Integrated Safety Analysis of Abrocitinib in 3850 Patients With Moderate-To-Severe Atopic Dermatitis: Data From More Than 9600 Patient-Years With Up to 6.5 Years of Exposure

Eric L. Simpson,[1] Alan D. Irvine,[2] Jan Gutermuth,[3,4] H. Chih-Ho Hong,[5] Raj Chovatiya,[6,7] Emma Guttman-Yassky,[8] Haiyun Fan,[9] Gary Chan,[10] Cristina Lumpan,[11] Justine Alderfer,[9] Herwig Koppensteiner[12]

[1]Oregon Health & Science University, Portland, OR, USA; [2]Clinical Medicine, School of Medicine, Trinity College Dublin, Dublin, Ireland; [3]Skin Immunology & Immune Tolerance (SKIN) Research Group, Vrije Universiteit Brussel, Brussels, Belgium; [4]Universitair Ziekenhuis Brussel, Vrije Universiteit Brussel, Brussels, Belgium; [5]University of British Columbia, Vancouver, BC, Canada; [6]Chicago Medical School, Rosalind Franklin University of Medicine and Science, North Chicago, IL, USA; [7]Center for Medical Dermatology + Immunology Research, Chicago, IL, USA; [8]Icahn School of Medicine at Mount Sinai, New York, NY, USA; [9]Pfizer Inc., Collegeville, PA, USA; [10]Pfizer Inc., Groton, CT, USA; [11]Pfizer B.V., Capelle aan den IJssel, the Netherlands; [12]Pfizer Corporation Austria GmbH, Vienna, Austria

BACKGROUND

- Atopic dermatitis (AD) is a common, chronic, inflammatory skin disorder that is characterised by recurrent eczematous skin lesions and pruritus with heterogenous skin manifestations, symptoms, and severity[1,2]
  - Increasing evidence supports an association between AD and cardiovascular disease[3,4]
- Abrocitinib is an oral, once-daily, selective Janus kinase (JAK) 1 inhibitor approved for the treatment of adults and adolescents with moderate-to-severe AD[5-7]
  - In the JADE phase 3 clinical trials, abrocitinib 200 mg or 100 mg was efficacious and well tolerated as monotherapy[8-10] or in combination with medicated topical therapies[10-12]
  - Previous analyses of long-term abrocitinib safety using integrated data from 3802 patients with 5213.9 patient-years (PY) and a cumulative exposure of ≤4 years have demonstrated that abrocitinib has a manageable safety profile[13]
    - Risks of specific adverse events (AEs) were higher in patients aged ≥65 years[13]

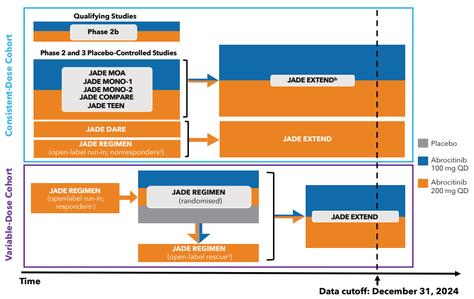
OBJECTIVE

- To update risk estimates using longer-term data for AEs of interest and to further explore the role of age and smoking as AE risk factors using data from 3850 patients with abrocitinib exposure of up to ~6.5 years from a December 2024 data cut

METHODS

- The analysis included patients from eight phase 2 and 3 parent trials—phase 2b (NCT02780167), JADE MONO-1 (NCT03349060), JADE MONO-2 (NCT03575871), JADE REGIMEN (NCT03627767), JADE COMPARE (NCT03720470), JADE TEEN (NCT03796676), JADE MOA (NCT03915496), and JADE DARE (NCT04345367)—and 1 long-term extension trial (JADE EXTEND [NCT03422822]; data cutoff: December 31, 2024) (**Figure 1**)
- Patients who received ≥1 dose of abrocitinib 200 mg or 100 mg were pooled for analysis in 2 separate cohorts: (1) a consistent-dose cohort and (2) a variable-dose cohort

Figure 1. Study Design and Cohorts



EASI, Eczema Area and Severity Index; IGA, Investigator's Global Assessment; QD, once daily.

