Efficacy and Safety of Abrocitinib in Biologic-Exposed Versus Biologic-Naïve Patients With Moderate-to-Severe Atopic Dermatitis

Melinda Gooderham,[1] Bruce Strober,[2,3] Michael Ardern-Jones,[4] Emma Guttman-Yassky,[5] Mark Levenberg,[6] Gary Chan,[7] Pinaki Biswas,[8] Melissa Watkins[8]

[1]SKiN Centre for Dermatology, Peterborough, ON, Canada; [2]Yale University, New Haven, CT, USA; [3]Central Connecticut Dermatology Research, Cromwell, CT, USA; [4]University of Southampton, Southampton General Hospital, Southampton, United Kingdom; [5]Icahn School of Medicine at Mount Sinai, New York, NY, USA; [6]Pfizer Inc., Collegeville, PA, USA; [7]Pfizer Inc., Groton, CT, USA; [8]Pfizer Inc., New York, NY, USA

INTRODUCTION

- Treatment guidelines for moderate-to-severe atopic dermatitis (AD) include systemic immunosuppressants, such as cyclosporine and methotrexate, and dupilumab, a fully human monoclonal antibody that inhibits interleukin (IL)-4 and IL-13 cytokine-induced responses[1]
- Although dupilumab has shown efficacy in moderate-to-severe AD, less than half the patients who received dupilumab with or without concomitant topical corticosteroids in phase 2b and phase 3 trials achieved clear or almost clear skin[2-4]
- Abrocitinib, an oral once-daily Janus kinase 1–selective inhibitor, is approved for the treatment of patients with moderate-to-severe AD[5,6]
- It is unknown whether abrocitinib is an appropriate treatment option for patients who did not respond to previous treatment with a biologic agent (eg, dupilumab)

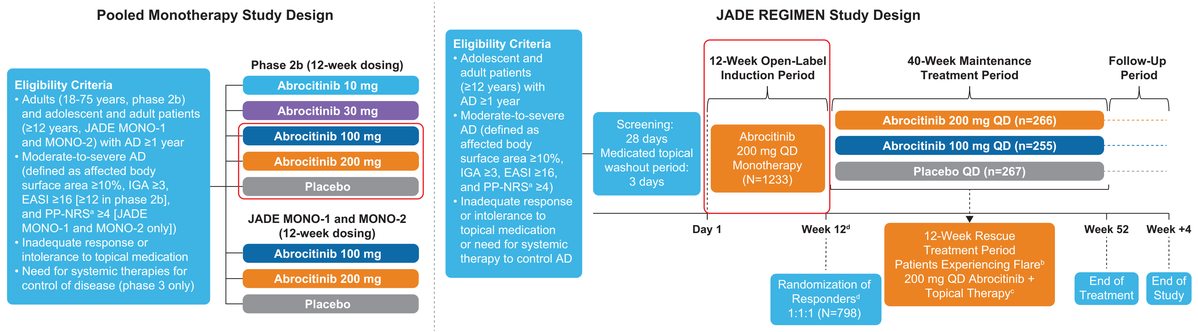
OBJECTIVE

- To evaluate, in a post hoc analysis, whether prior treatment with biologic therapy affects response to abrocitinib

METHODS

- Data from the phase 2b (NCT02780167)[7] and phase 3 JADE MONO-1 (NCT03349060)[8] and MONO-2 (NCT03575871)[9] studies were pooled and evaluated separately from the phase 3 JADE REGIMEN open-label induction phase (NCT03627767)[10] (**Figure 1**)
- No formal hypothesis testing was done

Figure 1. Study Design



AD, atopic dermatitis; EASI, Eczema Area and Severity Index; IGA, Investigator's Global Assessment; PP-NRS, Peak Pruritus Numerical Rating Scale; QD, once daily.
[a]© Regeneron Pharmaceuticals Inc. and Sanofi (2017).
[b]Definition of flare was the loss of response associated with decrease of at least 50% in EASI response at week 12 and IGA score ≥2.
[c]Topical therapy was permitted only during the rescue period and consisted of topical corticosteroids, calcineurin inhibitors, and crisaborole.
[d]Responder criteria at week 12 were defined as an IGA score 0/1 with ≥2-point reduction from baseline and ≥75% improvement from baseline in EASI.

