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Irritant contact dermatitis among health care workers

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Irritant contact dermatitis (ICD) is a nonimmunologic reaction elicited by the direct action of a chemical substance on the skin. The pathogenesis of this condition is multifactorial; however, health care workers may be more susceptible to development of ICD. The primary aim of this study was to identify specific factors that predispose to development of hand dermatitis in health care workers. A secondary goal was to determine whether a 24-hour irritant patch test with sodium lauryl sulfate (SLS), sodium hydroxide (NaOH), and benzalkonium chloride (BKC) was predictive of occupational ICD. One hundred health care workers who washed their hands at least 8 times daily completed a questionnaire to identify frequency of handwashing, alcohol-based cleanser use, history of specific medical conditions (including asthma, allergic rhinitis/hay fever, urticaria/hives, atopic dermatitis/eczema, psoriasis, and easy sunburns) and family history of dermatitis or eczema. Patients were patch tested using SLS (2.5%, 5%, and 20%), NaOH (1%, 2.5%, and 5%), and BKC (0.5%, 1%, and 3%) and re-evaluated monthly for 6 months, at which time hands were re-examined for dermatitis and questionnaires were re-administered to assess interval changes. Data was analyzed from 60 subjects who completed the study to date. Sixty-three percent of volunteers developed hand dermatitis. Twenty-two percent of patients who reported washing their hands $\geq$10 times/day developed dermatitis versus 13% of patients who washed their hands $<$10 times/day ($P = .048$). Neither use of an alcohol-based cleanser nor use of gloves significantly influenced the development of dermatitis. Other variables assessed in the baseline questionnaire did not significantly alter susceptibility to dermatitis. Regarding the predictive value of patch testing, 73% of patients who reacted to SLS 2.5% and 70% of patients who reacted to SLS 5% (most of whom also reacted at 2.5%) developed dermatitis, whereas non-reacting patients only developed dermatitis at a rate of 42% and 30% ($P = .020$ and $P = .029$) respectively. The highest concentration of SLS (20%) resulted in almost uniformly positive reactions and was not useful in predicting susceptibility to hand dermatitis in this cohort. These results indicate that frequent handwashing ($\geq$10 times/day) may predispose to development of ICD. Furthermore, patch testing with SLS 2.5% and 5% may predict future development of dermatitis.

Commercial support: None identified.

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Contact dermatitis from orange dye in generic formulation of oral antihypertensive

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Background: Contact dermatitis is almost invariably caused by either an irritant or allergen that has direct contact with the skin. Very few cases have been reported as a result of oral medications.

Case report: An 83-year-old male with a history of hypertension and atopic dermatitis presented with a 4-year history of scaly, erythematous macules on the lower legs. The rash was previously thought to be a drug eruption, although the offending agent was never found. The patient failed to improve with topical desoximetasone, topical triamcinolone, cetirizine, and desloratidine. Because discontinuation of the patient's systemic medications one at a time did not resolve the patient's symptoms, the possibility of a drug eruption became less likely. The patient's therapeutic regimen was switched to topical clobetasol, and patch testing was recommended. Patch testing revealed an allergy to nickel and orange dye. After direct contact with nickel and orange dye to the legs was excluded, the patient's medications were reviewed for a possibility of dye allergy. It was discovered that the patient's generic formulations of enalapril and diltiazem contained an orange dye. Furthermore, although the patient had started taking branded enalapril and diltiazem 6 years earlier, generic formulations were introduced 2 years later, shortly before the original rash erupted. After a new flare to the patient's back, the patient's current generic medications was switched to the branded dye-free formulations. At a 3-month follow-up visit, the patient showed no signs or symptoms of contact dermatitis.

Discussion: The literature contains few reported cases of contact dermatitis caused by oral medications. Dyes are common allergens; however, most dermatitides occur as a result of direct contact with the skin. A detailed history of current medications is important. In some cases, though, additional information should be obtained, including the color, especially as generics are substituted for prescribed medications. As this case illustrates, this information may be valuable in finding the cause of an iatrogenic contact dermatitis.

Commercial support: None identified.

