

Weepy pruritic rash in the groin

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A 37-year-old woman presented with episodic pruritic weeping eruptions predominantly involving her intertriginous areas (axilla and groin) as well as a few scattered lesions on her back, arms, and legs (Figures 1 and 2). The eruptions had started when she was 20 years old, and she had no family history of skin rashes. *What is your differential diagnosis? What are the treatment options?*



Figure 1. Weeping erythematous patches in the groin.



Figure 2. Crusted coalescing patches on the back.

DIAGNOSIS: Hailey-Hailey disease (benign familial pemphigus).

DISCUSSION

Hailey-Hailey disease is an autosomal dominant genodermatosis; however, in 15% of cases, a family history is not reported (1, 2). The age of onset and severity vary greatly. Lesions most commonly start in the third and fourth decades. Typically, the lesions are distributed in the flexures and intertriginous areas, such as the sides of the neck, axilla, inframammary fold, and groin. The cutaneous lesions have variable morphology and are quite dynamic—the initial flaccid vesicles and bullae are rarely ever seen but culminate in dry eczematous patches with erosions. At times, lesions may become weeping, vegetating, malodorous, fissured plaques, which usually signifies infection with bacteria, fungi/yeast, or viruses. Up to 70% of patients with Hailey-Hailey disease have white longitudinal bands in their nails (3).

Disease activity is unpredictable, and while some reports suggest less disease activity over time, others have seen no relationship with age. Precipitating factors include trauma (friction), heat, contact allergens, sweat, and concomitant infections (3, 4). The lesions typically itch and burn. The pain and drainage may restrict activities and significantly impact many aspects of daily life.

Pathogenesis and laboratory testing

A defect in keratinocyte desmosomes leads to keratinocyte acantholysis, which clinically manifests as fragile skin that may form vesicles and bullae (5). The genetic defect, a mutation in the *ATP2C1* gene, which encodes one of the families of calcium-ATPases that supply the Golgi with Ca^{2+} and Mn^{2+} , is found on chromosome 3q21–24 (6).

The diagnosis of Hailey-Hailey disease can be confirmed with a biopsy of perilesional skin that shows large numbers of keratinocytes in the suprabasal epidermis with incomplete acantholysis. The appearance is that of a “dilapidated brick wall.” Direct immunofluorescence is negative.

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Table. Therapies for Hailey-Hailey disease

Category	Therapy	
Front-line	Topical/oral antibiotics, corticosteroids, and antifungals (3) Tacrolimus ointment 0.1% (7)	
Second-line for recalcitrant disease		
Topical	Calcitriol (1 α , 25-dihydroxyvitamin D ₃) (8) Tacalcitol (9)	
Systemic	Cyclosporine (10) Dapsone (11) Etanercept (12) Methotrexate (13) Psoralen + ultraviolet A (PUVA) (14) Retinoids (15) Surgical modalities (excision, dermabrasion, ablation, carbon dioxide laser) (16–22) Thalidomide (23)	
	Other	Intracutaneous botulinum toxin A (24) Photodynamic therapy with 5-aminolevulinic acid (25) Superficial radiotherapy (Grenz rays) (26) Electron beam radiotherapy (27)

Differential diagnosis

Clinically, lesions are often misdiagnosed as a contact allergy to deodorants, superinfected atopic dermatitis (eczema herpeticum), intertrigo, tinea infections, and hidradenitis suppurativa. Positive cultures have been obtained for bacteria and yeast; however, these usually represent colonization rather than infection.

Histologically, both Hailey-Hailey disease and Darier's disease have similar features (acantholytic suprabasal keratinocytes); however, Darier's disease also has dyskeratotic keratinocytes. Clinically, Darier's disease manifests as warty papules and plaques, often in a seborrheic distribution, as well as palmoplantar pits along with nail changes. Interestingly, a defect in the gene encoding for calcium pumps has also been found to be associated with Darier's disease.

Therapy

Unfortunately, to date, there is no cure for this disease; however, disease control has been documented with a variety of agents (Table). Lesions often become superinfected with staphylococcus, streptococcus, and *Candida*. Additionally, herpes infections can spread rapidly in these patients since the epidermal barrier is compromised; therefore, viral cultures should be obtained from any atypical-appearing lesions. To help dry up weeping lesions, soaks of vinegar and water (in a 1:4 ratio) are helpful. Additionally, soaking in bath water that includes a half cup of bleach (for 20 gallons of water) may reduce the colonization of staphylococcus (personal communication, Denise Metry, MD).

Our patient has tried only a few modalities, including oral antibiotics, topical antifungals and steroids, topical tacrolimus, and Grenz therapy. We plan to rotate through the second-line therapeutics until we find one that is effective.

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