

# Pruritic Rash on the Buttocks After a Beach Vacation: A Case Report

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*A 56-year-old man sought treatment after a vacation for an intensely pruritic skin eruption involving the buttocks. On physical examination, annular plaques were noted. Workup revealed dermatitis herpetiformis (DH) and subclinical celiac disease.*

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## Case Report

A 56-year-old man presented with an intensely pruritic, erythematous rash of 10 days' duration on the buttocks that he first noticed while vacationing at a beach. He had no personal or family history of eczema, psoriasis, or other dermatosis, and he had no systemic complaints. The eruption did not respond to a self-administered topical corticosteroid (triamcinolone acetonide 0.1%).

Physical examination revealed symmetrically distributed erythematous papules that coalesced into plaques with central clearing (Figure 1). The perianal area was spared.

Punch biopsy specimens of involved skin not exposed to sun were obtained for routine histologic examination (Figure 2) and direct immunofluorescence (Figure 3). Routine histologic examination of the biopsy specimens identified neutrophilic papillitis and mixed dermal inflammation consistent with dermatitis herpetiformis (DH). Direct immunofluorescence showed characteristic stippling of the dermal papillae and deposition of IgA at the basement membrane that was discontinuous and granular.

Serum antiendomysial antibodies were positive at a titer of 1:160 and tissue transglutaminase antibodies were elevated at 152 units for

IgA (reference range, <20 units). The patient was administered dapsone 25 mg daily orally. The pruritus resolved within 48 hours after initiation of dapsone. The patient was maintained on a dosage of 25 mg daily. Within one month, the skin eruption had cleared and new papules had not developed.

Glucose-6-phosphate dehydrogenase levels were within reference range. Complete blood cell counts were obtained weekly and liver enzymes were measured biweekly; these results continued to be within reference range.

Evaluation of duodenal biopsy specimens obtained by a gastroenterologist identified villous atrophy and lymphocytic infiltrates.

The patient was started on a strict gluten-free diet after diagnosis. Six months later, he had no further recurrences of skin eruption. The dapsone was discontinued at 6 months.

## Comment

Our patient's presentation is instructive for several reasons. First, DH should be included in the differential diagnosis of any patient with a recalcitrant skin eruption affecting the buttocks. As in this case, the patient's history may be misleading; our patient's vacation likely had nothing to do with the onset of DH.

Second, clinical examination may not demonstrate the classic erythematous papulovesicles of DH. In our patient, papules and annular plaques with central clearing were the clinical signs, and there were no vesicles or bullae.

Third, if DH is suspected, biopsy specimens of the skin must be obtained, as was done with our patient, for histologic examination and direct immunofluorescence, and serum must be obtained for antiendomysial antibodies and tissue transglutaminase antibodies. Biopsy specimens from normal-appearing perilesional skin yield the most accurate results<sup>1</sup>; in our patient, lesional skin was adequate for study by direct immunofluorescence. Serum antiendomysial antibodies have high

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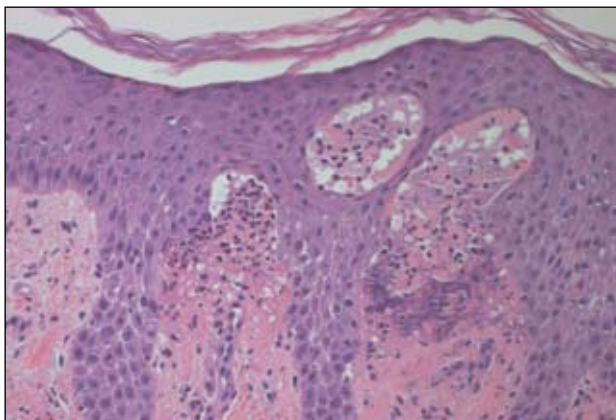
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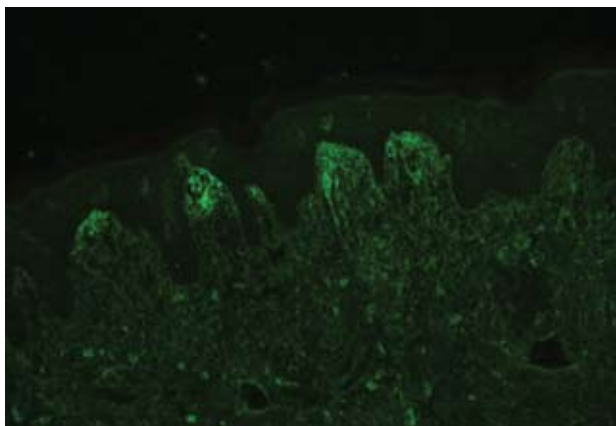
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**Figure 1.** Symmetrically distributed erythematous annular plaques with central clearing.



**Figure 2.** Skin biopsy showed neutrophilic papillitis (H&E, original magnification  $\times 10$ ).



**Figure 3.** Direct immunofluorescence showed discontinuous granular basement membrane zone staining with stippling in dermal papillae with IgA (original magnification  $\times 10$ ).

sensitivity and specificity (90% and 96%, respectively).<sup>2</sup> Tissue transglutaminase antibodies (sensitivity, 89.1%; specificity, 97.6%)<sup>3</sup> can help monitor

therapeutic response and compliance with a gluten-free diet.<sup>1</sup>

Fourth, if a diagnosis of DH is made, the patient should be evaluated for gluten enteropathy, even in the absence of gastrointestinal symptoms, because DH symptoms may be skin manifestations of celiac disease. In our patient, subclinical gluten enteropathy was identified by duodenal biopsy. More than 90% of patients with DH have gastrointestinal involvement (80% subclinical) ranging from lymphocytic infiltrate to villous atrophy.<sup>1,4</sup>

Fifth, as our patient demonstrated, patients respond well to dapsone treatment. Pruritus in our patient resolved in 48 hours. A gluten-free diet alone controlled the DH and permitted weaning from dapsone. Dermatitis herpetiformis may recur with reexposure to gluten; therefore, a lifelong gluten-free diet is the treatment of choice.

Last, even if in clinical remission, patients should be followed by a physician for the rest of their lives. Patients with DH are at increased risk for lymphoma of the gastrointestinal tract and may present with both T-cell and B-cell lymphomas, thyroid abnormalities,<sup>5</sup> and type 1 diabetes mellitus.<sup>6</sup>

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## REFERENCES

1. Nicolas ME, Krause PK, Gibson LE, et al. Dermatitis herpetiformis. *Int J Dermatol.* 2003;42:588-600.
2. Peters MS, McEvoy MT. IgA antiendomysial antibodies in dermatitis herpetiformis. *J Am Acad Dermatol.* 1989;21:1225-1231.
3. Dieterich W, Laag E, Bruckner-Tuderman L, et al. Antibodies to tissue transglutaminase as serologic markers in patients with dermatitis herpetiformis. *J Invest Dermatol.* 1999;113:133-136.
4. Savilahti E, Reunala T, Maki M. Increase of lymphocytes bearing the gamma/delta T cell receptor in the jejunum of patients with dermatitis herpetiformis. *Gut.* 1992;33:206-211.
5. Zettinig G, Weissel M, Flores J, et al. Dermatitis herpetiformis is associated with atrophic but not with goitrous variant of Hashimoto's thyroiditis. *Eur J Clin Invest.* 2000;30:53-57.
6. Hervonen K, Viljamaa M, Collin P, et al. The occurrence of type 1 diabetes in patients with dermatitis herpetiformis and their first-degree relatives. *Br J Dermatol.* 2004;150:136-138.