RESULTS

Demographics and Patient Baseline Characteristics

- The analysis comprised 2012 bio-naïve patients and 153 patients previously treated with biologic therapy
- Overall, bio-experienced patients were older than those who were bio-naïve (**Table 1**)

Table 1. Demographics and Patient Baseline Characteristics of the Bio-Naïve and Bio-Experienced Subgroups

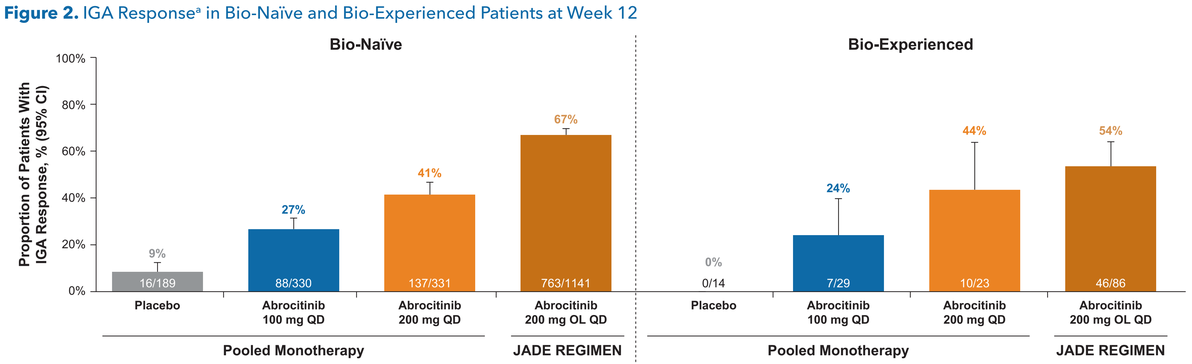
	Bio-Naïve				Bio-Experienced			
	Pooled Monotherapy			JADE REGIMEN	Pooled Monotherapy			JADE REGIMEN
	Placebo n=194	Abrocitinib 100 mg n=333	Abrocitinib 200 mg n=338	Abrocitinib 200 mg n=1147	Placebo n=14	Abrocitinib 100 mg n=30	Abrocitinib 200 mg n=23	Abrocitinib 200 mg n=86
Age, mean ± SD, y	35.0 ± 15.0	35.5 ± 15.9	33.9 ± 16.6	31.1 ± 14.8	38.2 ± 13.9	41.8 ± 14.2	38.1 ± 12.7	37.3 ± 15.2
Women, n (%)	87 (45)	144 (43)	156 (46)	504 (44)	5 (36)	7 (23)	8 (35)	45 (52)
Duration of disease, mean ± SD, y	23.7 ± 15.1	23.1 ± 16.0	21.7 ± 15.0	20.0 ± 14.2	20.8 ± 16.8	32.3 ± 15.6	27.1 ± 15.8	27.9 ± 17.5
%BSA, mean ± SD	46.8 ± 22.3	48.3 ± 22.3	47.2 ± 23.6	48.3 ± 21.5	33.6 ± 14.5	51.4 ± 24.5	46.9 ± 25.6	47.9 ± 23.0
IGA score of 4, n (%)	73 (38)	125 (38)	118 (35)	464 (41)	5 (36)	13 (43)	13 (57)	40 (47)
EASI, mean ± SD	27.9 ± 12.1	29.3 ± 12.4	28.8 ± 13.3	31.0 ± 12.2	24.1 ± 6.7	29.6 ± 10.6	31.5 ± 15.0	31.0 ± 13.0

%BSA, percentage of body surface area; EASI, Eczema Area and Severity Index; IGA, Investigator's Global Assessment.

Investigator's Global Assessment Response at Week 12

- At week 12, the proportions of patients achieving an Investigator's Global Assessment (IGA) score 0/1 response were found to be greater among both abrocitinib treatment groups than with placebo, regardless of prior use of biologic therapy (**Figure 2**)