JADE EXTEND (NCT03422822) is an ongoing trial. Qualifying parent trials included the phase 2a JADE MOA (NCT03915496) and phase 2b (NCT02780167) trials and the phase 3 JADE MONO-1 (NCT03349060), JADE MONO-2 (NCT03575871), JADE REGIMEN (NCT03627678), JADE TEEN (NCT03796676), JADE COMPARE (NCT03720470), and JADE DARE (NCT04345367) trials.

[a]Patients who did not achieve an IGA score of 0 (clear) or 1 (almost clear) with a ≥2-grade improvement from baseline and ≥75% improvement from baseline in EASI after 12 weeks of treatment with abrocitinib 200 mg.

[b]Includes patients who received their first dose of abrocitinib (200 mg or 100 mg) in JADE EXTEND after receiving placebo in a phase 3 placebo-controlled trial (MONO-1, MONO-2, COMPARE, TEEN, MOA) or dupilumab in JADE COMPARE or JADE DARE, as well as patients who first received abrocitinib in a qualifying phase 3 trial.

[c]Patients in the open-label run-in period who were considered responders (IGA score of 0 [clear] or 1 [almost clear] with a ≥2-grade improvement from baseline and ≥75% improvement from baseline in EASI) after 12 weeks of treatment with abrocitinib 200 mg were randomly assigned to treatment with abrocitinib 200 mg, abrocitinib 100 mg, or placebo.

[d]Patients who experienced a flare (≥50% loss of Week 12 EASI response and new IGA score ≥2) during the maintenance period of JADE REGIMEN entered a 12-week open-label rescue period (abrocitinib 200 mg + topical medicated treatment).

- Incidence rates (IRs; number of patients with events per 100 PY) for AEs of special interest (AESIs) were assessed in patients stratified by baseline age category and smoking status

RESULTS

Patient Populations

- This analysis included data from 3850 patients representing a total of 9655.4 PY of abrocitinib exposure (**Table 1**)
  - The majority of patients were 18 to <65 years and the overall mean (SD) age of the consistent- and variable-dose cohort were 33.5 (15.6) and 32.1 (14.8) years, respectively
    - In the consistent-dose cohort a total of 5.0% and 1.0% of patients were ≥65 years and ≥75 years, respectively, and 3.8% and 0.4% of patients were in the variable-dose cohort, respectively
  - The majority of patients (~70%) were non-smokers across the consistent- and variable-dose cohorts
  - Of all 3052 abrocitinib-treated patients in the consistent-dose cohort, 368 (12.1%), 73 (2.4%), and 26 (0.9%) had baseline hypertension, diabetes mellitus, or a history of coronary artery disease, respectively
  - Of the 798 patients in the variable-dose cohort, 85 (10.7%), 16 (2.0%), and 6 (0.8%) had baseline hypertension, diabetes mellitus, and a history of coronary artery disease, respectively
- The duration of treatment across patient arms was 1-2401 days in the overall consistent-dose cohort and 89-2281 days in the variable-dose cohort

