Baricitinib Treatment Increases Eyebrow and Eyelash Regrowth Up to 52 Weeks



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OBJECTIVE

■ To evaluate efficacy of baricitinib in eyebrow and eyelash regrowth from baseline through 52 weeks in BRAVE-AA1 and BRAVE-AA2 trials

CONCLUSIONS

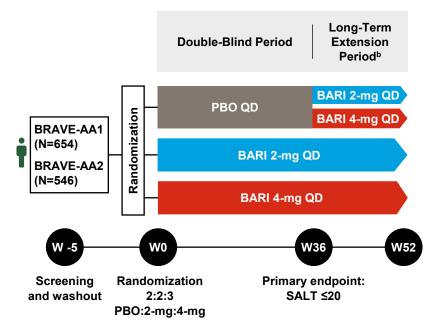
- The proportion of patients experiencing regrowth of eyebrow and eyelash on baricitinib vs. PBO was statistically significant as early as:
 - Week 4 for eyebrow and Week 8 for eyelash among patients on baricitinib 4-mg
 - Week 8 for eyebrow and eyelash among patients on baricitinib 2-mg
- In the baricitinib 4-mg group, approximately 60% of patients had improvements in eyebrow and eyelash regrowth at Week 36, and this continued to increase to approximately 70% by Week 52
- While baricitinib has demonstrated significant efficacy in regrowth of scalp hair, these data demonstrate the holistic efficacy of baricitinib also in regrowing eyebrows and eyelashes
- These data across multiple timepoints can help inform healthcare practitioners about expectations for eyebrow and eyelash regrowth with baricitinib treatment up to 1 year

BACKGROUND

- AA is an autoimmune disease characterized by unpredictable hair loss that can range from a single bald patch to total scalp or body hair loss, including the scalp, eyebrows, and eyelashes^{1,2}
- Baricitinib is an oral JAK inhibitor that has demonstrated efficacy in patients with severe AA in 2 Phase 2/3 randomized, double-blind, placebo-controlled trials, BRAVE-AA1 (NCT03570749) and BRAVE-AA2 (NCT03899259),³ and is approved for scalp hair, eyebrow, and eyelash regrowth in patients with severe AA in the USA, Europe, and Japan
- Eyebrow and eyelash hair loss has been associated with physical and psychological distress to patients^{4,5}
 - Absence of eyelashes is associated with ocular irritation⁶
 - Eyebrows play an important role in emotional expression, communication, and identity⁷

STUDY DESIGN

BRAVE-AA1 and **BRAVE-AA2**^a



^a Figure is not the full study design; only the first year of both trials is shown;
^b Patients randomized to BARI (4-mg or 2-mg QD) at baseline retained their treatment allocation through Week 52, whereas PBO non-responders were rescued at Week 36

Example Photo Guides^c

Key Eligibility Criteria: BRAVE-AA1 and BRAVE-AA2

Inclusion

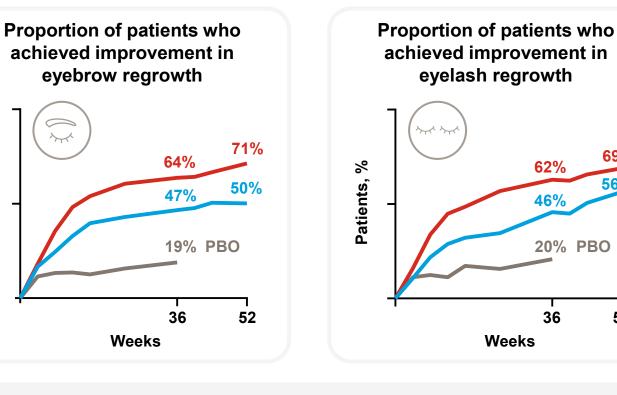
- Age ≥18 years to ≤60 years (males) or ≤70 years (females)^a
- Severe or very severe AA
- Hair loss involving ≥50% of the scalp, as measured by SALT score
- Current episode of AA lasting >6 months to <8 years^b
- No spontaneous improvement in the 6 months before

