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# Glove-Induced Allergic Contact Hand Dermatitis: A Quality Improvement Initiative

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We recently published on allergen-free glove selection for individuals suffering from allergic contact dermatitis (ACD) in the April 2020 issue of the *Journal of Cutaneous Medicine and Surgery*.[1] ACD accounts for approximately 20% of cases of occupational contact dermatitis with significant associated costs financially and on patients' quality of life.[2] Hands are the most frequently affected site with the rubber accelerants from protective gloves being one of the most common causes.[3,4] The mainstay of ACD treatment is allergen avoidance, but this is complicated by the number of glove types and brands in use.[5] Siegel et al noted that only 51% of patients were able to correctly identify the specific gloves responsible for their ACD.[5] Currently, there is no structured approach for dermatologists to promote adherence and advocate for the use of appropriate gloves in patients with allergic contact hand dermatitis (ACHD) in the workplace. Our study aimed to have patients followed up after patch testing and offered a structured approach to promote adherence regarding the use of appropriate gloves, thereby promoting allergen avoidance and aiding in disease management.

The study was conducted from August 2017 to November 2018 at an outpatient dermatology clinic and consisted of 10 patients diagnosed via patch testing with glove-induced ACHD to rubber accelerants. Informed consent was obtained. The intervention consisted of 3 components: patch testing, a trial of accelerant-free gloves, and a letter of advocacy. At this initial follow-up after patch testing, patients were provided with a 1-month supply of accelerant-free gloves. Patients were assessed at the initial follow-up and subsequently 1 month later. Disease extent was measured with the Hand Eczema Severity Index (HECSI), and the impact of hand dermatitis on quality of life was measured with the Dermatology Life Quality Index (DLQI). Efficacy was assessed through repeat HECSI and DLQI scores at both the initial and final follow-up appointments. A letter of advocacy for the patient's employer was then created identifying the patient's particular allergen(s) related to their glove-induced ACHD and the need for specific allergen-free gloves in the workplace.

At the initial visit, the average HECSI score was 54.7 (SD 46.2), and the average DLQI score was 13.2 (SD 6.6). Nine of 10 patients were seen at subsequent follow-up. At this follow-up, disease severity significantly improved. Among the 9 followed patients, there was improvement in disease severity, as seen in a decreased average HECSI score from 59.1 to 13.0 ($P < .01$). Patient dermatology quality of life also improved with a decrease in average DLQI from 13.4 to 8.8 ($P < .01$).

This initial study makes us hopeful that providing patients with a trial of allergen-free gloves and a letter of advocacy can improve the management of ACD. Our goal for this study was to provide the first step in the development of a sustainable management plan for glove-induced ACHD. We plan to continue this study by increasing the number of patients along with obtaining patient feedback to identify specific challenges.

## Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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