

Lebrikizumab

Lebrikizumab is currently not licensed for any indication worldwide. Therefore we do not give a specific recommendation for the use in AE.

Mechanisms of action and efficacy

Lebrikizumab is a high-affinity humanized immunoglobulin G4 mAb that binds specifically to soluble interleukin 13 and selectively prevents formation of the IL-13R α 1/IL-4R α heterodimer receptor signaling complex. In a randomized, placebo-controlled, double-blind, phase IIb study, adults with moderate-to-severe AE patients were randomized to placebo every 2 weeks or to subcutaneous injections of lebrikizumab at the following doses: 125 mg every 4 weeks (250 mg loading dose [LD]), 250 mg every 4 weeks (500-mg LD), or 250 mg every 2 weeks (500 mg LD at baseline and week 2).¹

Compared with placebo lebrikizumab groups showed dose-dependent, statistically significant improvement in EASI scores, pruritus NRS score, POEM and IGA.¹

Dosage: acute flare, short term, long term

Although all the different dosages of lebrikizumab proved to be effective, optimal dosing regimens have yet to be determined. Phase 3 studies are currently underway testing lebrikizumab 250mg Q2W in the induction phase, and both 250mg Q2W and Q4W in the maintenance phase.

Safety

Treatment-emergent adverse events were reported in 24 of 52 placebo patients (46.2%) and in lebrikizumab patients as follows: 42 of 73 (57.5%) for 125 mg every 4 weeks, 39 of 80 (48.8%) for 250 mg every 4 weeks, and 46 of 75 (61.3%) for 250 mg every 2 weeks; most were mild-to-moderate and did not lead to discontinuation. In all lebrikizumab groups, herpes virus infections and conjunctivitis were reported at low rates.

Simpson et al. reported injection site reactions (1.3%), herpes infection (3.8%), eosinophilia (3.2%) with no associated clinical symptoms, and conjunctivitis (9.6%) as adverse events in patients treated with lebrikizumab.²

Notably, lebrikizumab appears to have lower rates of ocular complications than dupilumab.

Monitoring

No biochemical or instrumental exams are reported to be required for the monitoring of the therapy.

Combination with other treatments

The use of topical corticosteroids during the flares of AE could be useful in combination with lebrikizumab, and is under investigation in the phase 3 program.

References

- [1] Guttman-Yassky E, Blauvelt A, Eichenfield LF, Paller AS, Armstrong AW, Drew J, et al. Efficacy and Safety of Lebrikizumab, a High-Affinity Interleukin 13 Inhibitor, in Adults With Moderate to Severe Atopic Dermatitis: A Phase 2b Randomized Clinical Trial. *JAMA Dermatol.* 2020;156; 411-420.
- [2] Simpson EL, Flohr C, Eichenfield LF, Bieber T, Sofen H, Taïeb A, et al. Efficacy and safety of lebrikizumab (an anti-IL-13 monoclonal antibody) in adults with moderate-to-severe atopic dermatitis inadequately controlled by topical corticosteroids: A randomized, placebo-controlled phase II trial (TREBLE). *Journal of the American Academy of Dermatology.* 2018;78; 863-871.e811.