Lebrikizumab vs Other Systemic Monotherapies for Moderate to Severe Atopic Dermatitis: Network Meta-analysis of Short-term Efficacy

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OBJECTIVE

- Treatment options for moderate to severe atopic dermatitis (AD) after inadequate response to topical therapy include biologics and Janus Kinase (JAK) inhibitors.
- Biologics and JAK inhibitors have not been compared in placebo-controlled, head-to-head clinical trials in a monotherapy setting.
- The present network meta-analysis (NMA) evaluated the short-term efficacy of lebrikizumab relative to other biologics and JAK inhibitors approved for moderate to severe AD.

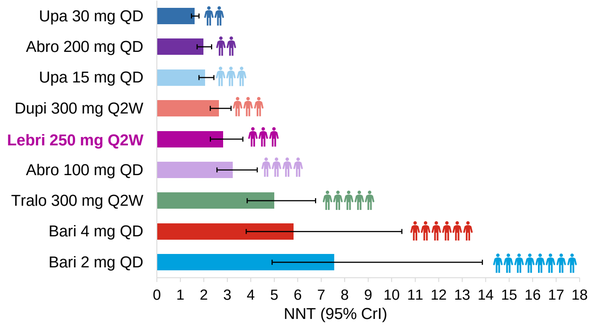
CONCLUSIONS

- Lebrikizumab has comparable or better short-term efficacy relative to other biologics and JAK inhibitors, except for upadacitinib 30 mg.
- Lebrikizumab may be a highly promising first-line biologic for moderate to severe AD, offering patients meaningful symptom relief.

Fall Clinical 2024; Las Vegas, USA; 24-27 October 2024

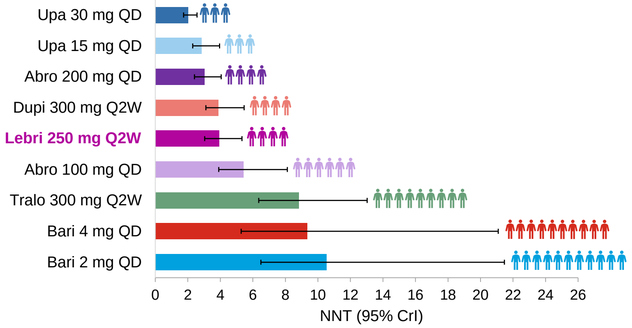
KEY RESULTS

EASI 75 at Week 12/16: NNT (95% CrI)



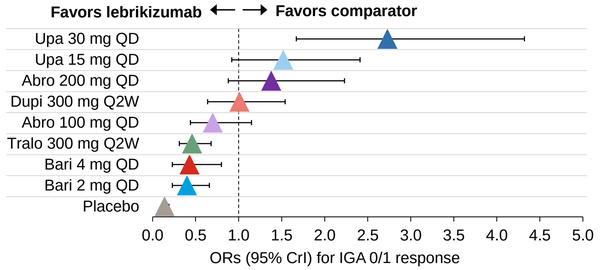
- Lebrikizumab had lower NNT values than tralokinumab and baricitinib; comparable NNT values to abrocitinib, upadacitinib 15 mg, and dupilumab; and higher NNT values than upadacitinib 30 mg.

IGA 0/1 at Week 12/16: NNT (95% CrI)



- Lebrikizumab had lower NNT values than tralokinumab and baricitinib 2 mg; comparable NNT values to baricitinib 4 mg, abrocitinib, dupilumab, and upadacitinib 15 mg; and higher NNT values than upadacitinib 30 mg.

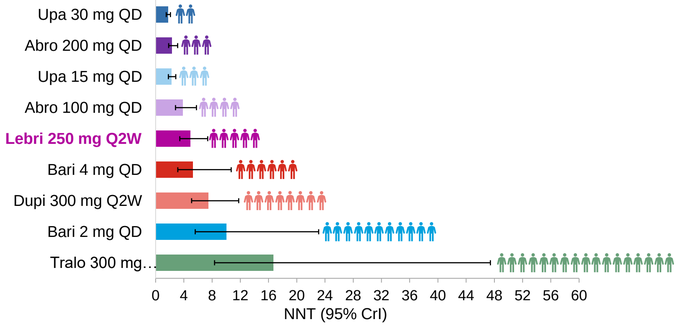
IGA 0/1 response at week 12/16: Lebrikizumab compared to other treatments



Forest plot derived from Bayesian NMA using a baseline-risk adjusted RE model.

