

UC Davis

Dermatology Online Journal

Title

Use of topical 2.4% glycopyrronium tosylate in familial benign pemphigus (Hailey-Hailey disease)

Permalink

<https://escholarship.org/uc/item/01j7n9qw>

Journal

Dermatology Online Journal, 26(10)

Authors

Bindernagel, Richard
Kimmis, Brooks David
Liu, Deede

Publication Date

2020

DOI

10.5070/D32610050474

Copyright Information

Copyright 2020 by the author(s). This work is made available under the terms of a Creative Commons Attribution-NonCommercial-NoDerivatives License, available at <https://creativecommons.org/licenses/by-nc-nd/4.0/>

Peer reviewed

Use of topical 2.4% glycopyrronium tosylate in familial benign pemphigus (Hailey-Hailey disease)

Richard Bindernagel¹ BS, Brooks David Kimmis² MD, Deede Liu² MD

Affiliations: ¹Kansas City University of Medicine and Biosciences, Kansas City, Missouri, USA, ²Department of Dermatology, University of Kansas Medical Center, Kansas City, Kansas, USA

Corresponding Author: Deede Liu MD, Berman Skin Institute Dermatology, 100 Pringle Avenue, Suite 425, Walnut Creek, CA 94596, Tel: 925-932-3800, Email: deedeliu3@gmail.com

Keywords: genodermatoses, general medical dermatology, pharmacology

To the Editor:

Familial benign pemphigus (Hailey-Hailey disease) is an autosomal dominant genodermatosis characterized by flaccid vesicles and bullae that give rise to erosions primarily in intertriginous areas [1]. This disease is notoriously difficult to treat owing to its chronicity and relapsing-remitting course. Sweat is a known exacerbating factor and oral anticholinergics such as glycopyrrolate have been used to target this component of the disease process [2]. Glycopyrronium tosylate 2.4% cloth, which is FDA-approved for the treatment of axillary hyperhidrosis, is a topical therapeutic option to manage patients with Hailey-Hailey disease given its ease of application and decreased risk for anticholinergic side effects [3]. In this report, we present a patient with Hailey-Hailey disease of the scrotum and bilateral inguinal creases who achieved significant improvement with GT 2.4% cloth. This case demonstrates a novel, safe, topical therapeutic option for Hailey-Hailey disease.

A 64-year-old man with a 20-year history of biopsy-confirmed Hailey-Hailey disease (**Figure 1**) presented to the dermatology clinic with a complaint of tender, pruritic, and macerated erosions of the scrotum and surrounding intertriginous skin refractory to oral glycopyrrolate, topical ketoconazole 2% cream, tacrolimus 0.1% ointment, desonide ointment, compounded topical

cyclosporine, aluminum chloride hexahydrate, bleach baths, barrier creams and ointments, and calcipotriene ointment. Sweat was a known aggravating factor in his disease course. He had previously failed treatment with oral glycopyrrolate owing to severe keratoconjunctivitis sicca. Therefore, he was advised to apply GT 2.4% cloth once daily to the affected area in an effort to control perspiration along with his current regimen of clindamycin 1% lotion daily and limited triamcinolone 0.1% ointment as needed.

After about one week of using GT 2.4% cloth once daily, the patient began noticing xerostomia, constipation, and application site discomfort. It was

