Figure 1. Patch-test reaction to retapamulin in patient 3.

Retapamulin was the first semisynthetic pleuromutilin antibiotic to be approved in the United States and has been available since 2007 for treatment of uncomplicated superficial skin infections caused by *Staphylococcus aureus* and *Streptococcus pyogenes*. It is currently formulated at a 1% concentration in petrolatum (Altabax, GlaxoSmithKline, Research Triangle Park, NC). Retapamulin has a unique site of action (on the 50S bacterial ribosomal subunit), and clinical trials have demonstrated an efficacy similar to that of oral cephalexin[1] and superior to that of a placebo.[2] Retapamulin is structurally unrelated to aminoglycosides and the polypeptide and macrolide classes of topical antibiotics, all of which have been reported to cause allergic contact sensitization.[3] Dermatologic side effects reported from clinical trials of Altabax include application-site pruritus (1.9%), application-site irritation (1.6%), pruritus (1.5%), and eczema (1.0%).[4] Contact dermatitis was reported in less than 1% of study patients, but details were not published. A separate literature search found no published cases.

Zebra

Practitioners should be aware of potential sensitization to retapamulin, a new ''zebra'' allergen.

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Contact Dermatitis Due to Stockings

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Précis

It may be difficult to diagnose textile allergic contact dermatitis on the feet in patients who are already known to be sensitive to potassium dichromate or rubber accelerants. Stocking allergy needs to be considered.

Discussion

A 49-year-old female sales assistant in a fabric shop presented with eczema of the soles and dorsal feet. Occasionally, lesions also appeared on her dorsal hands, her hips, her waist, and her lumbar region. The patient had been evaluated previously by the skin allergy unit of our department for a similar rash on the dorsal surface of the feet. At that time, she had positive patch-test reactions to potassium dichromate, nickel sulfate, cobalt chloride, and mercapto mix. The patient changed to chrome-free leather shoes and remained asymptomatic for 6 years. In view of the re-appearance of clinical symptoms, patch testing was performed with the Spanish Group for Research in

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Figure 1. Reactions at 96 hours to patches made from stockings macerated in alcohol and in physiologic serum.

Contact Dermatitis and Cutaneous Allergy standard series (omitting those allergens to which the patient was known to be positive), textile series (Chemotechnique Diagnostics, Malmö, Sweden), and metals series (Martí Tor, Barcelona, Spain). Results for dimethyl dihydroxyethyleneurea 4.5% aqueous and Disperse Yellow 3 1% in petrolatum were positive (++) at 48 and 96 hours. On the basis of these results and the patient's clinical symptoms, she was patch-tested with two items of clothing that she normally wore (a brown corset and knee-length stockings). These items were first macerated in acetone, in alcohol, or in physiologic serum. Responses to patches made from the stockings that had been macerated in alcohol and in physiologic serum were positive (++) (Fig 1). In an attempt to identify with greater accuracy the allergens to which the patient reacted positively and which items of clothing were responsible, we analyzed the extract obtained from both items of clothing in methanol, and a pure sample of Disperse Yellow 3 dye, using high-pressure liquid chromatography (HPLC) and mass spectrometry. No compound was clearly identified in the extract obtained from the stockings, but Disperse Yellow 3 was clearly identified in the extract obtained from the corset.

The patient's clinical symptoms remitted once she stopped wearing these items of clothing.

Allergic contact dermatitis caused by stockings usually appears on the ankles, popliteal fossa, thighs, and soles and dorsal surfaces of the feet. The main allergens in these articles of clothing are Disperse Yellow 3, Disperse Red 1, Disperse Blue 3, and Disperse Orange 3,[1–3] as well as rubber that may be present in the elastic. The clinical symptoms on our patient's legs could be explained by sensitization to Disperse Yellow 3, which was likely present in the knee-length stockings. HPLC did not identify the allergen in this article of clothing most likely because the amount of dye extracted by methanol was below the detection limit of the technique. However, the presence of this dye in the corset was demonstrated.

Because nylon does not usually contain formaldehyde resins, the stocking likely did not contain dimethyl dihydroxyethyleneurea. Formaldehyde resins might be used in the type of corset the patient frequently wore, but we were unable to analyze the dimethyl dihydroxyethyleneurea by HPLC because a pure solution of the substance was not available.

Pearl

We recommend clinicians test patients with foot eczema with a textile series if the response to potassium dichromate is negative or if the patient already wears chrome-free shoes.

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