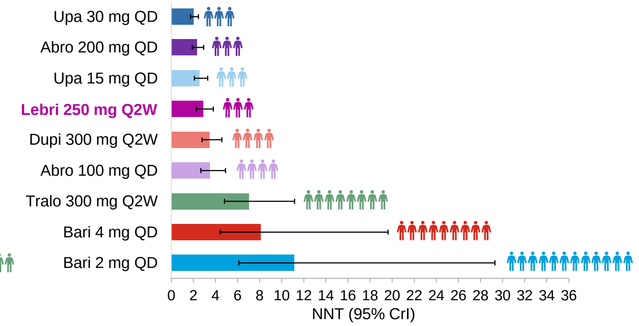
- Lebrikizumab had better odds of achieving an IGA 0/1 than baricitinib and tralokinumab; comparable odds to dupilumab, abrocitinib, and upadacitinib 15 mg; and lower odds than upadacitinib 30 mg.

Pruritus NRS ≥4-point improvement at week 4: NNT (95% CrI)



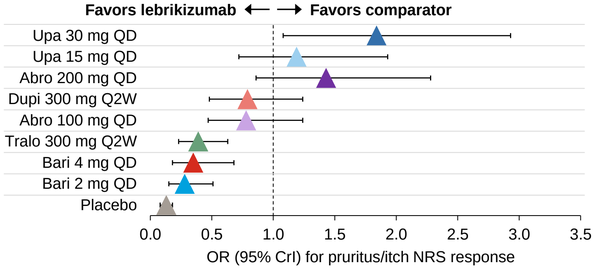
- Lebrikizumab had lower NNT values than tralokinumab; comparable NNT values to baricitinib, abrocitinib 100 mg, and dupilumab; and higher NNT values than abrocitinib 200 mg and upadacitinib.

Pruritus NRS ≥4-point improvement at week 12/16: NNT (95% CrI)



- Lebrikizumab had lower NNT values than baricitinib and tralokinumab and comparable NNT values to abrocitinib, upadacitinib, and dupilumab.

≥4-point reduction in pruritus NRS response at week 12/16: Lebrikizumab compared to other treatments



Forest plot derived from Bayesian NMA using a baseline-risk adjusted RE model.

- Lebrikizumab had higher odds of a ≥4-point improvement in pruritus/itch NRS at week 16 than baricitinib and tralokinumab; comparable odds to dupilumab, abrocitinib, and upadacitinib 15 mg; and lower odds than upadacitinib 30 mg.

Abbreviations: Abro, abrocitinib; Bari, baricitinib; CrI, credible interval; Dupi, dupilumab; EASI, Eczema Area and Severity Index; IGA, Investigator's Global Assessment; Lebri, lebrikizumab; NMA, network meta-analysis; NNT, number needed to treat; NRS, numerical rating scale; OR, odds ratio; QD, daily; Q2W, every two weeks; RE, random effects; Tralo, tralokinumab; Upa, upadacitinib

METHODS

Data sources and study design

- A systematic literature review was conducted for phase 2 or 3 randomized, double-blind, placebo-controlled trials clinical trials of targeted systemic therapies:
  - Monotherapies: lebrikizumab, abrocitinib, baricitinib, dupilumab, tralokinumab, and upadacitinib
  - Population: Adults (≥18 years) and adolescents (≥12 to <18 years) with moderate to severe AD
  - Endpoints were assessed at 4 weeks and 12 (abrocitinib) or 16 weeks (other treatments).
- A Bayesian NMA employing baseline risk-adjusted random effects models was conducted to estimate differences between treatments

Acknowledgments: This analysis was funded by Eli Lilly and Company. Medical writing support was provided by Michael Franklin (PPD, a Thermo Fisher company) in accordance with Good Publication Practice (GPP3) guidelines and funded by Eli Lilly and Company. The NNT data were previously presented at the 2024 European Academy of Dermatology and Venereology Congress.

