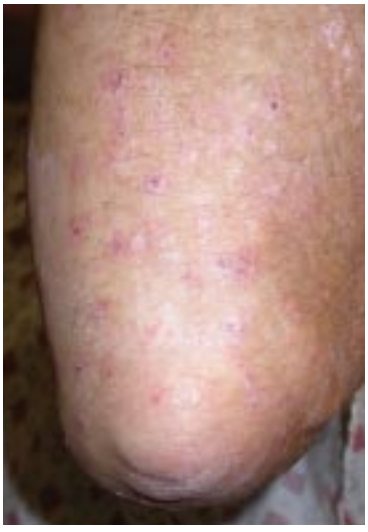
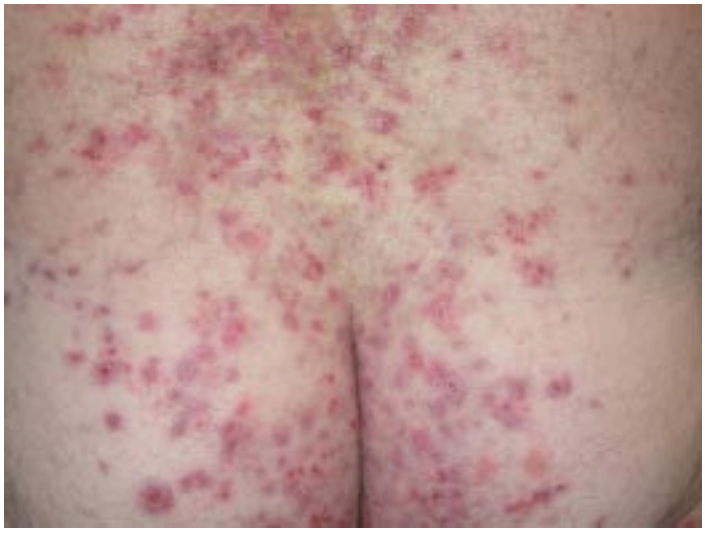
What Is Your Diagnosis?



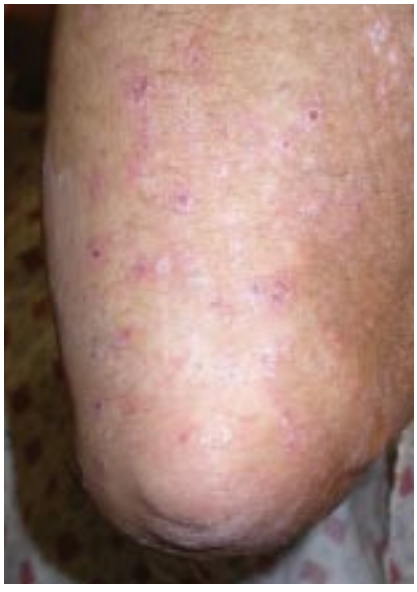


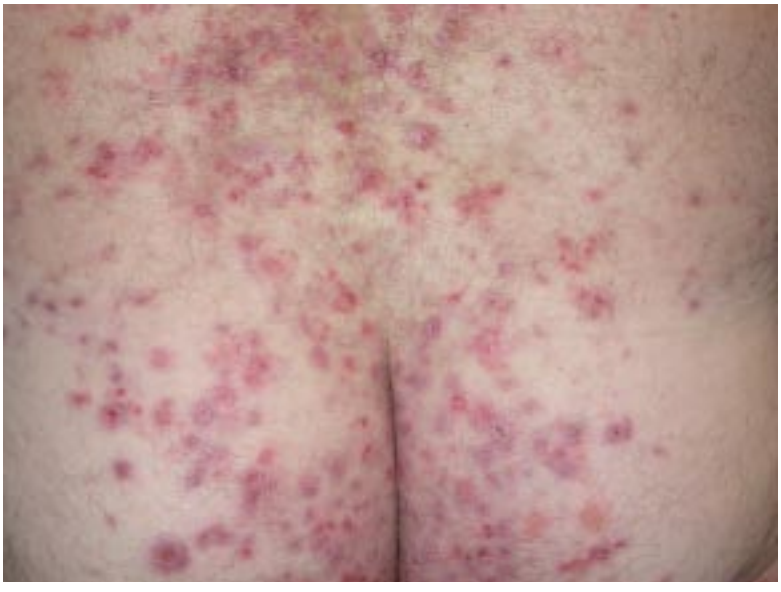
A 52-year-old white man presented with extremely pruritic exanthem on the arms focused around the elbows, legs focused around the knees, buttocks spreading onto the back, and nape of the posterior neck.

