

What's Your Diagnosis?

Sharpen Your Physical Diagnostic Skills

Multiple Erythematous Papules on a 6-Year-Old's Face

ALEXANDER K. C. LEUNG, MD, and BENJAMIN BARANKIN, MD



A 6-year-old boy presented with a 2-month history of a facial eruption. The child was asymptomatic. He has atopic dermatitis and has used topical corticosteroids for the treatment of this condition.

around the nasolabial folds and in the perioral area. The lesions spared the vermilion border. The rest of the examination findings were unremarkable.

PHYSICAL EXAMINATION

Physical examination revealed multiple erythematous papules

What's your diagnosis?

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Answer: Perioral dermatitis

Perioral dermatitis is a common acneiform eruption on the face that can occur in children and adults.^{1,2} The condition is characterized by perioral papules, papulovesicles, and/or papulopustules, sparing the vermillion border.³ The condition was first described by Frumess and Lewis in 1957 as *light-sensitive seborrheid*.⁴ The term *perioral dermatitis* was coined by Mihan and Ayres in 1964.⁵

EPIDEMIOLOGY

Perioral dermatitis occurs mainly in children and in young women.^{1,6} The exact incidence in the general population is not known. In one study, 6% of female patients and 0.3% of male patients seen in dermatology offices in Germany were found to have perioral dermatitis.⁷ In a prospective, cross-sectional, multicenter study of 639 children with asthma treated in France with either inhaled beclomethasone dipropionate or budesonide, 19 (3%) children developed perioral dermatitis.⁸

Because asthma is a common childhood illness that is frequently treated with inhaled corticosteroids, it is conceivable that perioral dermatitis is also commonly seen in the pediatric age group. In children, the sex ratio is approximately equal.^{9,10} In the adult population, there is a female predominance.⁶ All races are affected.

ETIOLOGY

The exact etiology is not known.^{11,12} The most common identifiable cause is the use of topical corticosteroids on the face.^{2,10} Perioral dermatitis also may result from the use of inhaled and, less frequently, nasal or systemic corticosteroids.^{1,13-15} Patients with an atopic diathesis are particularly susceptible to perioral dermatitis.¹⁰ Ultraviolet light, heat, and wind may worsen perioral dermatitis.¹⁶ On the other hand, physical sunscreens with a high sun protection factor also may cause perioral dermatitis.¹⁷

Other possible causative factors or agents include dry skin, *Demodex folliculorum* face mites, fusobacteria, cosmetics, heavy moisturizing creams (especially those with a petrolatum or paraffin base), propyl gallate (an antioxidant food additive), fluorinated and tartar-control toothpastes, oral contraceptives, propolis (a honeybee product), and the mercury contained in amalgam fillings.^{13,17-20}

The condition occurs more often in children with immunodeficiency, particularly in those with leukemia.¹⁶

CLINICAL MANIFESTATIONS

Clinically, perioral dermatitis presents as discrete, symmetrical, grouped, flesh-colored to erythematous papules, papulovesicles, and/or papulopustules, usually not larger than 2 mm in diameter, on an erythematous and scaly base, primarily in the perioral area.^{16,21,22} The area immediately adjacent to the



vermillion border of the lips characteristically is spared.^{10,12} Frequently, especially if the condition is untreated for some time, there is additional perinasal and periorbital involvement in a symmetrical fashion—a condition referred to as periorificial dermatitis.⁹ Pruritus is variable and mild.^{9,14} On the other hand, an irritant or burning sensation in the affected area is common.^{18,23} Telangiectasia, comedones, cysts, and nodules are not features of perioral dermatitis.¹⁵

A granulomatous form has been described, mainly in black children.^{2,11} However, several cases involving fair-skinned children also have been described.²⁴ In the granulomatous form, lesions often are discrete, small, firm, dome-shaped, monomorphic, flesh-colored or yellow-brown papules.² Erythema is less prominent, and pustules usually are absent.^{6,25} Lesions typically occur around the mouth, nose and eyes.²⁵ Childhood granulomatous perioral dermatitis (also known as facial Afro-Caribbean childhood eruption) typically presents in the prepubertal period, but the age of onset varies from 6 months to 18 years.^{25,26} The condition is slightly more common in boys.^{25,27}

HISTOPATHOLOGY

Histopathologic examination of the lesion shows spongiosis, primarily of the outer root sheaths of the follicles, with variable perifollicular or perivascular lymphohistiocytic infiltrate.¹⁵ In the granulomatous form, characteristic features include epidermal spongiosis and upper dermal and perifollicular granulomatous infiltrates.^{13,25,26} The infiltrates consists of epithelioid macrophages, lymphocytes, and giant cells.^{25,26} Caseating granulomas are characteristic features of granulomatous perioral dermatitis.¹⁶ Sometimes, well-formed noncaseating granulomas surrounded by lymphocytes are seen.²⁵

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DIAGNOSIS

The diagnosis is mainly clinical. Usually, no laboratory testing is necessary.

DIFFERENTIAL DIAGNOSIS

Perioral dermatitis should be differentiated from lip-licker's dermatitis, which develops in individuals who habitually lick the lips and skin around the mouth and is an irritant contact dermatitis caused by saliva. The erythematous lip-licker's rash involves the perioral area and characteristically includes the vermillion border of the lips. Other differential diagnoses include acne vulgaris, atopic dermatitis, allergic or irritant contact dermatitis, seborrheic dermatitis, rosacea, discoid lupus, tinea faciei, eruptive syringomas, xanthomas, acrodermatitis enteropathica, biotin deficiency, demodicosis, papular sarcoidosis, necrolytic migratory erythema (glucagonoma syndrome), and Haber syndrome; each of the aforementioned has a unique clinical presentation.^{14,15,23}

COMPLICATIONS

Perioral dermatitis may be cosmetically unsightly and socially embarrassing. The quality of life may be impaired, and emotional problems may occur.¹⁶

PREVENTION

One should not apply topical corticosteroids, especially potent ones, on the face for prolonged periods. Consider topical calcineurin inhibitors for facial dermatoses. Washing the perioral area with water after corticosteroid inhalation may serve to prevent or minimize perioral dermatitis.³

MANAGEMENT

All potential offending agents should be discontinued. When corticosteroids are withdrawn, symptoms and appearance of the lesions initially may worsen.¹⁶

Topical therapy with metronidazole, erythromycin, clindamycin, tacrolimus, or pimecrolimus usually is effective.^{1,2,14,15,23,28} Other therapeutic options include topical adapalene and azelaic acid cream.^{1,10,16,28} For more recalcitrant cases, the use of oral tetracycline, isotretinoin, and erythromycin should be considered.^{2,11,14,15,23} Oral tetracycline should be avoided in children younger than 12 years of age, pregnant women, and those with contraindications to systemic tetracycline.² Topical pramoxine hydrochloride may be used for symptomatic relief of pruritus.¹⁶

Childhood granulomatous perioral dermatitis usually responds to topical metronidazole.²⁶ Some patients may require treatment with oral erythromycin, oral isotretinoin, or oral metronidazole.^{10,26}

PROGNOSIS

The condition is benign and self-limited and resolves without scarring or residual disturbances of pigmentation.^{23,25} If left untreated, patients can experience fluctuating disease for months or years.^{2,29} Patients who receive appropriate treatment

have an excellent prognosis, and the lesions usually resolve within a few months.^{2,29} Despite proper treatment, the condition can also recur. ■

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