Durability of Near-Complete Skin Clearance in Patients with Psoriasis Using Systemic Biologic Therapies: Real-World Evidence from the CorEvitas Psoriasis Registry

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SUPPLEMENTARY MATERIALS

Supplementary Table S1. Eligible medications for enrollment[a]

	Class	Treatment
Biologic therapies	TNF inhibitors	• Adalimumab • Certolizumab • Etanercept • Infliximab
	IL-12/23 inhibitors	• Ustekinumab
	IL-23 inhibitors	• Guselkumab • Risankizumab • Tildrakizumab
	IL-17A inhibitors	• Secukinumab • Ixekizumab • Brodalumab
Systemic non-biologic therapies	N/A	• Methotrexate • Cyclosporine • Apremilast • Acitretin

[a]Eligible medications for enrollment include those approved by the FDA for psoriasis, including biosimilars for those listed. FDA: Food and Drug Administration; IL: interleukin; PSO: psoriasis; TNF: tumor necrosis factor.

Supplementary Table S2. Treatment event definitions

Term	Definition
Persistence	Patients that remained on original systemic biologic therapy and did not have a systemic non-biologic therapy added (methotrexate, cyclosporine, apremilast, or acitretin) that was not used at baseline
Non-failure discontinuation	Patients that discontinued original systemic biologic therapy due to: patient doing well (patient reached pre-defined target of disease activity and treating provider stopped medication or decreased dose/frequency or substituted medication for one with a different safety/efficacy profile), stopping due to fear of future side effect(s), temporary interruptions with systemic biologic therapy restart (restart was ≤45 days after next scheduled dose following discontinuation date), patient requested change due to reasons not related to effectiveness or safety, co-pay/patient cost, patient denied by insurance, patient preference for different frequency or route of administration, planned or existing pregnancy, breastfeeding, concerns about COVID-19, or other (as determined by provider)
Treatment failure	Patients with earliest incidence of discontinuation of a systemic biologic therapy for reasons related to treatment performance, adverse events, or the addition of a systemic non-biologic therapy occurring more than 30 days after the biologic initiation. Discontinuations due to the following reasons were considered treatment failures: stopped due to side effect (serious, minor), switched biologic or frequency of administration change to improve compliance, switched biologic or dose change to improve tolerability, stopped due to poor efficacy (inadequate initial response, failure to maintain initial response, or active disease), dose changed to treat active disease (flare), switched to biologic with alternative MOA to improve control of disease activity, and start of a new systemic non-biologic therapy

MOA: mechanism of action.

Supplementary Table S3. Reasons for treatment events at last follow-up by response criteria

	No loss of treatment response			Loss of treatment response		
Response criteria, n (%)	**Total**	**Persistent[a]**	**Non-failure discontinuation[a]**	**Total**	**No longer met response criteria**	**Treatment failure[a]**
PASI90 (N=687)	373 (54.3)	351 (51.1)	22 (3.2)	314 (45.7)	287 (41.8)	27 (3.9)
Bio-naïve (N=357)	214 (59.9)	201 (56.3)	13 (3.6)	143 (40.1)	129 (36.1)	14 (3.9)
Bio-experienced (N=330)	159 (48.2)	150 (45.5)	9 (2.7)	171 (51.8)	158 (47.9)	13 (3.9)
BSA ≤1% (N=587)[b]	387 (65.9)	319 (54.3)	68 (11.6)	200 (34.1)	183 (31.2)	17 (2.9)
Bio-naïve (N=308)	224 (72.7)	185 (60.1)	39 (12.7)	84 (27.3)	76 (24.7)	8 (2.6)
Bio-experienced (N=279)	163 (58.4)	134 (48.0)	29 (10.4)	116 (41.6)	107 (38.4)	9 (3.2)
DLQI=0/1 (N=304)[b]	219 (72.0)	184 (60.5)	35 (11.5)	85 (28.0)	75 (24.7)	10 (3.3)
Bio-naïve (N=174)	130 (74.7)	111 (63.8)	19 (10.9)	44 (25.3)	37 (21.3)	7 (4.0)
Bio-experienced (N=130)	89 (68.5)	73 (56.2)	16 (12.3)	41 (31.5)	38 (29.2)	3 (2.3)
PASI ≤2 (N=671)[b]	429 (63.9)	343 (51.1)	86 (12.8)	242 (36.1)	208 (31.0)	34 (5.1)
Bio-naïve (N=347)	244 (70.3)	196 (56.5)	48 (13.8)	103 (29.7)	87 (25.1)	16 (4.6)
Bio-experienced (N=324)	185 (57.1)	147 (45.4)	38 (11.7)	139 (42.9)	121 (37.3)	18 (5.6)

