

Red in the face:

Dupilumab facial dermatitis in a 12 year old boy

Kristina Derrick, M.D., Sc.M. and Sharon Glick, M.D., M.S.

Departments of Dermatology and Pediatrics, SUNY Downstate and Maimonides Medical Center

Background

Dupilumab is increasingly used for pediatric patients with severe atopic dermatitis (AD). There are reports of new onset head and neck erythema in adults, generally asymptomatic and appearing within 2 months of starting therapy. To our knowledge, there are no case reports of Dupilumab facial dermatitis in children.

Case report

We report an 11 year 9 month old Caucasian male with severe AD since infancy despite treatment (topical corticosteroids-TCS, topical calcineurin inhibitors-TCI, emollients, bleach baths, phototherapy). He had asthma and environmental allergies. His AD caused significant social and family distress.

Physical examination showed 85% body surface area (BSA) affected, with marked erythema, papulation, excoriations, and lichenification over the whole body including face and neck.

He started dupilumab at 12 years old (33 kg), with loading dose 400 mg and maintenance dose 200 mg every 2 weeks. He rapidly improved by 1 month, and by 10 weeks was nearly clear. His AD severity scoring and patient reported outcomes dramatically improved (see table).

However, at 10 weeks, he had a new confluent, well-demarcated erythematous rash with fine non-greasy scaling without excoriations over his face. He was unaware of the rash and denied itching or pain in the area. He had no recent infections or systemic symptoms. He was prepubertal (no axillary hair, Tanner 1 pubic hair, prepubertal testes, no acne). He never had conjunctivitis or eye irritation.



New onset rash
(Week 10)



Improved rash
(Week 14)

Dupilumab facial dermatitis was diagnosed. Biopsy was not performed due to age. KOH test was negative. The rash improved with bland emollient treatment for 4 weeks (Vaseline, Eucerin).

Scoring tool	Base-line	4 weeks	10 weeks	14 weeks
EASI	36	9	2	1
IGA	3	1	1	1
BSA	85%	80%	6%	3%
PPNRS	5	1	1	1
CDLQI	7	0	0	0
FDLQI	14	9	6	11

PPNRS: Peak Pruritis Numerical Rating Scale

Literature review

- A literature search was performed to characterize this phenomenon in the pediatric population
- There were no case reports of pediatric dupilumab facial dermatitis or redness
- One retrospective review noted 3 patients under 18 years old thought to have dupilumab facial redness, out of 9 total patients under 18. The authors did not characterize the diagnosis, rash, onset, evaluation, treatment, or response.
- Reports of dupilumab facial redness in adults describe a new onset scaly facial erythema that is distinct clinically and histologically from AD.
- Malassezia has been detected in some cases.
- Treatments have included TCS, TCI, antifungals.

Conclusion

- Physicians should be aware of the side effect of dupilumab facial dermatitis: new-onset, well-demarcated facial erythema without pruritis, often within the first two months of therapy.
- This is the first report detailing dupilumab facial dermatitis in a pediatric patient.
- Physicians should consider unique aspects of pediatric patients, such as the pubertal status, in assessing the likelihood of Malassezia as a cause.
- Consider bland emollient for initial therapy or antifungals if KOH test is positive.
- Dupilumab facial dermatitis may not have been apparent in clinical trials as AD scoring tools may underreport the pattern of well-demarcated facial erythema without excoriation, papulation, lichenification and large BSA.

The patient and his parents provided written consent for this case report and photographs.