Table 1. Demographics and Baseline Disease Characteristics

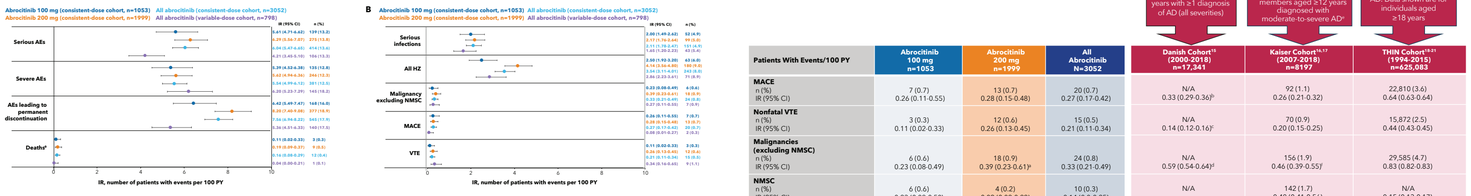
Characteristic	Consistent-Dose Cohort			Variable-Dose Cohort
	Abrocitinib 100 mg QD (n=1053; 2566.9 PY)	Abrocitinib 200 mg QD (n=1999; 4508.1 PY)	All abrocitinib (n=3052; 7075.0 PY)	All abrocitinib (n=798; 2580.4 PY)
Age, years, mean (SD)	33.8 (16.1)	33.4 (15.4)	33.5 (15.6)	32.1 (14.8)
Age, years, median (Q1, Q3)	31.0 (21.0, 44.0)	29.0 (21.0, 43.0)	30.0 (21.0, 44.0)	29.0 (20.0, 41.0)
<18 years, n (%)	201 (19.1)	289 (14.5)	490 (16.1)	145 (18.2)
18 to <65 years, n (%)	795 (75.5)	1613 (80.7)	2408 (78.9)	623 (78.1)
≥65 years, n (%)	57 (5.4)	97 (4.9)	154 (5.0)	30 (3.8)
≥75 years, n (%)	11 (1.0)	20 (1.0)	31 (1.0)	3 (0.4)
Female, n (%)	478 (45.4)	928 (46.4)	1406 (46.1)	359 (45.0)
Race, n (%)				
White	737 (70.0)	1368 (68.4)	2105 (69.0)	621 (77.8)
Black or African American	65 (6.2)	140 (7.0)	205 (6.7)	33 (4.1)
Asian	231 (21.9)	429 (21.5)	660 (21.6)	124 (15.5)
American Indian or Alaska Native	7 (0.7)	12 (0.6)	19 (0.6)	7 (0.9)
Other	1 (0.1)	0	1 (<0.1)	0
Multiracial	6 (0.6)	24 (1.2)	30 (1.0)	10 (1.3)
Investigator's Global Assessment, %				
Moderate	62.6	59.0	60.2	63.7
Severe	37.4	41.0	39.8	36.3
Current/former smokers	308 (29.2)	603 (30.2)	911 (29.8)	197 (24.7)
Prior systemic therapy, n (%)				
Nonbiologic agents	382 (36.3)	866 (43.3)	1248 (40.9)	431 (54.0)
Corticosteroids	297 (28.2)	700 (35.0)	997 (32.7)	350 (43.9)
Cyclosporine	126 (12.0)	263 (13.2)	389 (12.7)	117 (14.7)
Other	85 (8.1)	175 (8.8)	260 (8.5)	79 (9.9)
Biologic agents	49 (4.7)	94 (4.7)	143 (4.7)	44 (5.5)
Dupilumab	28 (2.7)	51 (2.6)	79 (2.6)	32 (4.0)
Other	22 (2.1)	48 (2.4)	70 (2.3)	15 (1.9)
Hypertension, n (%)	131 (12.4)	237 (11.9)	368 (12.1)	85 (10.7)
Diabetes mellitus, n (%)	28 (2.7)	45 (2.3)	73 (2.4)	16 (2.0)
History of CAD, n (%)	9 (0.9)	17 (0.9)	26 (0.9)	6 (0.8)
Baseline HDL <40 mg/dL, n (%)	95 (9.0)	245 (12.3)	340 (11.1)	104 (13.0)
Baseline LDL ≥130 mg/dL, n (%)	174 (16.5)	316 (15.8)	490 (16.1)	115 (14.4)

CAD, coronary artery disease; HDL, high-density lipoprotein; LDL, low-density lipoprotein; PY, patient-years; Q, quartile; QD, once daily.

Serious AEs, AEs Leading to Study Discontinuation, and Deaths

- IRs of serious and severe AEs were generally low (**Figure 2A**)
  - IRs for AESIs were comparable between the consistent- and variable-dose cohorts (**Figure 2B**); in the consistent-dose cohort, abrocitinib 200 mg had numerically greater or greater IR (with overlapping CIs) than abrocitinib 100 mg for all herpes zoster

Figure 2. IRs of **(A)** Serious and Severe AEs, AEs Leading to Discontinuation, and Deaths and **(B)** AESIs

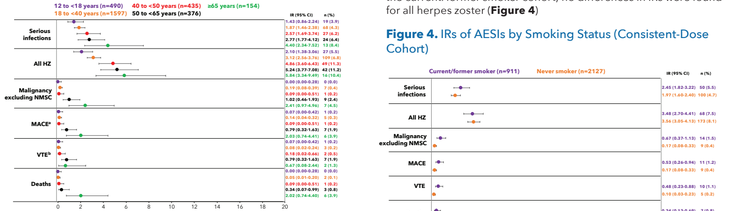


AESI, adverse event of special interest; HZ, herpes zoster; IR, incidence rate; MACE, major adverse cardiovascular event; NMSC, nonmelanoma skin cancer; PY, patient-year; VTE, venous thromboembolism.

