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Real-world comparison of dupilumab and tralokinumab in moderate-to-severe atopic dermatitis: a 12-month prospective observational study

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Introduction
Biologic therapies have substantially improved the management of moderate-to-severe atopic dermatitis (AD). Dupilumab, targeting IL-4 and IL-13 signaling, and tralokinumab, a selective IL-13 inhibitor, are widely used in routine clinical practice. However, real-world comparative data between these two agents, particularly with long-term follow-up, remain limited. The aim of this study was to compare the effectiveness of dupilumab and tralokinumab over 12 months in a real-world setting.

Materials and Methods
This prospective observational study included adult patients with moderate-to-severe AD treated with either dupilumab (n=60) or tralokinumab (n=42) in routine clinical care. Only patients who completed all scheduled visits (baseline, months 3, 6, 9 and 12) were included to allow paired longitudinal assessment.
Clinical outcomes included objective SCORAD (oSCORAD), body surface area (BSA), pruritus and sleep disturbance assessed by visual analogue scales, and Investigator's Global Assessment (IGA). Treatment response was additionally evaluated using oSCORAD-50/75/90 and achievement of IGA 0/1. Descriptive and comparative statistical analyses were performed to evaluate changes over time and differences between treatment groups.

Results
Both biologics led to marked improvements across all clinical parameters over 12 months. Mean oSCORAD decreased from 45.2±15.4 at baseline to 15.0±13.6 at month 12 in the dupilumab group and from 38.6±11.7 to 15.3±9.1 in the tralokinumab group.
In the dupilumab group, the greatest improvement was observed by month 9 (12.9±12.1), followed by a slight increase at month 12 (15.0±13.6), whereas oSCORAD continued to decrease steadily in the tralokinumab group from month 9 (16.8±9.4) to month 12 (15.3±9.1). Similarly, BSA decreased from 35.2±22.3 to 4.2±7.2 by month 9 and increased to 8.1±13.6 at month 12 with dupilumab, while tralokinumab showed a continuous reduction from 9.4±12.1 at month 9 to 5.6±7.1 at month 12. Pruritus improved rapidly in the dupilumab group from 6.2±2.4 to 1.9±2.2 by month 9, with a slight increase to 2.4±2.4 at month 12, whereas pruritus scores in the tralokinumab group gradually decreased from 5.7±2.6 to 3.4±2.5 over the study period.

Conclusions
In this prospective real-world study, both dupilumab and tralokinumab demonstrated substantial clinical effectiveness in moderate-to-severe AD over 12 months. Dupilumab was associated with a more rapid initial improvement, whereas a slight worsening or plateau was observed in several parameters after month 9. In contrast, tralokinumab showed a slower but continuously improving response profile throughout the observation period. This distinct response kinetics

may be clinically relevant when selecting individualized biologic treatment strategies in AD.