

A pediatric recalcitrant case of perioral dermatitis successfully treated with topical 0.03% tacrolimus alone

Dear Editor,

Perioral dermatitis is a common acneiform eruption characterized by erythematous to skin-colored papular and pustular lesions located around the eyes, nose, and mouth. It may affect both adults and children. Perioral dermatitis has been shown in patients as young as 3 months. The etiology of the entity is clearly unknown. However, many of the patients have a history of atopic diathesis. The diagnosis is usually made based on clinical features (Kellen & Silverberg, 2017).

A 9-year-old boy presented with a 3 months history of non-itchy papular lesions on the face. The patient had a personal and familial history of atopic diathesis. The lesions did not respond to previously treatments including oral azithromycin, topical corticosteroids, topical clindamycin, and topical metronidazole. Dermatological examination revealed numerous, yellow to skin-colored papular lesions located around the mouth and nose (Figure 1a). No facial erythema, flushing, and telangiectatic lesions were observed. There was also no history of contact exposure. Based on the anamnesis and clinical examination, a diagnosis of perioral dermatitis was made. Twice daily application of topical 0.03% tacrolimus ointment allowed a complete resolution after 4 weeks without adverse reactions (Figure 1b).

There are many treatment options for perioral dermatitis, and the options in pediatric population are a bit different. Topical corticosteroids are commonly used but the question of whether they are suitable treatment options or triggering factors remains controversial. Initially, the lesions may respond to the topical corticosteroids. However, upon discontinuation of the corticosteroid, the eruption recurs rapidly. This condition may cause a dependency on topical corticosteroid use and finally, perioral dermatitis may evolve into a granulomatous subtype of the entity (Tempark & Shwayder, 2014).

Topical agents including metronidazole, clindamycin, erythromycin, sulfur preparations, and azelaic acid may be considered as the first-line treatment options (Miller & Shalita, 1994). Randomized, double-blind, vehicle-controlled studies have shown that topical pimecrolimus is an effective option in improving perioral dermatitis (Schwarz et al., 2008). However, there is only two case reports of topical tacrolimus use in the respective literature. The patient, reported in the first one, was treated with topical 0.01% tacrolimus (Hussain & Daly, 2007). The second one reported concomitant use of topical 0.03% tacrolimus with oral minocycline in granulomatous perioral dermatitis (Misago, Nakafusa, & Narisawa, 2005). To the best of our

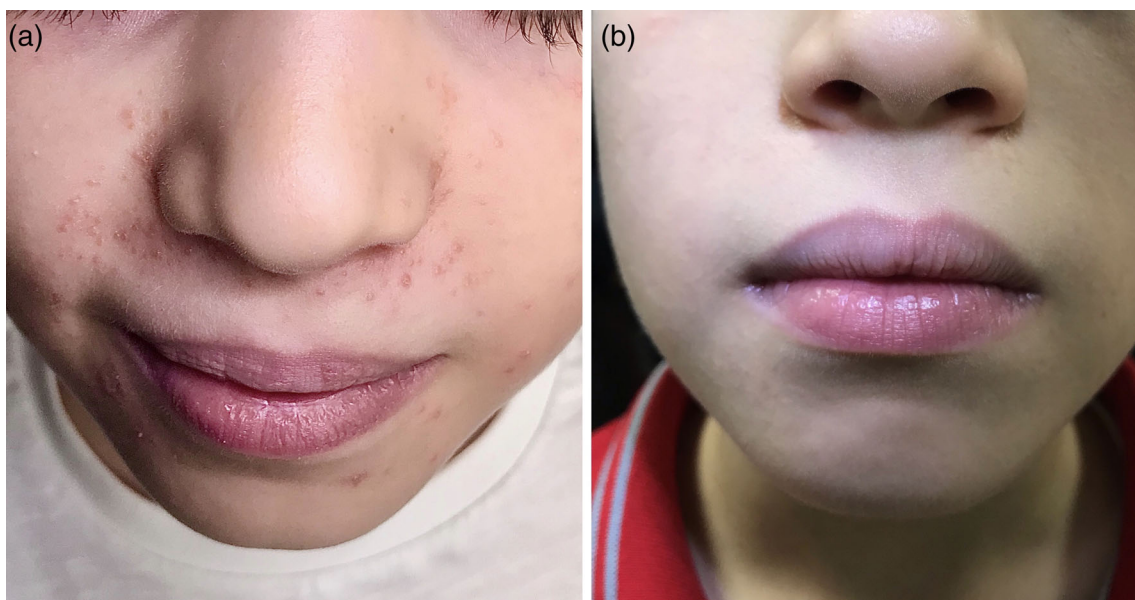


FIGURE 1 (a) Perioral dermatitis. Numerous scattered, discrete, small, soft, yellow to skin-colored follicular papules located around the mouth and nose with sparing of the upper lip. (b) Complete resolution of the lesions after twice daily application of topical 0.03% tacrolimus for 4 weeks

knowledge, here we reported successful use of topical 0.03% tacrolimus alone in perioral dermatitis for the first time.

The mechanism of action of topical calcineurin inhibitors is the ability to interfere pro-inflammatory mediators by the nuclear factor of activated T cells. Their nonsteroid based strong anti-inflammatory effect make them suitable treatment options for perioral dermatitis.

The use of systemic medications in perioral dermatitis is limited in pediatric population. Tetracyclines cannot be used in children younger than 8 years. Isotretinoin has also a limited use due to its long-term adverse effects profile. Azithromycin and erythromycin may be options in recalcitrant cases of perioral dermatitis (Tempark & Shwayder, 2014). Topical 0.03% tacrolimus may be a safe and effective option for childhood perioral dermatitis.

CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.

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REFERENCES

- Hussain, W., & Daly, B. J. J. (2007). Granulomatous periorificial dermatitis in an 11-year-old boy: Dramatic response to tacrolimus. *Journal of the European Academy of Dermatology and Venereology*, 21(1), 137–139.
- Kellen, R., & Silverberg, N. B. (2017). Pediatric periorificial dermatitis. *Cutis*, 100(6), 385–388.
- Miller, S. R., & Shalita, A. R. (1994). Topical metronidazole gel (0.75%) for the treatment of perioral dermatitis in children. *Journal of the American Academy of Dermatology*, 31(5 Pt 2), 847–848. [https://doi.org/10.1016/s0190-9622\(94\)70243-8](https://doi.org/10.1016/s0190-9622(94)70243-8)
- Misago, N., Nakafusa, J., & Narisawa, Y. J. J. (2005). Childhood granulomatous periorificial dermatitis: Lupus miliaris disseminatus faciei in children? *Journal of the European Academy of Dermatology and Venereology*, 19(4), 470–473.
- Schwarz, T., Kreiselmaier, I., Bieber, T., Thaci, D., Simon, J. C., Meurer, M., ... Brautigam, M. (2008). A randomized, double-blind, vehicle-controlled study of 1% pimecrolimus cream in adult patients with perioral dermatitis. *Journal of the American Academy of Dermatology*, 59(1), 34–40. <https://doi.org/10.1016/j.jaad.2008.03.043>
- Tempark, T., & Shwayder, T. A. J. A. (2014). Perioral dermatitis: A review of the condition with special attention to treatment options. *American Journal of Clinical Dermatology*, 15(2), 101–113.