >100% as patients could have more than one insurance. [d]Of the 153 missing and/or with incomplete seropositivity data, 6 had a negative RF and missing CCP, and 1 had negative CCP and missing RF; 146 (31.1%) are completely missing. [e]History of CVD, including myocardial infarction, stroke, acute coronary syndrome, coronary artery disease, congestive heart failure, revascularization procedure (ie, percutaneous coronary intervention, coronary artery bypass grafting, or coronary artery stents), ventricular arrhythmia, cardia arrest, unstable angina, peripheral arterial disease, pulmonary embolism, carotid artery disease, deep vein thrombosis, and transient ischemic attack. [f]History of malignancy, including lymphoma and lung, breast, non-melanoma skin, or other cancers. [g]History of serious infections were those that led to hospitalization or administration of intravenous antibiotics and included joint/bursa, cellulitis, sinusitis, diverticulitis, sepsis, pneumonia, bronchitis, gastroenteritis, meningitis, urinary tract infection, upper respiratory infection, or infection of other specified sites. [h]Up to 3 reasons could be reported, thus counts may not add to the total. For all UPA initiators N=215; for TNFi-experienced UPA initiators, N=93; for first-line UPA: N=31. [i]Other reasons for initiation were alternative mechanism of action, cost/insurance, patient doing well, to improve compliance, patient preference, temporary interruption, and route or frequency of administration. BMI, body mass index; cDMARD, conventional disease modifying antirheumatic drug; CCP, cyclic citrullinated peptide; CDAI, Clinical Disease Activity Index; CVD, cardiovascular disease; DAS28-CRP, Disease Activity Score-28 with C-Reactive Protein; DVT, deep vein thrombosis; HAQ-DI, Health Assessment Questionnaire – Disability Index; JAKi, Janus kinase inhibitor; PE, pulmonary embolism; PGA, Physician's Global Assessment of Disease Activity; PtGA, Patient's Global Assessment of Disease Activity; RA, rheumatoid arthritis; RF, rheumatoid factor; SD, standard deviation; TNFi, tumor necrosis factor inhibitor; UPA, upadacitinib.

Supplementary Table 2: Change from baseline in clinical and patient-reported outcomes among UPA initiators at 6- and 12-month follow-up

Characteristic mean change ± SD	**6-Month Cohort**		**12-Month Cohort**	
	Monotherapy N=183	Combination therapy N=286	Monotherapy N=106	Combination therapy N=157
CDAI	–7.7±12.1 ***	–8.7±13.4 ***	–9.0±12.3 ***	–9.9±14.3 ***
Tender Joint Count	–3.2±6.2 ***	–3.8±7.2 ***	–3.8±6.0 ***	–4.4±7.4 ***
Swollen Joint Count	–2.1±4.4 ***	–2.6±5.0 ***	–2.4±4.7 ***	–3.1±5.5 ***
PGA	–13.0±22.6 ***	–13.0±23.5 ***	–13.7±19.9 ***	–13.0±25.2 ***
PtGA	–9.6±23.0 ***	–9.4±24.9 ***	–13.3±23.9 ***	–11.0±24.9 ***
HAQ–DI	–0.14±0.42 ***	–0.14±0.47 ***	–0.17±0.43 ***	–0.18±0.54 ***
Patient-reported pain	–11.5±25.2 ***	–12.2±25.4 ***	–14.5±26.2 ***	–13.1±26.4 ***
Patient-reported fatigue	–9.6±25.5 ***	–10.0±24.5 ***	–11.4±23.4 ***	–13.0±28.2 ***

*p<0.05; **p<0.01; ***p≤0.001 for change at a follow-up versus baseline. CDAI, Clinical Disease Activity Index; HAQ-DI, Health Assessment Questionnaire – Disability Index; PGA, Physician's Global Assessment of Disease Activity; PtGA, Patient's Global Assessment of Disease Activity; SD, standard deviation; UPA, upadacitinib.

Supplementary Table 3: Change in CDAI at 6-months and 12-months follow-up by prednisone use

Characteristic	No prednisone use	Current prednisone use[a]	P-value[b]
Change in CDAI from baseline to 6-month follow-up	N=332	N=137	0.077
Mean ± SD	–9 ± 13	–7 ± 12	
Change in CDAI from baseline to 12-month follow-up	N=177	N=83	>0.9
Mean ± SD	–10 ± 14	–9 ± 13	

[a]At the time of follow-up. [b]Determined via two-sample t-test. CDAI, clinical disease activity index; SD, standard deviation.

Supplementary Table 4: Rates of improvement in clinical and patient-reported outcomes among UPA initiators at 6- and 12-month follow-up

	6-Month Cohort		12-Month Cohort	
Characteristic, response rate (95% CI)	Monotherapy N=183	Combination therapy N=286	Monotherapy N=106	Combination therapy N=157
MCID in CDAI[a]	0.39 (0.32, 0.46)	0.44 (0.38, 0.50)	0.44 (0.35, 0.54)	0.46 (0.39, 0.55)
MCID in HAQ-DI[b]	0.36 (0.29, 0.43)	0.33 (0.28, 0.39)	0.38 (0.29, 0.48)	0.38 (0.30, 0.46)
MCID in Patient-Reported Pain[c]	0.44 (0.37, 0.52)	0.46 (0.40, 0.52)	0.47 (0.37, 0.57)	0.49 (0.41, 0.57)
"Much Better Improvement" in Patient-Reported Pain[d]	0.28 (0.22, 0.36)	0.29 (0.24, 0.35)	0.32 (0.23, 0.42)	0.32 (0.25, 0.40)
MCID in Patient-Reported Fatigue[c]	0.41 (0.34, 0.48)	0.43 (0.37, 0.49)	0.45 (0.36, 0.55)	0.48 (0.40, 0.57)
Achieved LDA (2.8<CDAI≤10.0)[e]	0.28 (0.22, 0.35)	0.29 (0.24, 0.35)	0.29 (0.21, 0.39)	0.29 (0.22, 0.36)
Achieved Remission (CDAI≤2.8)[e]	0.07 (0.04, 0.12)	0.09 (0.06, 0.13)	0.09 (0.04, 0.16)	0.13 (0.08, 0.19)

*p<0.05; **p<0.01;***p<0.001 for change at a follow-up versus baseline. [a]MCID for CDAI was based on baseline CDAI score. For baseline CDAI ≤10, MCID = >1-point decrease; baseline CDAI >10 and ≤22, MCID = >6-point decrease; and baseline CDAI >22, MCID = >12-point decrease. [b]MCID for HAQ-DI was ≥0.22-point decrease. [c]For assessments measured on a 100-point VAS scale, MCID was set at ≥10-point decrease. [d]'Much Better Improvement' in patient-reported pain was defined as a 20-point decrease and a ≥33% decrease in scores from initiation. [e]Data represent only those patients who were not already at the target outcome at baseline (ie, HDA/MDA to LDA or HDA/MDA/LDA to Remission). HDA was defined as CDAI >22; MDA was defined as CDAI >10 and ≤22; LDA was defined as CDAI>2.8 and ≤10; and remission was defined as CDAI ≤2.8. CDAI, Clinical Disease Activity Index; CI, confidence interval; HAQ-DI, Health Assessment Questionnaire – Disability Index; HDA, high disease activity; LDA, low disease activity; MCID, minimal clinically important difference; MDA, minimal disease activity; VAS, visual analog scale.