Exclusion

- Primarily "diffuse" type of AA
- Concomitant treatments for AAc

^a Different upper age limits have been included for male and female patients based on the difference in prevalence of concomitant androgenetic alopecia; ^b Patients who had AA for ≥8 years could be enrolled if episodes of regrowth, spontaneous or under treatment, had been observed on the affected areas over the past 8 years; ^c Not permitted: Topical corticosteroids within 1 week before randomization; topical JAK inhibitor, diphenylcyclopropenone, or other topical immunotherapies within 4 weeks before randomization; systemic corticosteroids, immunosuppressants, intra-lesional or intra-articular corticosteroid injections, or oral JAK inhibitor within 8 weeks before randomization; monoclonal antibody <5 half-lives before randomization; probenecid at the time of randomization. Oral/topical minoxidil or finasteride was permitted if on stable dose for 12 months, and bimatoprost ophthalmic solution was allowed if on stable dose for 8 weeks</p>

SUMMARY OF KEY FINDINGS



- The proportion of patients reporting eyebrow and eyelash regrowth continued to increase through 52 weeks with BARI 4-mg and 2-mg
- Higher response rates were observed with the 4-mg dose vs. the 2-mg dose on all timepoints

METHODS

ClinRO Measures for Eyebrow and Eyelash Hair Loss^{TM,6}



- ClinRO Measure for Eyebrow Hair Loss^a
- Score 0: Full coverage and no areas of hair loss
- Score 1: Minimal gaps and even distribution
- Score 2: Significant gaps or uneven distribution
- Score 3: No notable eyebrow hair



- ClinRO Measure for Eyelash Hair Loss^b
- Score 0: Continuous line along the eyelids on both eyes
- Score 1: Minimal gaps and even distribution along the eyelids on both eyes
- Score 2: Significant gaps or uneven distribution along the eyelids
- Score 3: No notable eyelashes
- A 1-point improvement in ClinRO eyebrow and eyelash indicates early appreciable improvement in eyebrow and eyelash regrowth

^a Clinician should examine both eyebrows from 2 feet away;
 ^b Clinician should examine the upper and lower eyelashes of both eyes;
 ^c The ClinRO measure is supported by photoguides, which are subject to copyright owned by Eli Lilly and Company. Permission to use is granted under Creative Commons Attribution-No Derivatives 4.0 International License (https://creativecommons.org/licenses/by-nc/4.0/)

Statistical Analyses



- Pooled Week 36 efficacy population and pooled Week 52 efficacy population (among patients with ClinRO measure for eyebrow or eyelash hair loss ≥1 at baseline)
- Censoring excluded data collected after permanent discontinuation
- Response confidence intervals were constructed using the Wilson method, without continuity correction
- Logistic regression analysis with treatment group, study, geographic region, duration of current episode at baseline (<4 years vs. ≥4 years), and baseline ClinRO measure for eyebrow or eyelash hair loss as factors was used with NRI up to Week 36 data
- Descriptive statistic summary was used for Week 40 to Week 52 data

