

has been a growing trend in the use of natural remedies and aromatherapy products all over the world particularly in Asia. Massage therapists deal with multiple exposures known to cause hand dermatitis, such as wet work, fragrance, detergents, and other irritants and allergens found in massage oils, creams, and lotions. There have been a few reports to date of its occupational development in aromatherapists (1–4). We present 2 cases of hand dermatitis as a result of allergic contact dermatitis to multiple essential oils.

Case Reports

Case 1

A 35-year-old woman, who had worked as an aromatherapist for 4 years, presented with a 2-year history of dermatitis starting at the finger webs and progressing to both hands, forearms, neck, and face. The eruption improved when she had time off work and recurred upon her returning. She had a history of hay fever and a family history of atopy. She also had a past history of metal and cosmetic allergy. Her daily-use moisturizer contained parabens, fragrances, glycerine, vitamin E and mineral oil. Later, she stopped using this moisturizer but her hand eczema persisted if she used the same essential oils at work.

Patch testing was based on the International Contact Dermatitis Research Group (ICDRG) guidelines, using aluminum Finn chambers with a reading at 2, 3, and 7 days (5). Standard patch testing was performed to an extended European and international standard series and a fragrance series. The results are shown in Table 1.

Case 2

A 39-year-old woman, who worked as a masseuse and aromatherapist for 3 years, presented with a 1-year history of eczema on her hands and later her feet. She suspected herself of having an allergy to the essential oils used in her career, especially lemon grass oil. She was a frequent hand washer, more than 10 times per day. She gave no history of atopy in herself or her family. She was patch tested, according to ICDRG guideline as in Patient 1, to an extended

Occupational allergic contact dermatitis from essential oils in aromatherapists

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Aromatherapy is the use of essential oils externally to promote psychological and physical well being. There

Table 1. Result of patch test

Series tested	Substances	Positive reaction D2–D7	
		Case 1	Case 2
Standard	Potassium dichromate	+	–
	Nickel sulfate	++	–
	Parabens	+	–
	Fragrance mix	++	++
	Balsam of Peru	–	+
Fragrance	Ylang-ylang	+	–
	Cananga oil	+	–
	Rose oil, Bulgarian	?+	+
	Jasmine absolute, Egyptian	–	++
	Geranium oil, Bourbon	–	+
Patient's essential oils	Lavender oil	NA	+
	Lemon grass oil	NA	+
	Mint oil	NA	+
	Relaxing oil	NA	+
	Energizing oil	NA	+

+, positive reaction; –, negative reaction; NA, not available from this patient.

European and international standard series, a fragrance series and her own massage oils as the results in Table 1.

Discussion

The occupational exposure to essential oils is increasing with the increase in the popularity of aromatherapy and spa treatment. The exact frequency of contact dermatitis from essential oils is unknown. However, the prevalence of hand dermatitis among massage therapists is 15% by self-reported criteria and 23% by a symptom-based method, which is much higher than the general population, 2%–10% (6). Essential oils are aromatic substances that are extracted from many different plants and flowers (7). Each oil may have over 100 constituents and are known as skin irritants and possible contact sensitizers (8).

Our patients have repeated exposure to certain essential oils used for massage, which results in contact sensitization. All the positive reactions to essential oils were thought to be relevant for our patients as they were exposed to them at work. Furthermore, the rash improved when they were absent from work and recurred upon their returning. Both patients showed positive patch test reactions to a fragrance mix in which most of its components were essential

oils (including cinnamic alcohol, cinnamic aldehyde, eugenol, isoeugenol, geraniol) (9).

Patient 1 is positive to ylang-ylang (*Cananga odorata*) and cananga oil, which comes from a closely related plant, *Cananga genuine* (3). She also has atopies, which are risks factors for hand dermatitis (6). The ingredients in her moisturizer, parabens or fragrances, may be responsible for the dermatitis on her face and neck also. Patient 2 presented multiple positive patch test reactions to substances in a fragrance series (Table 1). Jasmine absolute of Egyptian contains eugenol (8). Eugenol and geraniol are in a fragrance mix (9) which may account for her positive patch test to jasmine absolute of Egyptian and geranium oil of Bourbon, respectively. In addition, patient 2 had positive patch test reactions to her own essential oils, for example, lavender oil, lemon grass oil, and mint oil. However, the components of relaxing and energizing oils are unidentified. She also has a frequent hand washing history (>10 times/day) that is a risk factor for hand dermatitis (6).

The spectrum of reported skin reactions to essential oils includes allergic contact dermatitis, irritant contact dermatitis, phototoxic reactions and contact urticaria (9). The lesions of reported cases primarily started from the hands and showed

sensitization to multiple essential oils (1, 3, 4, 9). Our cases emphasize the importance of allergic contact dermatitis associated with essential oil exposure in an occupational situation. Multiple sensitizations seem to be a common episode. Wet work and frequent hand washing causing defects in the skin barrier may initiate the event. Aromatherapists and masseurs should be aware of the sensitization potential of the oils that they use in their workplace.

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