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Extensive eczematous reaction and dyshidrotic lesions following intravenous immunoglobulin therapy

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Background: Intravenous immunoglobulin (IVIG) therapy is increasingly being used to treat autoimmune, inflammatory, and immunodeficiency disorders. In dermatology, it is used to treat pemphigus vulgaris, pemphigus foliaceus, bullous pemphigoid, mucous membrane pemphigoid, epidermolysis bullosa acquisita, Stevens–Johnson syndrome, and toxic epidermal necrolysis. Adverse effects of IVIG treatment are usually minor, including fever, chills, headache, and transient neutropenia, leukopenia, or proteinuria. IVIG rarely leads to dermatologic adverse events, such as pruritus or rash.

Case report: We present a case of a 71-year-old male with a 3-year history of chronic inflammatory demyelinating polyneuropathy treated with IVIG infusion, who presented with generalized erythematous, pruritic, scaly plaques. His past medical history is significant for Guillian-Barré in 1991 that resolved after a course of IVIG without complications. He recently tolerated his first course of IVIG; however, 1 week following his second course, the patient developed a pruritic rash on his back and chest that quickly spread to his arms, legs, face, and scrotum. He noted vesicles on both palms and right sole. Physical examination revealed erythematous, scaly, ill-defined plaques covering 85% of his body surface area. On his bilateral palms and right medial plantar foot were numerous tiny clear vesicles. No lesions were noted in the mouth or eyes. A biopsy was performed and revealed spongiotic dermatitis. The patient was treated with an intramuscular injection of triamcinolone 80 mg, as well as topical clobetasol ointment BID. He elected to undergo an additional treatment course of IVIG, after which his rash flared. Repeat biopsy demonstrated subacute spongiotic dermatitis; direct immunoflorescence was negative. IVIG treatment was discontinued, the patient was placed on prednisone, and his rash gradually resolved.

Conclusions: We present this case of severe eczematous reaction with dyshydrotic palmoplantar lesions as an illustration of a rare but characteristic adverse event following IVIG treatment. With the increasing use of IVIG therapy, dermatologists should be aware of this potential complication.

Commercial support: None identified.

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Identification of practical workplace interventions for facilitating return to work in patients with occupational contact dermatitis

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Background and objectives: Occupational contact dermatitis (OCCD) causes prolonged sick leave and unemployment, contributing to significant loss of work productivity. This study will describe interventions currently employed at the workplace to facilitate return to work in OCCD patients and examine their effects on employment status and clinical outcome.

Methods: A follow-up survey was conducted at 6 months postassessment in OCCD patients enrolled in the Occupational Disease Specialty Program (ODSP) and received assessment at the Department of Occupational Medicine at St. Michael's Hospital from the period of 2002 to 2005 (N = 317).

Results: Of the 30 workers who responded to the survey, 60% had modified work implemented at the workplace, which consisted of product substitution in 5% of workers, work practice modification in 10% of workers, part of job changed to avoid particular skin irritants or allergens in 35% of workers and initiation or change of PPE in 50% of workers. Significant association between employment status and the presence or absence of workplace intervention was found ($P = .007$). Ninety percent of workers with modified work were employed at 6 months postassessment compared to merely 40% were employed in the absence of modified work. Among those employed in the presence of modified work, 62.5% reported improvement of symptoms. No significant association was found between employment status and clinical outcome.

Conclusions: Workplace interventions commonly implemented to facilitate return to work among workers with OCCD include initiation or change in PPE and changing part of the work to avoid particular exposures. Current evidence supports the implementation of modified work at the workplace to facilitate return to work in workers with OCCD. The absence of differences in clinical outcome among those employed and unemployed at 6 months postassessment further supports the strategy to integrate workers with OCCD back into the workplace with appropriate interventions rather than to be completely off work.

Commercial support: None identified.

SUPPLEMENT TO

JOURNAL OF THE AMERICAN ACADEMY OF

DERMATOLOGY

FEBRUARY 2008 · VOLUME 58 · NUMBER 2

Poster Abstracts

American Academy of Dermatology
66th Annual Meeting
February 1–5, 2008
San Antonio, Texas

Supported by
Abbott Immunology

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