

Real-world tralokinumab use in dupilumab-experienced patients: a retrospective multi-center case series

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Introduction

- Atopic dermatitis (AD) is a chronic relapsing inflammatory skin disease that negatively impacts the quality of life (QoL) of patients¹
- There is still a need for treatment options that offer patients long-term disease control along with a favorable safety profile
- Dupilumab, a monoclonal antibody (mAb) that targets IL4R α , blocking signaling of interleukin (IL)-13 and IL-4, is approved for the treatment of adults with moderate-to-severe AD in the US and EU^{2,3}
- Tralokinumab, the first fully human mAb that specifically neutralizes IL-13, blocking its interaction with its receptor, is approved in the EU, UK, Canada, and the US for adults with moderate-to-severe AD^{4,5}
 - Phase 3 trials showed tralokinumab provided significant improvements in AD severity and was well-tolerated up to 52 weeks of treatment^{4,5}
 - Head-to-head studies of these two biologics have not been performed, and real-world evidence of tralokinumab use in moderate-to-severe AD patients that were previously treated with dupilumab is limited

Objective

To further characterize the efficacy and safety profile of tralokinumab by evaluating clinical findings in patients previously treated with dupilumab in routine clinical practice who were switched to tralokinumab

Methods

Patients

- Adult patients with moderate-to-severe AD from 3 dermatology practices in the US, that were previously treated with dupilumab, and subsequently switched to tralokinumab, were included
- The healthcare providers at these sites recorded clinical information from these patients as part of their routine clinical practice

Data collection

- Baseline characteristics data collected included:
 - History of previous treatments
 - Comorbidities
 - Morphologic and topographic AD phenotype
 - IGA and BSA prior to and at the time of initiating tralokinumab treatment
 - Disease duration
 - Duration of dupilumab treatment
 - Reason for dupilumab discontinuation
- Data collected related to tralokinumab treatment included:
 - Duration of treatment
 - Dose administered [i.e., on/off-label, every 2 or 4 weeks (Q2W/Q4W)]
 - IGA
 - BSA
 - Patient-reported outcomes (PROs; e.g., itch, clearance of erythema, treatment satisfaction)
 - Adverse events (AEs) possibly related to tralokinumab

Table 1. (A) Baseline characteristics and (B) outcomes on tralokinumab of nine dupilumab-experienced patients

Patient #	(A) Baseline characteristics at time of tralokinumab initiation							(B) Outcomes on tralokinumab						
	Sex	Age (yrs)	Ethnicity	IGA	BSA (%)	Duration of AD (yrs)	Duration on dupi (mos)	Reason for dupi discontinuation	Duration on tralo (mos)	Tralo dose	IGA	BSA (%)	Improvement in PROs	AEs
1	F	68	White	3	4	5	8	Inadequately controlled AD	3	Q2W	0	0	Clearance, happiness	None
2	F	65	White	3	28	>5	>5	Inadequately controlled AD	3.5	Q2W	2	8	Clearance, itch	None
3	F	65	White	4	20	7	Unknown	Inadequately controlled AD	2	Q2W	3	10	Clearance, itch	Mild seborrheic/head-neck dermatitis
4	M	71	White	2	5	Childhood	6	Intractable conjunctivitis	6	Q2W	1	2	Itch, happiness	None
5	F	49	White	2	5	Childhood	4	Conjunctivitis	2	Q2W	0	0	Itch	Herpes labialis ^c
6	F	52	White	2	1	1-2	2	Conjunctivitis	3	Q2W	1	1	Happiness	None
7	F	50	White	3	10	1-2	4	Joint pain	8	Q4W	0	0	Happiness	None
8	F	85	White	3	25	7	Unknown	Injection site reaction	7 ^a	Q2W	0	0	Itch and sleep	None
9	M	82	White	3	30	>20	Unknown	Arrhythmia	5 ^b	Q2W	0	0	Clearance, itch	None

^aPatient was clear at 3 month follow up. ^bPatient was clear at 2 month follow up. ^cUnclear if related.

Figure 1. Photographs^a of dupilumab-experienced patient #2 (A-C) and patient #3^b (D) before and after initiating tralokinumab



^aPatients provided consent for use of photographs. ^bPrevious treatments included MTX (stopped due to worsening fatigue after 4-5 years), dupilumab, upadacitinib (stopped due to increasing LFTs and BMI), prednisone, and phototherapy.

Results

Baseline Characteristics

- Baseline characteristics of the 9 patients included in the case series are shown in **Table 1A**
- 8 (89%) patients reported experiencing plaques/classical AD, 6 (67%) reported previously using prednisone, and 5 (56%) reported having asthma as a comorbidity
- Median (range) baseline IGA and IGA at time of tralokinumab administration were 4 (3-4) and 3 (2-4), respectively
- Median baseline BSA and BSA at time of tralokinumab administration were 20% (4-30%) and 10% (1-30%), respectively

Outcomes on tralokinumab

- All 9 dupilumab-experienced patients were administered on-label tralokinumab (Q2W for 8 patients, Q4W for 1 patient) and had been on tralokinumab for 2-8 months (**Table 1B**)
- At the time of data collection, median (range) IGA and BSA for these patients were 0 (0-3) and 0% (0-10%), respectively
- All patients experienced improvements in PROs (see examples in **Figure 1**):
 - 67% (6/9) of patients reported improvements in itch with NRS scores of 0 or 1
 - 44% (4/9) reported general clearance of AD signs and symptoms of AD
 - 44% (4/9) reported their overall satisfaction of being on tralokinumab
- AEs of conjunctivitis (3 patients) and joint pain (1) completely resolved in patients upon switching from dupilumab to tralokinumab
- Residual signs and symptoms of AD following initiation of tralokinumab were managed with antihistamines (1 patient), topical JAK inhibitors (1), and prednisone (1)
- No AEs were reported except in 1 patient with possible mild seborrheic dermatitis/head-neck dermatitis eruption that was treated with topicals, and 1 patient with herpes labialis (unclear if related to tralokinumab treatment)

Conclusions

- This case series suggests that tralokinumab is a potential effective therapy in patients with moderate-to-severe AD who have failed dupilumab, due to lack of efficacy or AEs
 - Resolution of AEs of concern for biologic therapies for AD, such as conjunctivitis, was observed in patients upon switching from dupilumab to tralokinumab
- Further studies are needed to elucidate if and how the different mechanisms of action of dupilumab and tralokinumab contribute to varying responses in patients

Abbreviations

AD, atopic dermatitis; AE, adverse event; BMI, body mass index; BSA, body surface area; dupi, dupilumab; IGA, Investigator's Global Assessment; JAK, Janus Kinase; LFT, liver function test; mos., months; NRS, numerical rating scale; PRO, patient-reported outcome; Q2W, every 2 weeks; Q4W, every 4 weeks; tralo, tralokinumab; yrs, years.

References

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