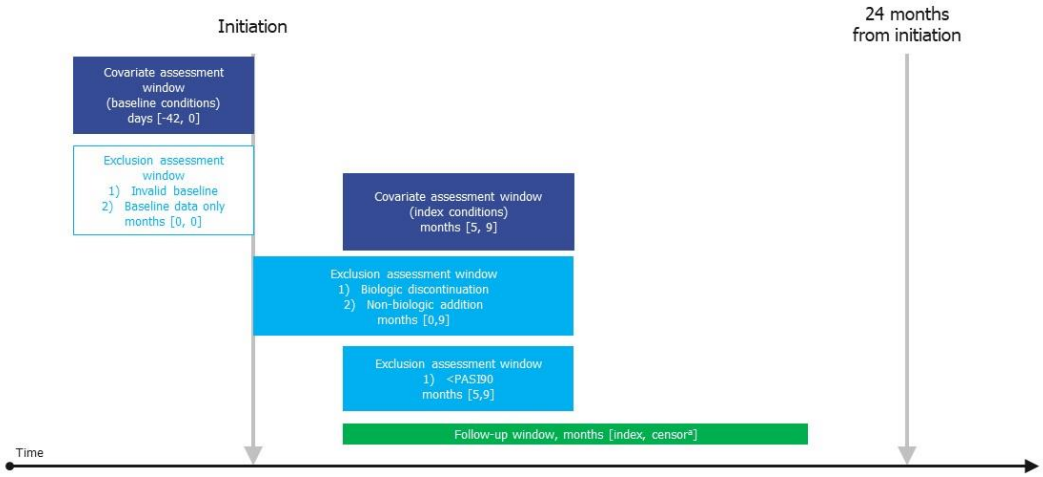
[a]See **Supplementary Table S2** for definitions; [b]Patients with BSA ≤1% and DLQI ≤5 at baseline were excluded from each respective description. BSA: body surface area; DLQI: Dermatology Life Quality Index; PASI: Psoriasis Area and Severity Index.

Supplementary Table S4. Frequencies and time to treatment events for patients achieving PASI90 at index

