Abstract N°: ID-1519

Topic: Atopic dermatitis/ Eczema

Real-world effectiveness and safety of biologics and Janus kinase inhibitors in White vs. non-White patients with moderate-to-severe atopic dermatitis

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Introduction
Advanced treatments have transformed management in atopic dermatitis (AD). However, non-White patients remain under-represented in AD trials and real-world studies. These are limited data suggesting that differences in clinical picture, presence of morbidities, as well as treatment response and tolerability may exist between patients with various skin types. We aimed to compare the efficacy, safety and treatment patterns with all EMA-approved advanced treatments in White vs. non-White patients with moderate-to-severe atopic dermatitis.

Materials and Methods
We conducted a retrospective single-centre study in patients with moderate-to-severe atopic dermatitis in a tertiary dermatology service (Feb–Dec 2025), receiving either of these therapies: dupilumab, tralokinumab, lebrikizumab, baricitinib, abrocitinib and upadacitinib. Patients were stratified by Fitzpatrick phototype into White (I-II) and non-White (IV-VI) cohorts. All patients were established on advanced systemic therapy at baseline. Demographics, comorbidities, and prior systemic treatments were obtained from electronic records. Data were retrospectively extracted and analysed using SPSS. Outcomes included percentage EASI improvement (mean±SD), DLQI change (mean ±SD), EASI≤1 and DLQI≤1, adverse events, infection risk, residual disease distribution and treatment switching patterns.

Results
100 patients were included (White n=50, non-White n=50). Mean age was 36.2 years and 53% were male. Treatment distribution was similar (80% biologics, 20% JAK inhibitors). The most common ethnicities were White-British (42%), followed by Asian/Asian British (31%). Most patients were treatment-refractory with prior ciclosporin exposure (76% White vs. 72% non-White) and methotrexate (60% vs. 60%), as per local UK treatment pathway.

Substantial clinical improvement was observed in both cohorts. Mean percentage EASI improvement was 89.7±19.7 in White patients and 86.3±47.6 in non-White patients. Mean DLQI improvement was 16.6±7.8 versus 12.9 ±7.3. EASI≤1 was achieved in 62% and 56%, and DLQI≤1 in 46% and 36%, respectively. Response variability was greater in non-White patients due to true outliers and occasional negative responses.

Adverse events were common but comparable between groups. At least one adverse event occurred in 42% of White and 48% of non-White patients. Ocular events were the most frequent (32% vs. 36%), with conjunctivitis in 16% and 18%. Infection rates were similar (10% vs. 12%), although eczema herpeticum was more frequent in non-White patients (12% vs. 6%). No serious infections or permanent discontinuations occurred.

Comorbidity burden was high in both groups. Atopic comorbidities affected 72% of White and 80% of non-White patients, while cardiometabolic disease was more frequent in White patients (34% vs. 20%), whereas prior eczema herpeticum and ocular atopy were more common in non-White patients. Multimorbidity affected 66% and 64% respectively.

Residual disease commonly involved face/neck and hands in both cohorts (50-62.5%). Treatment switching occurred more frequently in non-White patients (24% vs. 14%), reflecting refractory disease, prior biologic exposure and ocular adverse events.

Conclusions

Advanced systemic therapies were effective and well tolerated across both White and non-White patients with moderate-to-severe AD. However, distinct real-world patterns emerged, with non-White patients demonstrating greater response variability, higher rates of eczema herpeticum and ocular atopy, and more frequent treatment switching. Differences in comorbidity profiles and treatment sequencing suggest that real-world treatment pathways may vary across skin types and are not fully represented in clinical trials. Limitations include the retrospective single-centre design and modest sample size. Larger prospective studies in diverse skin types are needed to better define efficacy, safety and optimal treatment strategies in AD.