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Dupilumab improves signs and symptoms in adult and adolescent patients with erythrodermic atopic dermatitis: A pooled subgroup analysis

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Background: Erythrodermic atopic dermatitis (E-AD; ≥90% body surface area [BSA] affected by AD and a baseline erythema score ≥1 based on Global Individual Signs Score) is difficult to treat and potentially life-threatening. Dupilumab is approved in the USA for adults and adolescents with inadequately controlled moderate to severe AD. We report pooled efficacy data from dupilumab trials, both as monotherapy and with concomitant topical corticosteroids (TCS), in patients with E-AD.

Methods: In the 16-week dupilumab monotherapy trials (3 in adults, 1 in adolescents [12-17 years]), 136 patients with E-AD received dupilumab 300 mg weekly (qw), 200 mg/300 mg every 2 weeks (q2w; adolescents: 200/300 mg for baseline weight <60 kg/≥60 kg), or placebo (qw/q2w/placebo: n = 38/48/50). In dupilumab+TCS trials (LIBERTY AD CAFÉ [16-week], LIBERTY AD CHRONOS [52-week]), 73 adults with E-AD received dupilumab 300 mg qw+TCS, q2w+TCS, or placebo+TCS (qw+TCS/q2w+TCS/placebo+TCS: n = 30/11/32). *P* values are vs placebo for change from baseline.

Results: Dupilumab monotherapy significantly improved (qw/q2w/placebo): mean, BSA affected (baseline: 94.78%/94.56%/95.54%; wk 16: 51.69%/55.64%/81.94%; qw/q2w, $P = .0279/P = .0259$); Eczema Area and Severity Index (EASI) (baseline: 58.65/54.98/59.25; wk 16: 24.41/24.28/46.35; $P = .0026/P = .0031$); and daily Peak Pruritus Numerical Rating Scale (NRS) weekly average (baseline: 7.38/7.82/8.03; wk 16: 4.20/4.78/7.37; $P < .0001/P = .0001$). Similarly, dupilumab+TCS significantly improved (qw+TCS/q2w+TCS/placebo+TCS): BSA affected (baseline: 94.11%/95.68%/94.22%; wk6: 27.44%/38.61%/76.31%; $P < .0001$); EASI (baseline: 53.28/49.12/52.43; wk 16: 11.18/16.38/40.24; $P < .0001$); and daily Peak Pruritus NRS weekly average (baseline: 7.65/8.30/7.69; wk 16: 3.59/3.73/5.62; $P = .0017/P = .0071$). Dupilumab+TCS continued improvements from wk 16 to wk 52 although sample size was small (CHRONOS). Overall, dupilumab had an acceptable safety profile in E-AD patients.

Conclusions: Dupilumab as monotherapy or with concomitant TCS significantly improves signs and symptoms in E-AD patients.

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The impact of consistent image capturing for artificial intelligence–based systems

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Introduction: Artificial intelligence (AI) is considered an interesting next step in dermoscopy to correctly diagnose skin conditions. This triggered the development of numerous AI-based risk assessment apps. AI performance on benchmark challenges seem promising. However, these benchmark datasets are captured with a limited number of acquisition devices and settings. Smartphones however show much higher variability: new cellphones are launched in a rapid pace, often using different chipsets and optics. Furthermore, software updates can result in (unnoticed but) different image quality that may influence the output of AI algorithms. This experiment investigates how AI copes with changes in image acquisition.

Methods: We trained an AI algorithm that is on par with the state of the art. This network was trained on 8015 images from a public dataset, originating from 3 different sites each using different acquisition settings. Evaluation of the trained network was done both on 2000 images held out from training and on 3695 additional images captured at 4 different sites using a high-end digital dermatoscope.

Discussion: Comparing between public and additional dermoscopy test data, we observe a drop of 10% both in specificity and sensitivity. Current AI algorithms achieve good results when used on images that correspond to images on which they were trained on. Therefore, we believe that AI systems focusing on dedicated hardware, hereby avoiding variability in image acquisition, will result in more consistent performance compared with apps that have to tackle a wide variety of acquisition settings and work with many different devices such as smartphones.

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Tolerance of a new dermocosmetic shampoo dedicated to scalp psoriasis treated by topical treatments

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Introduction: Scalp psoriasis is a common location of psoriasis, with a high prevalence of pruritus and a significant impact on the quality of life. Dermatologists often recommend keratolytic complementary cares to medical treatments.

Objective: To evaluate the tolerance a new dermocosmetic shampoo dedicated to scalp psoriasis in association with topical treatments.

Methods: Adult patients with scalp psoriasis were included in an open, noncontrolled clinical study. They had to be treated by topical treatments (corticosteroids, combination of corticosteroids and vitamin D analogues) for at least 15 days. They applied the shampoo three times a week for 4 weeks. Three visits were planned (D1, D15, and D29). Tolerance evaluation was based on physical signs and functional signs assessment. Global tolerance assessment by the investigator was done on the analysis of reactions related to the product. At D29, patients completed a cosmetic acceptability questionnaire.

Results: Thirty-one patients (mean age: 48.2) were analyzed. No new signs or worsening of any physical and functional signs were recorded during the study. Therefore the product had an excellent skin tolerance. Patients globally appreciated the product, giving it a global mark of 7.3 out of 10.

Conclusions: The results of this study demonstrated that this new dermocosmetic shampoo dedicated to scalp psoriasis was very well tolerated by patients treated by topical treatments. Very good tolerance and cosmetic acceptability are important for ensuring good long-term compliance.

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Indirect comparisons in psoriasis: Implications for clinical practice

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Objective: In moderate to severe plaque psoriasis (PsO), treatment decisions are becoming increasingly complex as the number of systemic therapeutic options and associated clinical studies grows. Head-to-head comparisons are not feasible for all therapies, so indirect comparison (IC) methodology is important to inform about the relative efficacy/safety of different drugs. We discuss potential implications of published ICs in PsO for clinical decision-making.

Methods: Ten network meta-analyses (NMAs) and 2 classic-adjusted ICs/matching-adjusted ICs ([M]AICs) of systemic therapies for moderate to severe PsO were evaluated, and clinical implications summarized.

Results: All publications reported data relating to ≥90% improvement from baseline in Psoriasis Area Severity Index (PASI90) and provided treatment rankings as well as risk differences between therapies to allow assessment of relative efficacy. The estimated efficacy of individual drugs varied across NMAs/(M)AICs. Some consistency in efficacy rankings was observed for certain drugs, although rankings for most drugs varied by NMA, making detailed understanding of the scope and conduct of each NMA crucial. Efficacy differences were generally higher within a drug class than across classes. Interpretation of safety results was limited by sparse and short-term data, and variations in outcome measures, definitions and collection time points within individual analyses.

Conclusions: Current NMAs/(M)AICs provide valuable indirect evidence of the short-term efficacy of available systemic treatment options for moderate to severe PsO. When selecting the most efficacious treatment, drugs within a class cannot be considered equal and therapies should be considered individually rather than by class. Additional data are needed to enhance understanding of the long-term efficacy of psoriasis treatments.

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