

The virtue of “virtual” patch testing: A case report

Louise Cunningham¹  | Felicity J. Ferguson¹  | Ian R White¹ |
Jane Rosbotham² | John P. McFadden¹

¹Department of Cutaneous Allergy, St John's Institute of Dermatology, Guy's Hospital, London, UK

²Ashted Hospital, Ashted, UK

Correspondence

Dr Louise Cunningham, Department of Cutaneous Allergy, St John's Institute of Dermatology, Guy's Hospital, London SE1 9RT, UK.
Email: lcunningham73@gmail.com

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During the COVID-19 pandemic, attendance at hospital for diagnostic patch test investigations has proven challenging. We report a case of severe dermatitis where allergic contact dermatitis was diagnosed through “virtual” patch testing.

CASE REPORT

A 46-year-old man was referred with an acute vesicular dermatitis occurring several days after wearing a wooden bead bracelet. He had unsuccessfully attempted to treat his dermatitis with lemongrass essential oil. The rash then became more vesiculo-bullous, along with secondary spread (Figure 1). He was treated successfully with potent topical corticosteroids. There was no history of previous dermatitis nor reactions to adhesive plasters or fragrances.

After a phone consultation, he was sent a questionnaire to complete and return by email. An explanatory cover letter and pictorial guide for applying and marking the patch tests were also provided. An extended European patch test series was sent to the patient, whose partner applied the patches using allergens and IQ Chambers from Chemotechnique Diagnostics (Vellinge, Sweden). Higher than usual hygiene standards were observed in the preparation of the patches. Photographs of the patient's back were taken before the patches were applied and after the patches had been applied. Markings were made following removal of the patch tests at day (D) 2 and finally again at D5. The photographs, together with the photographic record of the presenting dermatitis, were reviewed. There was a clear positive (+) patch test reaction to colophonium and ++ to *Myroxylon pereirae* resin (MP). (Figure 2).

DISCUSSION

Given that the patient did not have a history of reacting to adhesive plasters, and it took several days for the original dermatitis to develop,

it is possible he became sensitised through the beads. The wood for “Mala beads” are typically derived from different sources including coniferous wood (Himalayan Juniper in particular). Allergy to this wood can be detected by positive patch testing to colophonium.¹

The application of lemongrass appeared to exacerbate his dermatitis. He was strongly positive to MP but negative to fragrance mixes I and II and an extended individual fragrance substance series. Lemongrass and MP share a constituent– nerolidol – a terpene that conveys a scent of fresh bark.^{2,3} It is possible that the positive clinical reaction to lemongrass oil and a positive patch test to MP is related to this shared ingredient. Alternatively, it could possibly be due to another unidentified chemical or the negative patch test reactions to the other fragrances may be false-negatives due to volatility, although positive reactions to both fragrance mix I and II and to single fragrance substances have previously been identified by “virtual” patch tests (McFadden, personal communication).



FIGURE 1 Acute vesiculobullous dermatitis of the right wrist and forearm

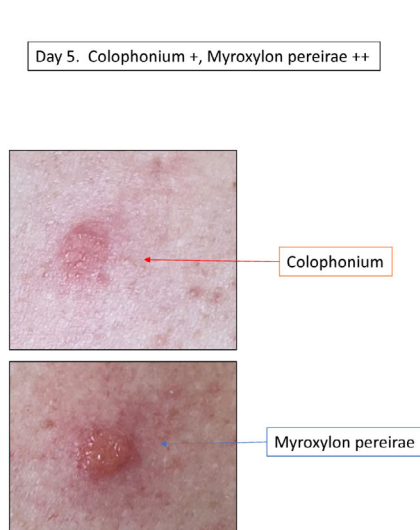


FIGURE 2 Positive patch tests at day 5. (Photographs were taken by the patient's partner and forwarded electronically for review as part of the "virtual" patch testing process.)

The overall value of "virtual" patch testing will await further data collection and will only be of practical use where the patient understands the process, there is adequate photographic means (usually with mobile phones or tablet computers), and there is a household member present to assist. Patients retain the option to defer to, or repeat face-to-face patch testing, at a later stage, which may prove necessary if the "virtual" process is deemed unsuccessful by the doctor. However, virtual patch testing may be beneficial in the right circumstances. In the present case, the patient found the instructions easy to follow and was relieved that he did not have to travel to a central London hospital clinic during the COVID-19 pandemic. Finally, he was pleased to have received a diagnosis and management advice through appropriate investigation.

It is unclear how long social distancing rules may continue to be applied. We, therefore, chose this case to highlight that "virtual" patch testing may be a reasonable interim option for investigating contact dermatitis during present restrictions.

CONSENT

The patient gave written informed consent to the publication of this report.

CONFLICT OF INTERESTS

The authors declare no conflicts of interest.

ORCID

Louise Cunningham  <https://orcid.org/0000-0002-2009-3588>

Felicity J. Ferguson  <https://orcid.org/0000-0003-0969-4670>

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