Figure 2. IGA Response[a] in Bio-Naïve and Bio-Experienced Patients at Week 12

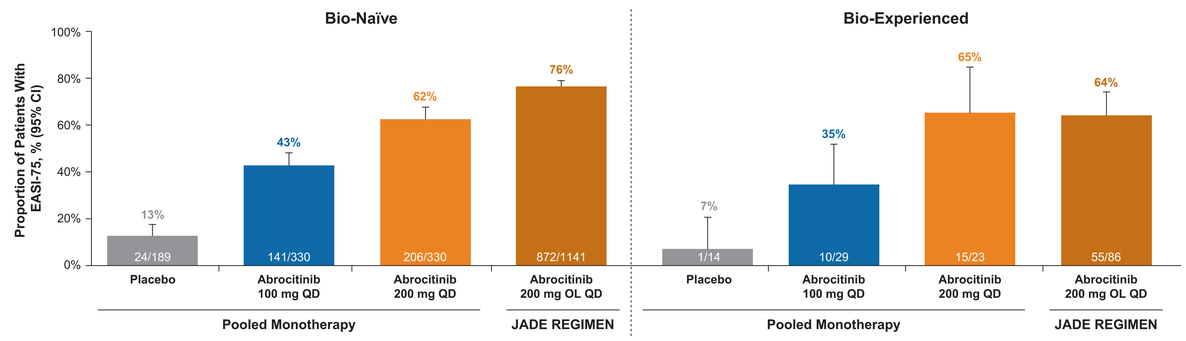


IGA, Investigator's Global Assessment; OL, open label; QD, once daily.
Study participants with missing responder data were considered nonresponders.
[a]IGA response was defined as IGA score of 0/1 with ≥2-point improvement from baseline.

75% Improvement or More From Baseline in Eczema Area and Severity Index Response at Week 12

- At week 12, the proportions of patients achieving ≥75% improvement from baseline in EASI (EASI-75) response were greater with abrocitinib than with placebo, regardless of prior use of biologic therapy (**Figure 3**)

Figure 3. EASI-75 Response in Bio-Naïve and Bio-Experienced Patients at Week 12



EASI-75, ≥75% improvement in Eczema Area and Severity Index; OL, open label; QD, once daily.
Study participants with missing responder data were considered nonresponders.

Safety Profile

- The safety profile of abrocitinib in bio-naïve and bio-experienced patients was consistent with the safety profile observed in pivotal trials[7-9] (**Table 2**)

Table 2. Adverse Events[a] in Pooled Monotherapy Trials and JADE REGIMEN

	Bio-Naïve				Bio-Experienced			
	Pooled Monotherapy			JADE REGIMEN	Pooled Monotherapy			JADE REGIMEN
	Placebo n=195	Abrocitinib 100 mg n=334	Abrocitinib 200 mg n=338	Abrocitinib 200 mg n=1147	Placebo n=14	Abrocitinib 100 mg n=30	Abrocitinib 200 mg n=23	Abrocitinib 200 mg n=86
Patients with AE, n (%)	109 (56)	225 (67)	245 (73)	763 (67)	8 (57)	21 (70)	17 (74)	57 (66)
Patients with SAE, n (%)	6 (3)	11 (3)	9 (3)	18 (2)	0 (0)	2 (7)	0 (0)	2 (2)
Patients with severe AE, n (%)	16 (8)	21 (6)	15 (4)	35 (3)	0 (0)	3 (10)	0 (0)	3 (4)
Patients discontinued from study due to AE,[b] n (%)	25 (13)	22 (7)	21 (6)	46 (4)	1 (7)	5 (17)	1 (4)	4 (5)
AEs occurring in ≥2% of abrocitinib-treated participants in pooled or REGIMEN data sets, n (%)								
Acne	0 (0)	3 (1)	13 (4)	62 (5)	<2%	<2%	<2%	6 (7)
Atopic dermatitis	31 (16)	30 (9)	19 (6)	42 (4)	1 (7)	7 (23)	2 (9)	5 (6)
Diarrhea	5 (3)	6 (2)	11 (3)	27 (2)	1 (7)	0 (0)	1 (4)	5 (6)
Headache	6 (3)	25 (8)	27 (8)	109 (10)	0 (0)	1 (3)	3 (13)	10 (12)
Nasopharyngitis	17 (9)	51 (15)	30 (9)	73 (6)	1 (7)	2 (7)	6 (26)	4 (5)
Nausea	4 (2)	25 (8)	55 (16)	181 (16)	0 (0)	2 (7)	5 (22)	18 (21)
Upper abdominal pain	0 (0)	1 (0.3)	8 (2)	31 (3)	0 (0)	2 (7)	1 (4)	2 (2)
Upper respiratory tract infection	11 (6)	25 (8)	20 (6)	59 (5)	1 (7)	3 (10)	1 (4)	4 (5)

AE, adverse event; SAE, serious adverse event.
[a]Data up to 28 days after last dose of study.
[b]Patients whose AE record indicated that the AE caused the individual to be discontinued from the study.