Disclosures: JIS has served as advisor, speaker, or consultant for AbbVie, Asana Biosciences, Dermavant Sciences, Galderma, GlaxoSmithKline, Glenmark, Kiniksa, LEO Pharma, Lilly, Menlo Therapeutics, Novartis, Pfizer, Realm Pharma, and Regeneron-Sanofi; and is a researcher for GlaxoSmithKline. **TB** has served as a speaker, consultant, and investigator for AbbVie, Affibody, Almirall, AnaptysBio, Arena, Asana Biosciences, ASLAN Pharmaceuticals, Bayer Health, BioVerSys, Boehringer-Ingelheim, Bristol Myers Squibb, Connect Pharma, Dermavant Sciences, Domain Therapeutics, EQRx, Galderma, Glenmark, GSK, Incyte, Innovaderm, IQVIA, Janssen, Kirin, Kymab, LEO Pharma, LG Chem, Lilly, L'Oréal, MSD, Novartis, Numab, OM Pharma, Pfizer, Pierre Fabre, Q32bio, RAPT, Sanofi/Regeneron and UCB; and is the founder and chairman of the board of Davos Biosciences. **AP** has served as consultant or investigator for AbbVie, Abeona, Applied Pharma Research, Apogee, Arcutis, Aslan, BioCryst, Boehringer-Ingelheim, Bristol-Myers-Squibb, Dermavant, Eli Lilly, Galderma, Incyte, Janssen, Johnson and Johnson, Krystal Biotech, LEO, Mitsubishi Tanabe, Nektar, Primus, Procter and Gamble, Regeneron, Sanofi, Seanergy, Timber, TWI Biotech, UCB. **MK** has received honoraria for lectures from AbbVie and Eli Lilly. **LP** has received consultancy/speaker's honoraria from and/or participated in clinical trials sponsored by Abbvie, Almirall, Amgen, Biogen, Boehringer Ingelheim, Bristol Myers Squibb, Fresenius-Kabi, J&J Innovative Medicine, Leo-Pharma, Lilly, Novartis, Pfizer, STADA, Sun-Pharma, and UCB. **MW** has served as consultant, speaker, advisory board member, and clinical trial investigator for AbbVie, Amgen, Arcutis, Asana BioSciences, AstraZeneca, Bausch Health, Bristol Myers Squibb, Celgene, Dermira, Eli Lilly, Galderma, Glenmark, Incyte, Janssen, LEO Pharma, Novartis, Pfizer, Principia, PRCL Research, Regeneron, Sanofi, UCB, and La Roche-Posay. **KE** has received consulting fees from AbbVie, Incyte, La Roche-Posay, Pfizer, Pierre Fabre, Sanofi, MSD, Bristol Myers Squibb, and Almirall. **AI** has received research funding or served as an advisor, speaker, or consultant for AbbVie, Arena Pharmaceuticals, BenevolentAI, Eli Lilly and Company, LEO Pharma, Novartis, Pfizer, Regeneron, Sanofi, Pfizer, and the International Eczema Council. **PF** has received research funding or served as an advisor, speaker, or consultant received grants from AbbVie, Amgen, Argenx, Arcutis, Aslan, AstraZeneca, Boehringer Ingelheim, Botanix, Bristol-Myers Squibb, Celgene, Celtaxsys, CSL, Cutanea, Dermira, Celgene, Eli Lilly and Company, Evelo, Galderma, Genentech, Geneseq, GenesisCare, GlaxoSmithKline, Hexima, Incyte, Janssen, Kymab, LEO Pharma, Mayne Pharma, Merck, MedImmune, Novartis, Pfizer, Regeneron Pharmaceuticals, Roche, Sanofi, Sun Pharma, Teva, UCB Pharma, and Valeant. **MD** and **MC** are employees and minor shareholders of Eli Lilly and Company. **AK** is an employee of Costello Medical, which was funded by Eli Lilly and Company to provide analytical services for this publication. **BA** is an employee of Almirall. **RC** served as an advisor, consultant, speaker, and/or investigator for AbbVie, Amgen, Apogee Therapeutics, Arcutis, Argenx, ASLAN Pharmaceuticals, Beiersdorf, Boehringer Ingelheim, Bristol Myers Squibb, Cara Therapeutics, Dermavant, Eli Lilly and Company, FIDE, Galderma, Genentech, GSK, Incyte, LEO Pharma, L'Oréal, Nektar Therapeutics, Novartis, Opsidio, Pfizer Inc., Regeneron, RAPT, Sanofi, Sitryx, and UCB.

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