

Topical corticosteroid withdrawal in a pediatric patient



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INTRODUCTION

Topical corticosteroids (TCS) are used frequently for various inflammatory conditions in dermatology. It is well known that the prolonged daily and inappropriate use of TCS may cause adverse effects such as atrophy, telangiectasia, and striae, among others.¹ TCS withdrawal has been described in adults but has been infrequently reported in the pediatric population. We describe a case of a 14-year-old girl who presented to our emergency department (ED) with a pustular dermatosis of the face that arose after abrupt discontinuation of TCS.

CASE REPORT

A 14-year-old girl with a history of atopic dermatitis presented to the ED for a worsening facial rash that started 6 days prior. The rash initially started as red papules over the left cheek, for which she was seen by her pediatrician who empirically prescribed acyclovir for presumed eczema herpeticum. She was also instructed to discontinue using any topical products. In the 3 days after this visit, the patient's rash severely worsened until ultimately the family brought her to the ED.

The patient's medical history was remarkable only for a nonspecific facial rash that appeared 2 years earlier on the bilateral cheeks diagnosed as atopic dermatitis for which she was prescribed TCS (triamcinolone 0.1% ointment). She denied any personal or family history of atopy. The patient had been using TCS over her face 2 times per day for the last 2 years, stopping only for, at most, 1 or 2 days, as the rash would always return on discontinuation. She eventually stopped completely 3 days before presenting to the ED.

Examination found an otherwise healthy teenage girl, nonfebrile, with confluent erythematous edematous plaques in the bilateral periorbital areas,

Abbreviations used:

ED: emergency department
TCS: topical corticosteroids

left more than right, which were studded with numerous 2- to 3-mm pustules, some coalescing into "lakes of pus" (Figs 1 and 2). A few pustules were seen in the perioral area as well. No signs of steroid-induced atrophy such as skin thinning or increased vascular prominence were noted.

The differential diagnosis included TCS withdrawal, impetigo, herpes simplex, pustular psoriasis, and acute localized exanthematous pustulosis. Bacterial and viral cultures were obtained, and the patient was given empiric doxycycline and continued on acyclovir while cultures were pending. She was also instructed to restart triamcinolone ointment to the face, every other day with a slow taper off. The cultures were negative, and on phone follow-up 4 days later, the parents reported the patient's face had returned to normal. She was continued on a taper of topical triamcinolone to hydrocortisone ointment and continued on oral doxycycline.

DISCUSSION

TCS withdrawal was first described by Sneddon in 1968.² It is a clinical adverse effect of inappropriately prolonged and frequent use of mid- to high-potency TCS most commonly on the face or genital region.³ This effect is distinct from other well-described effects such as skin atrophy and steroid rosacea, as it is precipitated by sudden cessation of the TCS.³⁻⁶

It typically affects middle-age women who have used a mid- or high-potency TCS on the face, usually

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Fig 1. Clinical image of topical corticosteroid withdrawal on the face. Confluent erythematous edematous plaques in the bilateral periorbital areas, studded with numerous 2- to 3-mm pustules.

for an indication of atopic dermatitis. In a systematic review from Hajar and colleagues³ only 7% of reported cases occurred in patients younger than 18 years.

The literature on steroid withdrawal dermatosis describes 2 morphologically distinct subtypes: a papulopustular variant and an erythematooedematous variant, which at times overlap.

In our case, the patient fits best into the papulopustular subtype, with prominent feature of pustules, rather than the features of erythematous scaling and symptoms of burning or stinging seen in the erythematooedematous variant.³

The triad of erythema, edema, and extensive pustulation in particular has been described as rapidly occurring after stopping long-term application of fluorinated corticosteroids for the treatment of facial rash, often rosacea.^{4,5} In the pediatric literature, individual cases are described of a nonspecific dermatitis treated with fluorinated steroids, which causes a steroid rosacea that results in “rebound phenomenon” on any attempt at discontinuation of the topical treatment; this usually occurs within the first week of cessation and consists of an increase in pustular lesions.^{7,8} This pustular withdrawal phenomenon has been specifically noted to resemble pustular psoriasis^{4,6}; our patient’s rash displayed the morphologic finding of coalescing pustules, lakes of pus, usually associated with pustular psoriasis.

There are no definite treatment guidelines for this phenomenon, although various treatment methods have been proposed such as oral tetracyclines, calcineurin inhibitors, topical hydrocortisone, and supportive treatment with compresses and emollients.^{1,3-6} Our patient improved rapidly on resuming topical triamcinolone to the face and a course of oral



Fig 2. Pustules coalescing into lakes of pus. A few pustules were seen in the perioral area as well.

doxycycline. A tapering schedule was planned with topical triamcinolone every other day for 14 days, then switching to hydrocortisone every other day. Doxycycline, 100 mg twice daily, was continued for 1 month. On follow-up, the patient was completely clear of rash.

We report this case of TCS withdrawal to raise awareness of the presence of this diagnosis and its possible pustular morphology within the pediatric population. The patient rapidly improved with resuming topical steroids to the face and taking oral doxycycline, suggesting that careful tapering after long-term inappropriate use of potent TCS and oral tetracyclines may be a useful avenue for treatment in these cases.

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