

Do it Yourself Without Allergic Contact Dermatitis: Safe Household Cleaning Product Alternatives

To the Editor:

We read with great interest and appreciation the recent “Alternatives for Allergens in the 2018 American Contact Dermatitis Society Core Series: Report by the American Contact Alternatives Group.”¹ Our experiences in patch clinic have also highlighted another realm of patient-requested alternatives—household cleaning products. In Europe, access to household cleaning product ingredients is not as difficult as in the United States. Magnano et al² examined the product information of 291 liquid household cleaning products including

42 washing fluids, 63 laundry detergents, and 77 hard surface cleaners in Italy. Their analysis found that 35.7% of all products contained methylchloroisothiazolinone/methylisothiazolinone, 23.0% contained benzisothiazolinone, 15.1% contained bronopol, and 10.3% contained methylisothiazolinone. In addition, three quarters of all products contained fragrance.² A separate study of 1179 Spanish patients from 2005 to 2015 found that both being a housewife/homemaker ($P = 0.011$) and being a cleaning professional ($P = 0.001$) were associated with methylchloroisothiazolinone/methylisothiazolinone sensitivity.³

It is very difficult to identify the ingredients of household cleaning products in the United States. Although recent labeling requirements and databases of these products in New York and California have gained traction through recent legislation, most

TABLE 1. Recipes for Homemade Cleaning Products

Cleaning Purpose	Required Ingredients	Instructions
Carpet stain remover	1 tbsp extra-virgin olive oil	Apply olive oil to stain and let soak for 5 min. Use damp cloth to wipe clean.
Dishwasher detergent	½ cup liquid castile soap, ½ cup water, ¼ cup white vinegar, baking soda	Mix ingredients into a thick liquid. Use 1 tbsp per cycle. For heavy grease, sprinkle baking soda over dishes and bottom of dishwasher.
Disinfectant surface spray	4 tbsp witch hazel, 1 cup water	Mix witch hazel and water in a spray bottle. Shake before use.
Drain cleaner	1 cup baking soda, 1 cup table salt, 1 cup white vinegar	Pour each ingredient separately. Wait 15 min and flush drain with boiling water.
Fabric softener	2 tbsp white vinegar	Add during rinse cycle.
Floor cleaner, hardwood/linoleum	½ cup white vinegar, 1 gallon hot water	Combine vinegar and water. Mop per usual.
Floor cleaner, nonwax floor	1 cup vinegar, ¼ cup washing soda, 1 tbsp liquid castile soap, 2 gallons hot water	Mix vinegar, washing soda, castile soap, and hot water in a large pail. Mop per usual.
Laundry detergent #1	⅓ cup liquid castile soap, 1 cup washing soda, 1 cup baking soda, 1 cup vinegar	Mix castile soap and washing soda in a large bowl. Slowly add baking soda and vinegar (it will foam, so go slow!). Mix into a thick powder. Use ½ cup per load.
Laundry detergent #2	1 Kirk's Fragrance Free Castile Bar soap, 1 cup washing soda, 1 cup borax	Grate bar soap and mix with washing soda and borax. Use 2 tbsp per load.
Oven cleaner	1 cup white vinegar, 1 cup water, baking soda	Mix vinegar and water. Spray warm oven. Sprinkle baking soda over greasy areas after application. Wait 20 min and wipe clean.
Shower/tile cleaner	1 ⅔ cup baking soda, ½ cup liquid castile soap, ½ cup water, 2 tbsp white vinegar	Mix baking soda and liquid soap. Add water and vinegar. Shake and spray per use.
Toilet bowl cleaner	1 quarter white vinegar, ½ cup baking soda	Spray white vinegar and wipe clean after 5 min. For scrub, add baking soda to vinegar.

The authors have no funding or conflicts of interest to declare.

DOI: 10.1097/DER.0000000000000503

© 2019 American Contact Dermatitis Society. All Rights Reserved.

Americans live in locations that do not require labeling.⁴ In our clinic, we often advise patients to wear gloves when using household cleaning agents that touch the skin, regardless of

allergy, because of their irritating nature. However, spray household products create additional dilemmas, because they are aerosolized and may contact other sites of the body including the face. For patients with either rubber, fragrance, or preservative allergies, household cleaning with commercially available cleaners may become a cumbersome and risky process.