[a]A total of 13 deaths occured, 6 of which were not previously reported[13,14]: 1 in the abrocitinib 100-mg consistent-dose cohort (stage 3 hepatic cancer, n=1), 4 in the abrocitinib 200-mg consistent-dose cohort (acute heart and respiratory failure, n=1; stroke with a preceding COVID-19 infection, n=1; suicide, n=1; myocardial infarction, n=1), and 1 in the abrocitinib variable-dose cohort (lung cancer, n=1). All deaths were considered not related to abrocitinib; all patients were current or former smokers at the time of death.

- In the consistent-dose cohort, IRs for all AESIs increased in older groups (eg, ≥65 years; **Figure 3**)

Figure 3. IRs of AESIs by Age (Consistent-Dose Cohort)



AESI, adverse event of special interest; HZ, herpes zoster; IR, incidence rate; MACE, major adverse cardiovascular event; NMSC, nonmelanoma skin cancer; PY, patient-year; VTE, venous thromboembolism.

AESIs were stratified by patient baseline age: 12 to <18 years, 18 to <65 years, and ≥65 years.

[a]1 MACE was previously reported in a 16-year-old Asian male patient with ongoing atopic dermatitis, gout, and hypercuricaemia (treated with febuxostat) in the abrocitinib 100-mg group; an incidental finding of slight lacunar white matter degeneration on the right ventricle was adjudicated as an ischaemic stroke based on magnetic resonance imaging despite no report of clinical syndrome concerning stroke; stroke was not suspected, and the event was not considered serious.[13]

[b]1 nonfatal pulmonary embolism was previously reported in a 16-year-old Black/African American male patient with morbid obesity in the abrocitinib 200-mg group; the patient had an extensive family history of pulmonary embolism, including an 18-year-old brother with pulmonary embolism.[14]

- In the consistent-dose cohort, IRs for major adverse cardiovascular event (MACE), venous thromboembolism (VTE), and malignancies (excluding nonmelanoma skin cancer [NMSC]) generally reflected the rates of these events in real-world studies in patients with AD (**Figure 5**)

Figure 5. IRs of AESIs in Patients With AD in the Consistent-Dose Cohort and Population-Based Cohort Studies

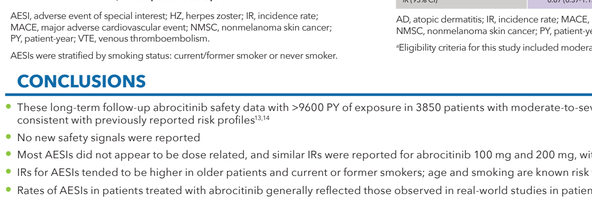
Patients With Events/100 PY	Abrocitinib 100 mg n=1053	Abrocitinib 200 mg n=1999	All Abrocitinib N=3052	Danish Cohort[15] (2000-2018) n=17,341	Kaiser Cohort[16,17] (2007-2018) n=8197	THIN Cohort[18,21] (1994-2015) n=625,083
MACE						
n (%)	7 (0.7)	13 (0.7)	20 (0.7)	N/A	92 (1.1)	22,810 (3.6)
IR (95% CI)	0.26 (0.11-0.55)	0.28 (0.15-0.48)	0.27 (0.17-0.42)	0.33 (0.29-0.36)[b]	0.26 (0.21-0.32)	0.64 (0.63-0.64)
Nonfatal VTE						
n (%)	3 (0.3)	12 (0.6)	15 (0.5)	N/A	70 (0.9)	15,872 (2.5)
IR (95% CI)	0.11 (0.02-0.33)	0.26 (0.13-0.45)	0.21 (0.11-0.34)	0.14 (0.12-0.16)[c]	0.20 (0.15-0.25)	0.44 (0.43-0.45)
Malignancies (excluding NMSC)						
n (%)	6 (0.6)	18 (0.9)	24 (0.8)	N/A	156 (1.9)	29,585 (4.7)
IR (95% CI)	0.23 (0.08-0.49)	0.39 (0.23-0.61)[a]	0.33 (0.21-0.49)	0.59 (0.54-0.64)[d]	0.46 (0.39-0.55)[f]	0.83 (0.82-0.83)
NMSC						
n (%)	6 (0.6)	4 (0.2)	10 (0.3)	N/A	142 (1.7)	N/A
IR (95% CI)	0.23 (0.08-0.50)	0.09 (0.02-0.22)	0.14 (0.0-0.25)		0.48 (0.41-0.56)	0.15 (0.13-0.17)