RESULTS

Demographics and Baseline Characteristics

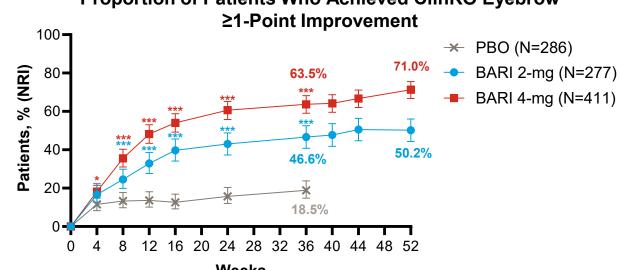
	Baseline ClinRO EB Score ≥1			Baseline ClinRO EL Score ≥1			Baseline ClinRO EB and EL Score ≥1		
	PBO (N=286)	BARI 2-mg (N=277)	BARI 4-mg (N=411)	PBO (N=250)	BARI 2-mg (N=243)	BARI 4-mg (N=364)	PBO (N=247)	BARI 2-mg (N=235)	BARI 4-mg (N=350)
Age, years	38.2 (12.5)	39.0 (13.0)	37.5 (13.0) ^c	38.4 (12.6)	39.1 (12.7)	37.7 (13.1)	38.4 (12.6)	39.3 (12.7)	37.9 (13.1)
Female, n (%)	170 (59.4)	174 (62.8)	244 (59.4)	145 (58.0)	147 (60.5)	212 (58.2)	143 (57.9)	142 (60.4)	204 (58.3)
Race, n (%) White Asian Black	141 (49.5) ^a 110 (38.6) ^a 23 (8.1) ^a	149 (54.0) ^b 102 (37.0) ^b 17 (6.2) ^b	206 (50.2)° 154 (37.6)° 31 (7.6)°	128 (51.4) ^d 94 (37.8) ^d 20 (8.0) ^d	137 (56.4) 85 (35.0) 13 (5.3)	186 (51.1) 134 (36.8) 30 (8.2)	126 (51.2) ^e 93 (37.8) ^e 20 (8.1) ^e	131 (55.7) 83 (35.3) 13 (5.5)	179 (51.1) 132 (37.7) 25 (7.1)
Duration of AA since onset, years	12.5 (10.7)	12.8 (10.9)	12.2 (11.2)	12.5 (10.7)	13.0 (11.2)	12.5 (11.4)	12.6 (10.7)	13.0 (11.2)	12.7 (11.5)
Duration of current AA episode, n (%) <4 years ≥4 years	181 (63.3) 105 (36.7)	180 (65.0) 97 (35.0)	253 (61.6) 158 (38.4)	159 (63.6) 91 (36.4)	161 (66.3) 82 (33.7)	227 (62.4) 137 (37.6)	157 (63.6) 90 (36.4)	155 (66.0) 80 (34.0)	217 (62.0) 133 (38.0)
SALT score ^c	87.4 (16.8)	89.4 (16.6)	88.7 (16.2)	88.8 (16.3)	90.9 (15.5)	90.0 (15.6)	88.8 (16.2)	91.3 (15.4)	90.7 (15.3)
SALT score category, n (%) Severe (SALT score 50-94) Very severe (SALT score 95-100)	120 (42.0) 166 (58.0)	96 (34.7) 181 (65.3)	164 (39.9) 247 (60.1)	95 (38.0) 155 (62.0)	75 (30.9) 168 (69.1)	128 (35.2) 236 (64.8)	94 (38.1) 153 (61.9)	68 (28.9) 167 (71.1)	117 (33.4) 233 (66.6)
ClinRO EB 3, n (%)	136 (47.6)	159 (57.4)	227 (55.2)	130 (52.0)	154 (63.4)	221 (60.7)	130 (52.6)	154 (65.5)	221 (63.1)
ClinRO EL 3, n (%)	115 (40.2)	139 (50.2)	190 (46.2)	116 (46.4)	139 (57.2)	190 (52.2)	115 (46.6)	139 (59.1)	190 (54.3)

N=263, N=276, N=410, N=249, N=249, N=246

Data are mean (SD) unless stated otherwise. Data are based on integrated ITT population with baseline ClinRO EB score ≥1 (N=974), baseline ClinRO EL score ≥1 (N=857), or both baseline ClinRO EB and EL score ≥1 (N=832) analysis set

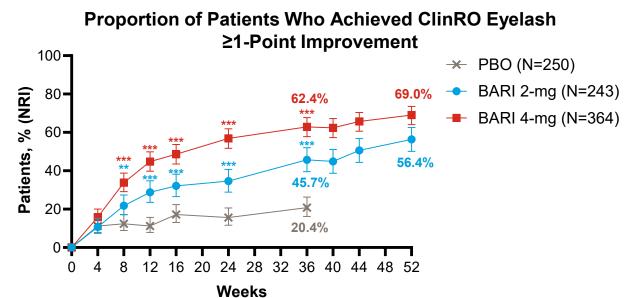
Improvements in Eyebrow Regrowth Increased Through Week 52

Proportion of Patients Who Achieved ClinRO Eyebrow



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Improvements in Eyelash Regrowth Increased Through Week 52