Therefore, we have compiled a do-it-yourself household cleaning product recipe booklet, which is both preservative- and fragrance-free (Table 1). Washing soda (sodium carbonate), baking soda (sodium bicarbonate), white vinegar, borax, and unscented castile soap are key ingredients.⁵ It is important to note that there are only a few unscented castile bar and liquid soaps available commercially. Kirk's Natural Fragrance Free Castile soap is the cheapest and most widely available and can be made into liquid form. Dr Bronner's "Unscented" Baby Castile soap contains botanicals (organic palm kernel oil, organic hemp oil, organic jojoba oil) but may be tolerated in some patients with fragrance sensitivity.

We hope that these additions to the growing list of "alternatives" may benefit other patch test clinics and patients with allergic contact dermatitis.

Jamie P. Schlarbaum, BS

Department of Dermatology

Park Nicollet Health Services

Minneapolis, MN

University of Minnesota Medical School

Minneapolis, MN

schla255@umn.edu

Erin M. Warshaw, MD, MS

Department of Dermatology

Park Nicollet Health Services Minneapolis, MN

Department of Dermatology University of Minnesota

Minneapolis, MN

REFERENCES

1. Scheman A, Hylwa-Deufel S, Jacob SE, et al. Alternatives for allergens in the 2018 American Contact Dermatitis Society Core Series: report by the American Contact Alternatives Group. *Dermatitis* 2019;30:87–105.
2. Magnano M, Silvani S, Vincenzi C, et al. Contact allergens and irritants in household washing and cleaning products. *Contact Dermatitis* 2009;61: 337–341.
3. Marrero-Alemán G, Saavedra Santana P, Liuti F, et al. The role of cleaning products in epidemic allergic contact dermatitis to methylchloroisothiazolinone/methylisothiazolinone. *Dermatitis* 2018;29:77–80.
4. Ritch E. New state disclosure requirements will increase transparency of cleaning product ingredients. November 30, 2017. Available at: <https://cleangredients.org/new-statedisclosure-requirements-will-increase-transparency-of-cleaning-product-ingredients/>. Accessed April 2, 2019.
5. Binghamton University: State University of New York. Sustainability recipes. June 19, 2012. Available at: <http://www2.binghamton.edu/sustainability/get-involved/recipes.html>. Accessed April 2, 2019.

Treatment of Atopic Dermatitis With Dupilumab in a Renal Transplant Patient

Chronic pruritus (CP) or itch lasting more than 6 weeks can have a significant negative impact on quality of life (QoL).¹ Despite advances in research, CP remains a large burden on our patient population. However, the recent approval of biologic agents, such as dupilumab, a fully human monoclonal antibody that offers targeted therapy, has shown promise in the treatment of moderate to severe atopic dermatitis (AD). The immunoglobulin G antibody binds to the interleukin 4α (IL-4α) chain receptor, inhibiting the IL-4 and IL-13 pathway, which are cytokines thought to be the key mediators in CP, the hallmark of AD.^{2,3} Here, we report the successful treatment of pruritus in a renal transplant patient with a history of long-standing AD and superimposed prurigo nodularis, who was experiencing a worsening flare in the setting of failed transplant and subsequent development of uremic pruritus.

A 32-year-old Indian man with a history of AD and an end-stage renal disease status after kidney transplantation maintained on immunosuppressive therapy presented to our clinic with complaints of severe worsening pruritus over the past 6 months. The onset of worsening pruritus coincided with recent transplant failure, demonstrated by an increase in serum creatinine. Treatment with topical corticosteroids and oral antihistamines provided minimal improvement. Examination of the skin revealed hyperpigmented eczematous plaques and multiple papules and nodules with central excoriations consistent with AD and superimposed prurigo nodularis. Assessment at this visit was suggestive of an acute flare of AD compounded by underlying uremic pruritus.

The patient was initiated on oral gabapentin 100 mg daily and, after discussion with the transplant team, was initiated on dupilumab at a suggested dosing regimen 2 weeks later. On follow-up visit, the patient reported initial improvement with gabapentin, but even more significant improvement shortly after starting dupilumab. The Skindex-16 and Skindex-mini instruments were used to assess itch scores and impact of pruritus on QoL. Pretreatment and posttreatment scores are reported in Table 1. Scores in all 3 QoL domains significantly improved from baseline after 8 months of treatment. Symptoms were adequately controlled, and treatment with topical corticosteroids was discontinued. In addition, there was complete resolution of prurigo nodules with only residual postinflammatory hyperpigmentation noted.

Dupilumab has relatively few contraindications and a lower potential for significant adverse effects than traditional

The authors have no funding or conflicts of interest to declare.

DOI: 10.1097/DER.0000000000000560

© 2019 American Contact Dermatitis Society. All Rights Reserved.