CONCLUSIONS

- In this post hoc analysis, both the efficacy and the safety profiles of abrocitinib were consistent in patients with moderate-to-severe AD, regardless of prior biologic therapy use
- Analysis of previous biologic use did not reveal any new safety signals
- A key limitation of this analysis is its post hoc nature
- Results of this post hoc analysis support the use of abrocitinib in patients with moderate-to-severe AD who might have received prior biologic therapy
- Confirmation of these findings in a large, prospective, long-term study is warranted

REFERENCES

1. Wollenberg A et al. *J Eur Acad Dermatol Venereol*. 2018;32(6):850-878.
2. Simpson EL et al. *N Engl J Med*. 2016;375(24):2335-2348.
3. Blauvelt A et al. *Lancet*. 2017;389(10086):2287-2303.
4. Thaçi D et al. *Lancet*. 2016;387(10013):40-52.
5. Cibinqo (abrocitinib) tablets. Prescribing information. Pfizer Inc.; January 2022.
6. Cibinqo (abrocitinib). Summary of product characteristics. European Medicines Agency; December 17, 2021.
7. Gooderham MJ et al. *JAMA Dermatol*. 2019;155(12):1371-1379.
8. Simpson EL et al. *Lancet*. 2020;396(10246):255-266.
9. Silverberg JI et al. *JAMA Dermatol*. 2020;156(8):863-873.
10. Blauvelt A et al. *J Am Acad Dermatol*. 2022;86(1):104-112.

DISCLOSURES

MG has received grants, personal fees, honoraria, and/or nonfinancial support from Pfizer Inc., AbbVie, Amgen, Akros Pharma, Arcutis, Bausch Health (Valeant), Bristol Myers Squibb, Boehringer Ingelheim, Celgene, Dermira, Eli Lilly and Company, Galderma, Janssen, Kyowa Kirin, LEO Pharma, MedImmune, Merck, Novartis, Roche, Sanofi Genzyme, Regeneron, Sun Pharma, and UCB.

BS has received honoraria as a consultant, advisory board member, and/or speaker for Pfizer Inc., AbbVie, Almirall, Amgen, Boehringer Ingelheim, Bristol Myers Squibb, Celgene, Dermavant, Dermira, Eli Lilly and Company, GlaxoSmithKline, Janssen, LEO Pharma, Medac Pharma, Meiji Seika Pharma, Menlo Therapeutics, Novartis, Ortho Dermatologics/Valeant, Regeneron Pharmaceuticals, Sebela Pharmaceuticals, Sirtris, Sun Pharma, Sanofi Genzyme, and UCB.

MA-J is a speaker, consultant, advisor, and research collaborator for Pfizer Inc., AbbVie, Amgen, Duentes, Hosei Septares, LEO Pharma, Sanofi Genzyme, and Unilever.

EG-Y is an advisory board member for Pfizer Inc., Asana Biosciences (honorarium), Celgene, Dermira, Galderma, Glenmark, Medimmune, Novartis, Regeneron, Sanofi, Stiefel/GlaxoSmithKline, and Vitae; is a consultant for Pfizer Inc., AbbVie, Almirall (honorarium), Anacor, Asana Biosciences, Celgene, Dermira Galderma, Eli Lilly and Company, Glenmark, Kiowa Kirin, LEO Pharma, Medimmune, Mitsubishi Tanabe, Novartis, Regeneron, Sanofi, Stiefel/GlaxoSmithKline, and Vitae; and is an investigator for Celgene, LEO Pharma, Medimmune, Regeneron, and Eli Lilly and Company (grants to institution).

ML, **GC**, **PB**, and **MW** are employees and shareholders of Pfizer Inc.

ACKNOWLEDGMENTS

Editorial/medical writing support under the guidance of the authors was provided by Vojislav Pejović, PhD, and Renata Cunha, PharmD, at ApotheCom, San Francisco, CA, USA, and was funded by Pfizer Inc., New York, NY, USA, in accordance with Good Publication Practice (GPP3) guidelines (*Ann Intern Med*. 2015;163:461-464).

This study was sponsored by Pfizer Inc.

Copies of this poster and supplemental information, which can be obtained through this QR code, are for your personal use only and may not be reproduced without permission from the authors.

Scan to download a reprint of this poster