*p≤0.05; **p≤0.01; ***p≤0.001 vs. PBO
Note: Data cut-off dates for BRAVE-AA1 and BRAVE-AA2 are August 30, 2021 and August 23, 2021, respectively. Data are response rates (%) of pooled Week 36 or Week 52 efficacy population among patients with ClinRO measure for eyebrow or eyelash hair loss ≥1 at baseline using NRI. Bars represent 95% CI, which were constructed using Wilson method, without continuity correction. For data up to Week 36, logistic regression analysis with treatment group, study, geographic region, duration of current episode at baseline (<4 vs. ≥4 years), and baseline ClinRO measure for eyebrow hair loss as factors; p-values were determined using the Fisher's exact test. Descriptive statistic summary was used for Week 40 to Week 52 data

Referen

- esinkovska N. et al. ./ Investig Dermatol Symp Proc. 20
- Mesinkovska N, et al. *J Investig Dermatol Symp Proc.* 2020;20:S62-S68.
- Pratt CH, et al. *Nat Rev Dis Primers*. 2017;3:17011.
 Kwon O, et al. *Am J Clin Dermatol*. 2023;24:443-451.
- 4. Aldhouse NVJ, et al. *J Patient Rep Outcomes*. 2020;4:76.
- 5. Nguyen B, et al. Am J Clin Dermatol. 2023;24:55-67.
- Wyrwich KW, et al. Am J Clin Dermatol. 2020;21:725-732.
 Sadr J, et al. Perception. 2003;32:285-293
- Abbreviations: AA=alopecia areata;
 BARI=baricitinib; CI=confidence interval;
 ClinRO=clinician-reported outcome;
 EB=eyebrow; EL=eyelash; ITT=Intent-toTreat; JAK=Janus kinase; NRI=nonresponder imputation; PBO=placebo;
 QD=once daily; SALT=Severity of Alopecia
 Tool; SD=standard deviation; W=Week

Disclosures: A. Mostaghimi has been a consultant for: AbbVie, Concert Pharmaceuticals, Digital Diagnostics, Eli Lilly and Company, and Pfizer; M. Piliang has been an investigator, speaker, and consultant for: Eli Lilly and Company and Pfizer; and a consultant for: Procter & Gamble; C. Lynde has been a speaker and/or consultant to: AbbVie, Amgen, Aralez Bio, Arcutis, Bausch Health, Bayer Pharmaceuticals, Boehringer Ingelheim, Bristol Myers Squibb, Celgene, Cipher Pharmaceuticals, Dermavant, Eli Lilly and Company, Fresniuds, Salician, La Roche-Posay, LEO Pharma, L'Oréal, Medexus Pharmaceuticals, MedX, Merck Sharp & Dohme, Novartis, Pediapharm, Pfizer, Procter & Gamble, Regeneron Pharmaceuticals, Sanofi Genzyme, Sanofi Genzyme, Valeant Pharmaceuticals, Suberhinger Ingelheim, Bristol Myers Squibb, Celgene, Celltrion, Cipher Pharmaceuticals, UCB Pharma, Valeant Pharmaceuticals, Dermavant, Devonian Health Group, Eli Lilly and Company, Evelo Biosciences, Galderma, GlaxoSmithKline, Incyte Corporation, Innovaderm Research, Intega Skin Sciences, Janssen, Kyowa Kirin, La Roche-Posay, LEO Pharma, L'Oréal, Medexus Pharmaceuticals, MedX, Merck Sharp & Dohme, MoonLake Immunotherapeutics, Nimbus Therapeutics, Novartis, Procter & Gamble, Pediapharm, Pfizer, Regeneron Pharmaceuticals, Roche, Sandoz, Sanofi Genzyme, Sentrex Health Solutions, Sun Pharma, Takeda, Teva, Tribute Pharmaceuticals—, UCB Pharma, Valeant Pharmaceuticals, Viatris, and Volo Healthcare; J. C. Szepietowski has served as consultant/advisory board member of: LEO Pharma, Novartis, Pfizer, Regeneron, UCB Pharma, and Vifor Pharma; as speaker for: AbbVie, Bristol Myers Squibb, Galapagos NV, Galderma, Incyte Corporation, InfraRX, Janssen Cilag, Novartis, Pfizer, Regeneron, UCB Pharma, and Trevi Therapeutics; J. P. Jedynak, N. Somani, G. Yu, and C. Chiasserini are employees and stockholders of: Eli Lilly and Company; N. Lu is an employee of: Precision Statistics Consulting; M. Hordinsky has received honoraria and has been consultant/advisory board member for: AbbVie,