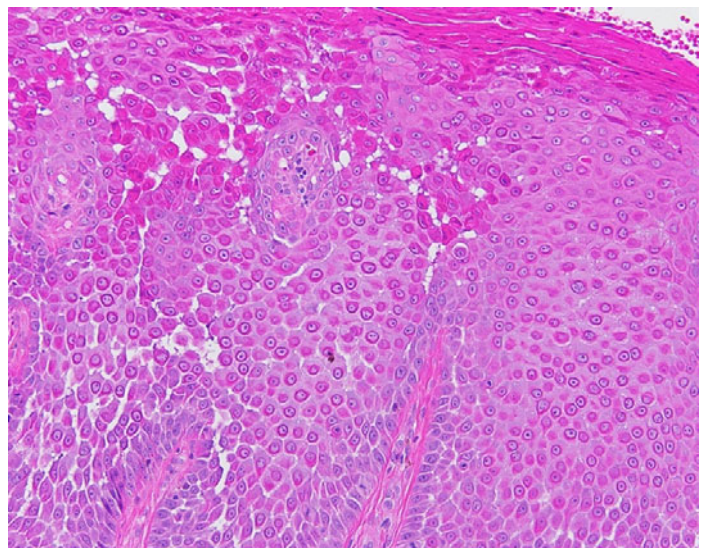


Figure 1. Biopsy from the patient's scrotum demonstrating characteristic "dilapidated brick wall" appearance of acantholysis in all levels of the epidermis seen in Hailey-Hailey disease. H&E, 100 \times .

then discovered that he had also been taking oxybutynin prescribed by an outside urologist for urinary urgency. After discontinuing oxybutynin, xerostomia and constipation persisted, but he reported the most significant relief of pruritus, pain, and malodor while using the topical medication daily as compared with all other attempted treatments in the past 20 years. In an attempt to reduce side effects, it was suggested that he decrease the frequency of GT 2.4% cloth application to three times weekly. With this regimen he reported that his symptoms continued to be well-controlled with resolution of xerostomia and constipation.

Hailey-Hailey disease leads to acantholysis histologically and flaccid vesicles and bullae clinically. Sweat has been described as a major precipitant of flares in these patients [1,2]. Because sweat secretion is mediated through cholinergic activity, oral glycopyrrolate, a systemic anticholinergic medication, has been used in patients with Hailey-Hailey disease [2].

Glycopyrronium tosylate 2.4% cloth is a promising therapy for patients with Hailey-Hailey disease

owing to its local hypohidrotic effects, decreased systemic side effects, and ease of application. Glycopyrronium tosylate 2.4% cloth can be used to target affected areas directly with a smaller risk of systemic anticholinergic effects. The most common side effects observed in a phase III clinical trial of GT 2.4% cloth were xerostomia (16.9%), blurred vision (6.7%), and application site pain (6.4%), [4]. However, xerostomia is more frequently encountered with oral glycopyrrolate use, which has been reported in nearly 40% of patients [5]. Consistent with the topical GT 2.4% clinical trial, our patient reported both xerostomia and application site discomfort with daily use. Therefore, the potential for side effects persists despite topical application, requiring patient-specific adjustments of dosing frequency. Further studies are warranted to determine this medication's efficacy in treating patients with Hailey-Hailey disease.

Potential conflicts of interest

The authors declare no conflicts of interests.

References

1. Farahnik B, Blattner CM, Mortazie MB, et al. Interventional treatments for Hailey-Hailey disease. *J Am Acad Dermatol*. 2017;76:551-558.e3. [PMID: 27745906].
2. Kaniszewska M, Rovner R, Arshanapalli A, Tung R. Oral glycopyrrolate for the treatment of Hailey-Hailey disease. *JAMA Dermatol*. 2015;151:328-329. [PMID: 25651401].
3. Glaser DA, Hebert AA, Nast A, et al. Topical glycopyrronium tosylate for the treatment of primary axillary hyperhidrosis: Results from the ATMOS-1 and ATMOS-2 phase three randomized controlled trials. *J Am Acad Dermatol*. 2019;80:128-138.e2. [PMID: 30003988].
4. Glaser DA, Hebert AA, Nast A, et al. A 44-Week Open-Label Study Evaluating Safety and Efficacy of Topical Glycopyrronium Tosylate in Patients with Primary Axillary Hyperhidrosis. *Am J Clin Dermatol*. 2019;20:593-604. [PMID: 31111409].
5. Cruddas L, Baker DM. Treatment of primary hyperhidrosis with oral anticholinergic medications: a systematic review. *J Eur Acad Dermatol Venereol*. 2017;31:952-963. [PMID: 27976476].