		Overall (N=687)		Bio-naïve (N=357)		Bio-experienced (N=330)	
		n (%)	Months from index, median (Q1, Q3)[a]	n (%)	Months from index, median (Q1, Q3)[a]	n (%)	Months from index, median (Q1, Q3)[a]
No loss of treatment response	**Persistence**[b]	351 (51.1)	-	201 (56.3)	-	150 (45.5)	-
	Non-failure discontinuation[b]	22 (3.2)	10.5 (6.4, 19.4)	13 (3.6)	10.7 (6.4, 19.4)	9 (2.7)	10.3 (6.4, 17.8)
	Fear of future side effect	2 (0.3)	8.2 (6.4, 9.9)	2 (0.6)	8.2 (6.4, 9.9)	0 (0.0)	-
	Temporary interruption	5 (0.7)	3.4 (1.0, 10.7)	2 (0.6)	7.1 (3.4, 10.7)	3 (0.9)	1 (0.0, 17.8)
	Patient request	2 (0.3)	15.6 (11.7, 19.4)	1 (0.3)	19.4 (19.4, 19.4)	1 (0.3)	11.7 (11.7, 11.7)
	Administrative	3 (0.4)	20.4 (0.9, 24.0)	2 (0.6)	10.7 (0.9, 20.4)	1 (0.3)	24 (24.0, 24.0)
	Missing	1 (0.1)	6.4 (6.4, 6.4)	0 (0.0)	-	1 (0.3)	6.4 (6.4, 6.4)
	Other	9 (1.3)	11.9 (8.3, 19.9)	6 (1.7)	14.8 (6.9, 19.9)	3 (0.9)	10.3 (8.3, 24.0)
Loss of treatment response	**Loss of PASI90**	287 (41.8)	0 (0.0, 6.0)	129 (36.1)	0 (0.0, 6.5)	158 (47.9)	0 (0.0, 5.8)
	Treatment failure[b]	27 (3.9)	5.6 (2.8, 9.1)	14 (3.9)	5.5 (3.8, 9.1)	13 (3.9)	5.6 (2.8, 8.5)
	Side effect (minor, serious)	4 (0.6)	4.7 (2.4, 8.7)	3 (0.8)	3.8 (1.0, 11.7)	1 (0.3)	5.6 (5.6, 5.6)
	Poor efficacy	16 (2.3)	6.7 (3.4, 9.3)	6 (1.7)	5.9 (3.9, 8.2)	10 (3.0)	7.3 (2.8, 12.0)
	Alternative MOA	2 (0.3)	2.4 (0.0, 4.8)	0 (0.0)	-	2 (0.6)	2.4 (0.0, 4.8)
	Start of new systemic non-biologic therapy	5 (0.7)	5.2 (5.1, 9.1)	5 (1.4)	5.2 (5.1, 9.1)	0 (0.0)	-

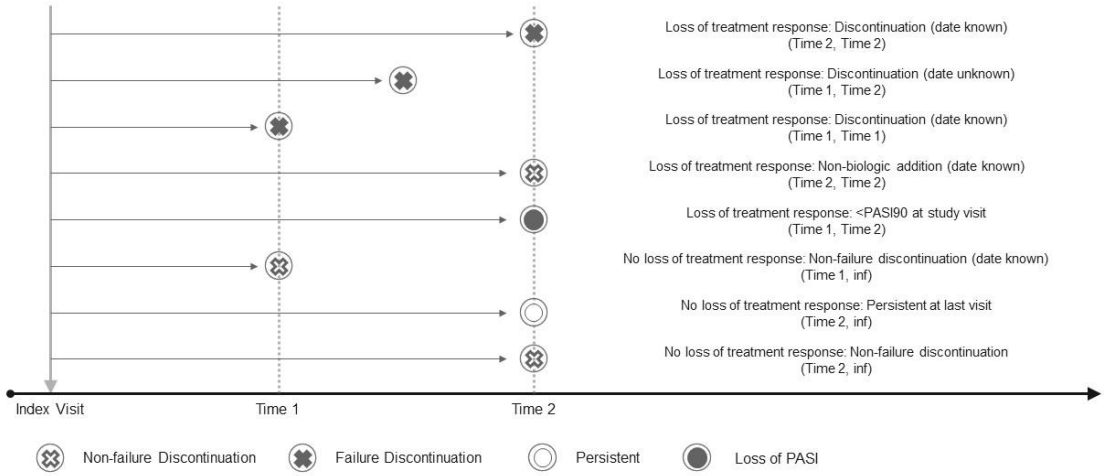
[a]Median and first and third quartiles were reported using the lower bound in patients that had an interval censored time until loss of treatment; [b]See (**Supplementary Table S2**) for definitions. MOA: mechanism of action; PASI: Psoriasis Area and Severity Index; Q1: first quartile; Q3: third quartile.

Supplementary Figure S1. Study design



[a]Any loss of treatment response, last follow-up visit, or 24 months after index visit, whichever occurred first.
PASI: Psoriasis Area and Severity Index.

Supplementary Figure S2. Time to treatment event examples[a]



[a]See **Supplementary Table S2** for definitions. Inf: infinity; PASI: Psoriasis Area and Severity Index.