

NOTES & COMMENTS

Allergic contact dermatitis caused by lanolin (wool) alcohol contained in an emollient in three postsurgical patients

To the Editor: Aquaphor (Beiersdorf; Wilton, CT) is a popular water-in-oil emollient. Its main ingredients include 43% petrolatum, mineral oil, ceresin wax (mineral wax), and lanolin (wool) alcohol.

Lanolin is derived from the sebaceous glands of sheep. It is a highly complex and variable mixture of long chain esters, lanolin alcohols, and lanolin acids. The exact sensitizing component of lanolin has not been isolated. However, most scientists agree the allergens are lanolin (wool) alcohols.¹

Aquaphor is used postsurgically as an emollient, especially to cover clean surgical wounds. We report three patients who were found to be allergic to Aquaphor when it was used in postsurgical dressings instead of over the counter topical antibiotic ointments. Upon subsequent patch testing, these three patients were found to be more specifically allergic to lanolin (wool) alcohol.

A 90-year-old woman who had undergone electrodesiccation and curettage of a small superficial multicentric basal cell carcinoma on her back 2 days earlier presented with a pruritic erythematous eruption surrounding the surgical site. The inflammation was sharply demarcated where her bandage had been placed and did not involve the adhesive portions of the bandage. Patch tests were performed 1 month later on the right inner arm using the Finn chamber technique against Aquaphor and the individual ingredients contained in this compound: white petrolatum, mineral oil, ceresin wax, and lanolin (wool) alcohol (Fig 1). The patient showed a brisk positive reaction both to Aquaphor and lanolin (wool) alcohol.

Similarly, an 81-year-old woman and a 49-year-old woman underwent surgical procedures and developed erythematous eruptions that were well demarcated to nonocclusive areas of the bandages that were placed over the wound for the first 48 hours. Subsequent patch testing in both showed a brisk positive reaction both to Aquaphor and lanolin (wool) alcohol.

All three of our patients reported herein were sensitive to Aquaphor and specifically lanolin (wool) alcohol when it was used as a topical emollient applied postoperatively over surgical wounds. Aquaphor has been cited as causing acute contact dermatitis as a result of the lanolin (wool) alcohol in



Fig 1. Patch test results after 48 hours. The individual ingredients tested were lanolin (wool) alcohol, ceresin wax, mineral oil, white petrolatum, and Aquaphor.

the past,² but not specifically as it relates to surgical dressings, to our knowledge.

Wool alcohols 30% in petroleum have been included in the European standard series since 1969. In the United States, patch testing for lanolin allergy with 30% wool alcohol is accomplished with the T.R.U.E. test (site no. 2). Although the prevalence of lanolin allergy among healthy individuals is low (0.9-2.3%), studies suggest that contact allergy to topical medications becomes more common with advancing age.³ In addition, the incidence of positive patch test reactions to wool alcohols increases in patients with leg ulcers, stasis dermatitis, and other contact allergies.⁴ In these three cases, the open wounds may have been more fertile ground for the antigen to be presented.

Many physicians routinely use Aquaphor ointment on surgical wounds to avoid developing acute contact dermatitis from topical antibiotics. However, given the findings reported here—especially in view of the significant percentage that elderly patients make up in terms of those people undergoing skin cancer surgery requiring postoperative dressings—we feel that white petrolatum is the preferred choice for the aftercare of clean surgical wounds, having been shown to be safe and effective with little potential for the development of allergic contact dermatitis.⁵

Josephine C. Nguyen, MD,^a Gregory Chesnut, BS,^b
William D. James, MD,^a and Michael Saruk,
MD^a

Department of Dermatology,^a University of Pennsylvania, Philadelphia, Pennsylvania, and
Uniformed Services of the University Health Sciences,^b Bethesda, Maryland

Funding sources: None.

Conflicts of interest: None declared.

Reprint requests: Josephine C. Nguyen, MD, Department of Dermatology, University of Pennsylvania, 2 Maloney Bldg, Philadelphia, PA 19104.

E-mail: josephine.nguyen@uphs.upenn.edu

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doi:10.1016/j.jaad.2009.10.020

Alopecia areata and autoimmunity

To the Editor: We read the October 2009 article in the *Journal* by Barahmani et al¹ in which they explore the association of alopecia areata (AA) and autoimmune and atopic diseases with great interest, tempered by skepticism. As they note, the literature supports the co-occurrence of AA with other autoimmune disorders, including thyroiditis, pernicious anemia, myasthenia gravis, and vitiligo.² In our clinical experience, we have seen AA develop in patients with Sjögren syndrome, rheumatoid arthritis, systemic lupus erythematosus, and uveitis, among other autoimmune conditions. This is in keeping with the concept of the "mosaic of autoimmunity" as espoused by Amital et al,³ who have so characterized the development of multiple autoimmune disorders or the evolution among autoimmune disorders in the same individual. However, in attempting to support the association of AA and autoimmune diseases, Barahmani et al¹ have made erroneous assumptions that undermine their hypothesis. They define autoimmune diseases to include psoriasis, any thyroid disorder, and irritable bowel syndrome (IBS). We take issue with the breadth of this definition. Psoriasis certainly falls within the spectrum of autoimmune-related diseases. Although the majority of patients with hypothyroidism have autoimmune (Hashimoto) thyroiditis, and Grave disease is a common cause of hyperthyroidism, there are many other etiologies for thyroid disease that do not

involve autoimmune mechanisms. The inclusion of the general classification of thyroid disorders makes any observed association much less specific. But the inclusion of IBS is even more objectionable. IBS is classically considered a disorder of intestinal motility and visceral hyperalgesia without any underlying autoimmune predisposition and has no common associations with other autoimmune disorders. There is scant evidence for the inflammatory nature and autoimmune mechanisms for IBS.⁴ We wonder whether the authors have confused IBS with inflammatory bowel diseases, such as Crohn disease and ulcerative colitis, which have autoimmune mechanisms involved in their pathogenesis.

Elliot D. Rosenstein, MD,^a and Bruce L. Warshaw, MD^b

Division of Rheumatology, Saint Barnabas Medical Center, and the Center for Rheumatic and Autoimmune Diseases,^a Livingston; and the Center of Pediatric, Adolescent and Adult Dermatology,^b Point Pleasant, New Jersey

Funding sources: None.

Conflicts of interest: None declared.

Correspondence to: Elliot D. Rosenstein, MD, Center for Rheumatic and Autoimmune Diseases, 200 S Orange Ave, Livingston, NJ 07039

E-mail: erosenstein@sbbcs.com

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doi:10.1016/j.jaad.2009.10.024

Pulsed dye laser for port wine stains

To the Editor: We acknowledge the comments made by Chapas and Geronemus¹ regarding the efficacy of pulsed dye laser (PDL) for port wine stains (PWSs).¹ Indeed, our article does not dispute the efficacy of PDL for the treatment of PWS; rather, it emphasizes a key concept regarding the interpretation of response to treatment in very early infancy.² As the patient photographs in our article illustrate, the degree of spontaneous lightening in early infancy can be dramatic in some cases because of physiologic phenomena alone. Had these patients been treated in the first few months of life, the degree of pre- and posttreatment lightening