AD, atopic dermatitis; AESI, adverse event of special interest; IR, incidence rate; MACE, major adverse cardiovascular event; N/A, not applicable (ie, the information was not available in the referenced manuscripts); NMSC, nonmelanoma skin cancer; PY, patient-year; VTE, venous thromboembolism.

[a]One event occurred in the abrocitinib 200-mg group: gastric adenocarcinoma occurred early in the treatment period, and symptoms were present prior to study treatment. [b]Includes patients with overall risk factors for MACE. [c]Includes patients with and without a history of VTE. [d]In adult patients with overall risk factors for malignancy. [e]Eligibility criteria for this study included moderate-to-severe AD from recent AD clinical trial programs. [f]Includes patients with moderate AD.

- IRs of AESIs of serious infections, MACE, VTE, and death were numerically higher with overlapping CIs in current/former smokers vs never smokers in the consistent-dose cohort, with the exception of malignancy excluding NMSC, which was significantly higher in the current/former smoker cohort; no differences in IRs were found for all herpes zoster (**Figure 4**)

Figure 4. IRs of AESIs by Smoking Status (Consistent-Dose Cohort)



AESI, adverse event of special interest; HZ, herpes zoster; IR, incidence rate; MACE, major adverse cardiovascular event; NMSC, nonmelanoma skin cancer; PY, patient-year; VTE, venous thromboembolism.

AESIs were stratified by smoking status: current/former smoker or never smoker.

- In the consistent-dose cohort, IRs for major adverse cardiovascular event (MACE), venous thromboembolism (VTE), and malignancies (excluding nonmelanoma skin cancer [NMSC]) generally reflected the rates of these events in real-world studies in patients with AD (**Figure 5**)

Figure 6. IRs of AESIs by Smoking Status in Patients With AD in the Consistent-Dose Cohort and Population-Based Cohort Studies

Abrocitinib Patients With Events/100 PY	Current/former smoker (n=911)	Never smoker (n=2127)	Kaiser Cohort[a] (2007-2018) n=8197 Current smoker (n=462)	Kaiser Cohort[a] (2007-2018) n=8197 Former smoker (n=1085)	Kaiser Cohort[a] (2007-2018) n=8197 Never smoker (n=4737)	THIN Cohort[a] (1994-2015) n=625,083 Current/former smoker (n=278,072)	THIN Cohort[a] (1994-2015) n=625,083 Never smoker (n=304,818)
MACE							
n (%)	11 (1.2)	9 (0.4)	N/A	N/A	N/A	N/A	N/A
IR (95% CI)	0.53 (0.26-0.96)	0.17 (0.08-0.33)	0.52 (0.27-0.99)	0.43 (0.27-0.69)	0.18 (0.13-0.25)		
Nonfatal VTE							
n (%)	10 (1.1)	5 (0.2)	N/A	N/A	N/A	N/A	N/A
IR (95% CI)	0.48 (0.23-0.88)	0.10 (0.03-0.23)	0.11 (0.03-0.44)	0.34 (0.20-0.58)	0.2 (0.14-0.28)		
Malignancies (excluding NMSC)							
n (%)	14 (1.5)	9 (0.4)	N/A	N/A	N/A	N/A	N/A
IR (95% CI)	0.67 (0.37-1.13)	0.17 (0.08-0.33)				0.12 (0.10-0.14)	0.14 (0.10-0.19)

AD, atopic dermatitis; IR, incidence rate; MACE, major adverse cardiovascular event; N/A, not applicable (ie, the information was not available in the referenced manuscripts); NMSC, nonmelanoma skin cancer; PY, patient-year; VTE, venous thromboembolism.

