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Case Report

Allergic Contact Dermatitis to Clobetasol used for Stasis Dermatitis

Daniel Butler BS[1], Maryam Afshar[2], Antoanella Calame[2] and Sharon E Jacob[2]*

[1]Department of Dermatology University of Arizona, USA

[2]Department of Dermatology, University of California, USA

***Corresponding author:** Sharon E Jacob, Department of Dermatology, University of California, San Diego and Rady Children's Hospital 8010 Frost Street, Suite 602, San Diego, CA 92123, USA

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Abstract

Allergic contact dermatitis has been identified as a potential exacerbating factor for psoriasis vulgaris often times in association with topical therapies [1-5]. This case demonstrates that patients with new onset or recurrent flares of pustular psoriasis should be considered for patch testing, which should include all topical agents, including corticosteroids.

Keywords: Psoriasis; Corticosteroids; Contact dermatitis; Pustular; Clobetasol

Case Report

An 88-year old female with chronic venous insufficiency of the lower extremities had been treated for stasis dermatitis for several years with clobetasol propionate and compression. The patient presented to clinic with worsening dermatitis, which progressed to include her thighs, despite regular clobetasol application. To investigate potential causes of the worsening dermatitis, the patient was patch tested. A positive patch test reaction was noted toclobetasol proprionate and notable negative patch tests to rubber chemicals disperse dyes and a swatch of her compression hose. Given this information, the patient was switched to desoximethasone 0.25% ointment once daily, an alternative class of corticosteroid and tacrolimus ointment 0.1% once daily, and continued on compression.

The patient's stasis dermatitis became well controlled on this regimen for the next 18 months. She then presented with acute onset, bilateral, erythematous and mildly scaly papules and plaques, with scattered pustules, covering approximately twenty-five percent of her body surface area. The lesions predominated on her thighs and lower extremities with scattered lesions on the trunk and buttocks. She reported that a week prior to the eruption, a friend gave her clobetasol spray, which she was using twice daily because of the ease of application. A diagnosis of pustule ear allergic contact dermatitis (ACD) versus pustular psoriasis was entertained and punch biopsies were obtained.

Histopathology revealed mild epidermal acanthosis with slight spongiosis and a slightly proliferative epidermis. Focal decrease in the granular cell layer with overlying parakeratosis and neutrophils were present. A sparse infiltrate composed of lymphocytes, histiocytes, and neutrophils, along with a few dilated blood vessels, was present in the upper dermis. No eosinophils were present. These histologic findings were most compatible with pustular psoriasis (Figure 1).

The patient was instructed to discontinue use of clobetasol spray, and was started on acitretin 25mg and three times weekly narrow band ultraviolet B (nbUVB). She responded to this treatment and cleared within 6 weeks. She was tapered and stopped on the acitretin and reduced her UVB to once weekly and had sustained response for 18 weeks.

The patient returned to clinic with new onset scaly plaques studded with pustules involving >15% of her body surface area. She denied any use of clobetasol. On, review of systems, she was found to have gastrointestinal distress and the patient was ultimately diagnosed with a urinary tract infection, for which she started a seven day course of a macrolide. The patient was counseled to continue daily use of desoximethasone0.25%ointment and tacrolimus0.1% ointment twice daily, in addition to nb UVB twice weekly. In follow up at 4weeks after the flare, she had fine erythematousplaques without evidence of new lesions. A few, scattered pustules remained on the right lower extremity, but she was asymptomatic. Twelve weeks later, her generalized dermatitis resolved, and her stasis dermatitis remained stable.

Discussion

Contact allergy following topical corticosteroid application is estimated between 0.5-5% [1-3]. The literature suggests a topic dermatitis and stasis dermatitis are significant risk factors for the

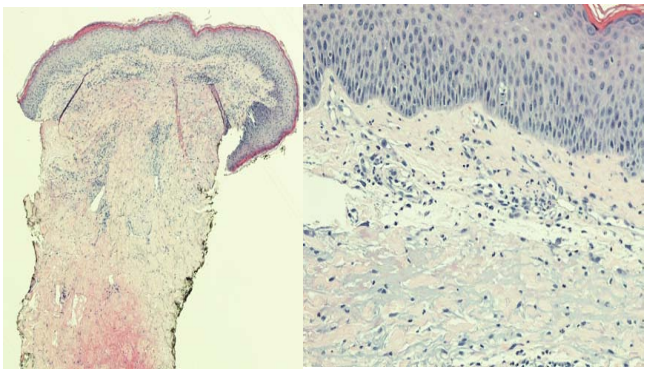

Figure 1: Mild acanthosis, slight spongiosis, with neutrophils in the cornified layer, and upper dermis. Low power view (20X) on the left, higher power view (200x) on the right)

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development of ACD to corticosteroids [4]. A new classification system proposed by Baeck and Goossensorganizes the corticosteroids into three groups separated by methylation and halogenation properties [5]. Group 1, containing agents such as hydrocortisone, is most likely to cause allergic contact reactions, while group 3, containing clobetasol, is classically least likely to result in an allergic reaction [5].

While literature supports a relationship between ACD and corticosteroids, this case examines that relationship and its association with pustularpsoriasis. Katugampola, detailed two cases in which contact allergies to varieties of topical agents caused continuous flares of pustular psoriasis [6]. Two other cases detail the role of zinc pyrithione ACD in the transformation of stable plaque type psoriasis into a form of pustular psoriasis [7,8]. Positive patch test reactions to corticosteroids have also been associated with generalized pustular flares [9], although hydrocortisone is the only corticosteroid previously reported to cause such flares. Thus, to our knowledge, this case is the first documentation of clobetasol application resulting in a pustular psoriasis eruption.

An important distinction to be made is whether a patient is experiencing ACD exacerbating preexisting psoriasis leading to pustular variant flares versus pustular ACD reactions as can be seen with ammonium-fluoride reactions. Pustular ACD reactions have been mentioned in the literature to topical antibiotic creams, isoconazole, minoxidil, and 5-FU [10-13]. The patient in our case had no personal or family history of psoriasis and we presume that her ACD to clobetasol triggered full blown pustular psoriasis, which recurred later when invoked by a UTI. This appears to be a distinct presentation from what is discussed in the existing limited literature, which speaks to ACD invoking a pustular psoriatic flare in known psoriatic patients.

The connection between pustular ACD and pustular psoriasis triggered by ACD requires continued investigation. Our patient, as well as prior literature, supports the idea that ACD can be an exacerbating factor, and perhaps an initial trigger for onset of psoriasis. Patients with new onset pustular psoriasis or those with recurrent flares should be considered for patch testing which should include all topical agents, including corticosteroids.

Conflicts of Interest

The authors have no financial disclosures or other conflicts of interest to report relating to the content of this article.

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