

Superimposed linear atopic dermatitis treated with dupilumab

Abstract

Common polygenic skin disorders, such as atopic dermatitis, may rarely present in a segmental or linear distribution due to cutaneous mosaicism. Only seven cases of superimposed linear atopic dermatitis have been reported to date. Here, we present a child with severe superimposed linear atopic dermatitis and highlight the first successful use of dupilumab in its treatment.

He had near-complete clearance of the skin lesions and resolution of pruritus by 2 months and has continued dupilumab for a total of 10 months with no adverse effects (Figure 2A-C).

2 | DISCUSSION

Superimposed linear atopic dermatitis is characterized by diffuse, bilateral skin disease with more severe involvement following a unilateral linear or segmental arrangement.¹ These eruptions tend to be more severe and difficult to treat compared with generalized atopic dermatitis. Seven cases of superimposed linear atopic dermatitis have been previously described.¹⁻⁵ Of the cases reported, the majority of patients had a history of atopic dermatitis during early childhood,¹⁻⁴ and while linear skin involvement tended to appear at a young age, onset ranged from 2-65 years.¹⁻⁵ All cases were characterized by severe, unilateral, linear arrangement involving the face, neck, arms, legs, abdomen, and/or trunk.¹⁻⁵ To our knowledge, this is the first reported case of superimposed linear atopic dermatitis, successfully treated with dupilumab. Our patient failed several topical therapies and immune-modulating therapies, and his severe presentation and intense pruritus necessitated more aggressive treatment. Prior cases of superimposed atopic dermatitis have been successfully treated with topical treatments, such as corticosteroids and fusidic acid, as well as systemic therapies, such as systemic antibiotics.¹⁻⁴ While information is limited on long-term treatment response, two patients treated with topical corticosteroids suffered from recurrence after cessation of therapy.^{3,4}

We present the case of a pediatric patient with severe superimposed linear atopic dermatitis and highlight the success of dupilumab in its treatment. While there are just several cases of superimposed atopic dermatitis with linear or segmental distributions published in

1 | CASE PRESENTATION

A 14-year-old boy with a history of atopic dermatitis, which resolved in infancy, presented with 1 year of pruritic plaques on the bilateral trunk and extremities. He denied contact exposures and was not on any medications. Physical examination revealed scaly, pink to red plaques most severe on the right arm, back, and lateral leg (Figure 1A-C). Differential diagnoses included psoriasis, allergic contact dermatitis, linear atopic dermatitis, and blaschkitis. A biopsy showed focal parakeratosis, acanthosis, and spongiosis with dermal lymphocytes, sub-epidermal edema, and a superficial perivascular infiltrate of lymphocytes and histiocytes, which are consistent with subacute spongiotic dermatitis. Patch testing with the North American series was negative. The patient (weighing 66 kg) underwent several failed treatment trials, including fluocinonide 0.05% and triamcinolone 0.1% ointments twice daily for a few weeks, a 15-day oral prednisone taper starting at 40 mg daily, and oral methotrexate 17.5 mg weekly for 5 months. He was then treated with oral cyclosporine 100 mg twice daily for 5 months and showed moderate improvement. Finally, he was switched to dupilumab 300 mg subcutaneously every 2 weeks following a 600 mg loading dose.

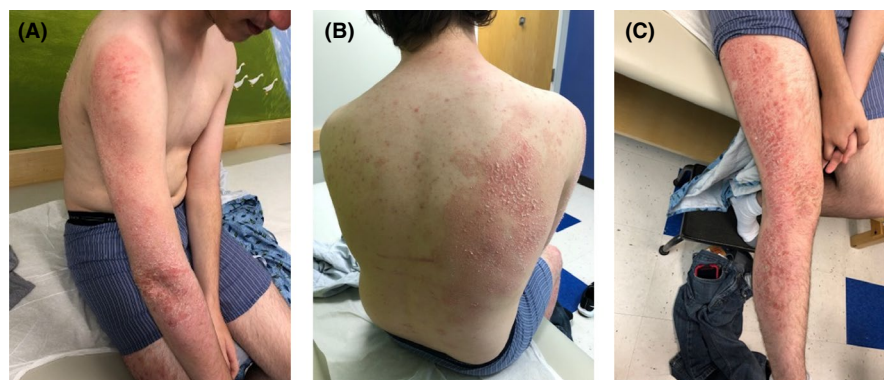


FIGURE 1 (A-C) Right lateral arm, right posterior trunk, and right lateral leg with pink to red scaly plaques before treatment with dupilumab

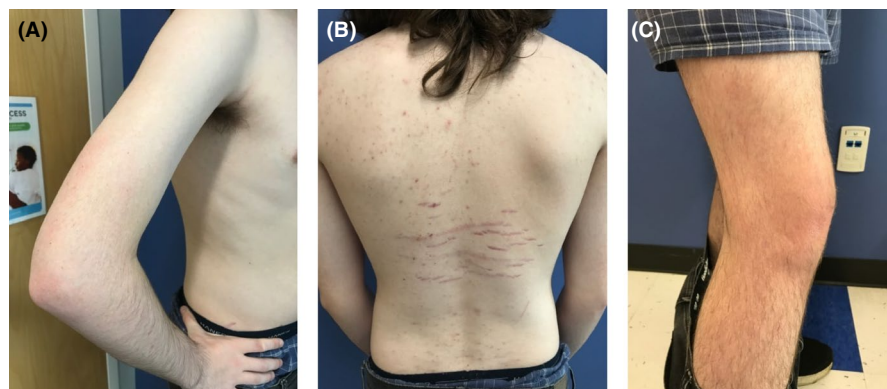


FIGURE 2 (A-C) Right lateral arm, right posterior trunk, and right lateral leg with improvement of plaques after 10 mo of treatment with dupilumab

the literature, it is important that clinicians recognize this condition as it is likely more common than reported.^{1,4}

KEYWORDS

atopic dermatitis, dupilumab, pruritus, therapy-systemic

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CONFLICT OF INTEREST

The authors have no conflict of interest to declare.

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