[a]Eligibility criteria for this study included moderate-to-severe AD from recent AD clinical trial programs.

- The numerically higher IRs for several AESIs in smokers is in line with real-world studies, in which current or former smoking status has been associated with increased risk of cardiovascular events in patients with moderate-to-severe AD; associations between severe AD and lung cancer remained similar with stratification by smoking status (**Figure 6**)

CONCLUSIONS

- These long-term follow-up abrocitinib safety data with >9600 PY of exposure in 3850 patients with moderate-to-severe AD with up to 6.5 years of exposure were consistent with previously reported risk profiles[13,14]
- No new safety signals were reported
- Most AESIs did not appear to be dose related, and similar IRs were reported for abrocitinib 100 mg and 200 mg, with the exception of herpes zoster
- IRs for AESIs tended to be higher in older patients and current or former smokers; age and smoking are known risk factors for many AESIs included in this analysis
- Rates of AESIs in patients treated with abrocitinib generally reflected those observed in real-world studies in patients with AD[15-21]

CONTACT INFORMATION:

Contact Alan D. Irvine at irvinea@tcd.ie for questions or comments.

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

REFERENCES

1. Langan SM et al. *Lancet*. 2020;396:345-360.
2. Margolis JS et al. *JAMA Dermatol*. 2014;150:593-600.
3. Ascott A et al. *J Allergy Clin Immunol*. 2019;143:1821-1829.
4. Davis DMR et al. *J Am Acad Dermatol*. 2022;86:1335-1336.e18.
5. Cibinqo (abrocitinib). Summary of product characteristics. Pfizer; 2021.
6. Cibinqo (abrocitinib). Summary of product characteristics. Pfizer Europe MA EEIG; 2024.
7. Cibinqo (abrocitinib). Prescribing information. Pfizer; 2023.
8. Silverberg JI et al. *JAMA Dermatol*. 2020;156:863-873.
9. Simpson EL et al. *Lancet*. 2020;396:255-266.
10. Blauvelt A et al. *J Am Acad Dermatol*. 2022;86:104-112.
11. Bieber T et al. *N Engl J Med*. 2021;384:1101-1112.
12. Eichenfield LF et al. *JAMA Dermatol*. 2021;157:1165-1173.
13. Simpson EL et al. *Am J Clin Dermatol*. 2024;25:639-654.
14. Simpson EL et al. *Am J Clin Dermatol*. 2021;22:693-707.
15. Egeberg A et al. *J Allergy Clin Immunol Glob*. 2024;3:100338.
16. Hedderson MM et al. *PLoS One*. 2022;17:e0277469.
17. Hedderson MM et al. *BMJ Open*. 2023;13:e071172.
18. Wan J et al. *Br J Dermatol*. 2023;189:53-61.
19. Wan J et al. *J Allergy Clin Immunol Pract*. 2023;11:3123-3132 e3.
20. Pfizer. Data on file.
21. Arana A et al. *Br J Dermatol*. 2010;163:1036-1043.

ACKNOWLEDGMENTS

Support for third-party writing assistance for this poster, furnished by writer Samantha O'Dwyer, PhD, of Nucleus Global, was provided by Pfizer, Inc. This poster was developed in accordance with Good Publication Practice (GPP 2022) guidelines. Authors had full control of the content and made the final decision on all aspects of this publication.

Pfizer's generative artificial intelligence (AI) assisted technology, MAIA (Medical Artificial Intelligence Assistant), was used in the production of this poster. After using this tool/service, the authors reviewed and edited the content as needed, and they take full responsibility for the content of this publication.

Previously presented at the European Academy of Dermatology & Venereology Conference; September 17-20, 2025; Paris, France.
Presented at Fall Clinical Dermatology Conference, October 23-26, 2025; Las Vegas, Nevada.