Cost-per-responder analysis of tralokinumab versus dupilumab in patients with moderate-to-severe atopic dermatitis in the US and Canada

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Introduction/Background: Biologic treatments such as tralokinumab and dupilumab are therapeutic options for adult patients with moderate-to-severe atopic dermatitis (AD) who do not achieve adequate control with topical treatments or phototherapy. To date, no trials have been conducted to directly evaluate the relative efficacy of these biologic treatments.

Objectives: Applying indirect comparison of efficacy, we examined the cost-per-responder of tralokinumab compared to dupilumab in combination with topical corticosteroids (TCS) for the treatment of moderate-to-severe AD in the United States (US) and Canada.

Methods: A cost-per-responder analysis was undertaken considering the Eczema Area and Severity Index 75 (EASI-75) and Investigator’s Global Assessment (IGA-0/1) response criteria over a 32-week period. For each treatment, the cost-per-responder was computed by multiplying the treatment cost by the number needed to treat (NNT). Efficacy data were derived from an unanchored matching-adjusted indirect comparison (MAIC) utilizing patient-level data from ECZTRA-3 (tralokinumab) and aggregate data from
LIBERTY AD CHRONOS (dupilumab). Treatment cost was defined as the drug cost of the biologic treatment with a duration corresponding to 32 weeks. TCS cost was not considered. Treatments were assumed to be administered every 2 weeks (Q2W). The costs were estimated based on Wholesale Acquisition Costs (WAC) from the US and ex-factory prices via the McKesson price list for Canada. All prices were converted to US dollars ($). Sensitivity analyses (SA) were conducted with every 4 week (Q4W) dosing beginning at week 16 for 10% and 20% of patients treated with tralokinumab.

**Results:** For the US, the average cost-per-responder was $62,714 (Q4W SA: 10%: $61,239; 20%: $59,763) for tralokinumab versus $63,993 for dupilumab considering the EASI-75 response criteria, while the average cost-per-responder was $82,419 (Q4W SA: 10%: $80,480; 20%: $78,450) for tralokinumab versus $118,835 for dupilumab considering the IGA 0/1 response criteria. For Canada, the average cost-per-responder was $22,846 (Q4W SA: 10%: $22,308; 20%: $21,771) for tralokinumab versus $26,475 for dupilumab considering the EASI-75 response criteria, while the average cost-per-responder was $30,024 (Q4W SA: 10%: $29,317; 20%: $28,611) for tralokinumab versus $49,165 for dupilumab considering the IGA 0/1 response criteria.

**Conclusions:** Assessing EASI-75 and IGA-0/1 response criteria at 32 weeks, this analysis indicates that tralokinumab in combination with TCS is associated with lower costs-per-responder compared with dupilumab in combination with TCS in the treatment of moderate-to-severe AD in the US and Canada.

**Keywords:** matching-adjusted indirect comparison, moderate-to-severe, tralokinumab
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