PLEASE TURN TO PAGE 249 FOR DISCUSSION

Chad M. Hivnor, MD, Wilford Hall Medical Center, Lackland Air Force Base, Texas.
Daniel Mirski, MD, Nellis Air Force Base, Nevada.
The authors report no conflict of interest.

The Diagnosis: Dermatitis Herpetiformis





Dermatitis herpetiformis (DH), also known as Duhring disease, was first described in 1880[1] and later in 1884 by Duhring.[2] Dermatitis herpetiformis is an autoimmune disease that is characterized by highly pruritic lesions on the extensor surfaces with a lifelong waxing and waning course.

There is an equal prevalence among men and women with an average age of onset between 20 and 40 years.[3] The lesions are grouped excoriated plaques or papules with small clustered herpetiform vesicles located on the extensor surfaces of the elbows, knees, buttocks, or scalp. Characteristic erosions and crusts do not have vesicles because they have ruptured from excoriation. They usually are symmetrically distributed. The skin lesions are caused by IgA deposition in the papillary dermis, which causes neutrophil migration. Neutrophil microabscesses in the dermal papillae are characteristic histologic findings.

Celiac disease is a gluten-sensitive enteropathic disease with symptoms of bloating, diarrhea, malabsorption, and villous atrophy detected on intestinal biopsy that shows similar HLA haplotypes as DH.[3] Dermatitis herpetiformis is not found in true celiac disease despite the genetic susceptibility, but it is found with gluten-sensitive enteropathy. Less than 10% of patients with DH will exhibit any gastrointestinal symptoms, but more than 90% will demonstrate the characteristic findings from endoscopic biopsy. Although most patients with DH are systemically asymptomatic, other associated diseases may include lymphoma of the small bowel and thyroid disease.[3]

Diagnosis of DH requires histopathologic and immunologic confirmation. One biopsy sample should be prepared with hematoxylin and eosin stain and reveal neutrophils in the dermal papillae. Fibrin deposition, neutrophil fragments, and eosinophils are likely to be present. In our patient, direct immunofluorescence (DIF) of perilesional uninvolved skin revealed granular IgA deposits in the dermal papillae, confirming the diagnosis. The findings of granular IgA can help distinguish DH from other diseases that should be included in the differential diagnosis, such as bullous pemphigoid, bullous erythema multiforme, scabies, contact or atopic dermatitis, neurotic excoriation, insect bite, and chronic bullous dermatosis of childhood.[3] However, negative DIF findings do not exclude the diagnosis of DH, and if clinically suspected, further and/or repeated investigation may be warranted. Prior to readily available DIF microscopy, DH was diagnosed from dramatic and rapid improvement following the initiation of dapsone therapy.

Dermatitis herpetiformis is treated with medication and dietary avoidance of gluten, a protein found in barley, wheat, and rye.[4] Strict avoidance, although often difficult to maintain, may provide some resolution of dermatologic symptoms. Medical management of DH primarily is based on

dapsone. Although the exact mechanism of action is unknown, the effectiveness is believed to be due to interference of the inflammatory response by inhibiting neutrophil migration. Dapsone therapy often is dramatic and dermatologic improvements can be seen within hours of initiating therapy. The conventional starting dosage of oral dapsone is 50 mg twice daily. Risk for methemoglobinemia and hemolytic anemia, which are both dose dependent, must be closely monitored with routine monthly laboratory evaluation. Oral vitamin E at 800 IU once daily may be helpful in preventing methemoglobinemia.[4] Acute hemolytic anemia occurs in patients with glucose-6-phosphate dehydrogenase deficiency. Screening for glucose-6-phosphate dehydrogenase deficiency may be considered prior to initiation of the medication, especially in black men in whom the deficiency is more common. If dapsone is not tolerated, sulfapyridine is the second-line therapy.

Both dietary evaluation as well as gastrointestinal consultation should be considered because of the potential risk for gluten-sensitive enteropathy and lymphoma. The prognosis is good for patients with DH who can tolerate dapsone and incorporate a gluten-free diet.

REFERENCES

1. Fox WT. A clinical study of hydroa. *Arch Dermatol*. 1880;6:16-52.
2. Duhring LA. Dermatitis herpetiformis. *JAMA*. 1884;3: 225-229.
3. James WD, Berger TG, Elston DM, eds. *Clinical Dermatology*. 10th ed. Philadelphia, PA: Elsevier Inc; 2006.
4. Prussick R, Ali MA, Rosenthal D, et al. The protective effect of vitamin E on the hemolysis associated with dapsone treatment in patients with dermatitis herpetiformis. *Arch Dermatol*. 1992;128:210-213.