

Case report: A veterinarian with a contact allergy to acrylates

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CASE REPORT

A 60-year-old male veterinarian came to our dermatology department because of a persistent hand and facial eczema for several months. The patient was known with an atopic constitution. As a veterinarian he worked mainly with large livestock (cattle) and performed around three deliveries a day, wearing various types of gloves. However, his bare hands were still in contact with excretions such as amniotic fluid. He had noticed some improvement of his hand and facial eczema when he was on holiday, but the complaints were never completely resolved. He denied having contact with paints or varnishes.

Clinical examination revealed an eczema on the dorsum of the hands (Figure 1), wrists, and distal ulnar, as well as an eczema on the face, mainly involving the forehead and partially with a seborrheic distribution (Figure 2).





FIGURE 1

[Open in figure viewer](#)

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Face



FIGURE 2

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Hand

Skin prick testing for latex and amniotic fluid was performed and showed negative results for both.

Patch tests were then performed with the extended European baseline series as well as a cosmetics, pharmacologic, shoes, adhesives, and plastics series. Test preparations were applied on Van Der Bend Chambers (Van Der Bend, Brielle, The Netherlands) and covered with Hypafix (BSN Medical, Hamburg, Germany). Readings were performed on day (D) 2 and D4, according to European Society of Contact Dermatitis guidelines.

We focused on the classical allergens for veterinarians (amniotic fluid, latex, and so on) but received an unexpectedly strong positive (2+) result for 2-hydroxyethylmethacrylate (2-HEMA). A further thorough occupational anamnesis revealed that the patient used glue based on acrylates and containing 2-HEMA on a daily basis to adhere blocks under the hooves of large cattle. In cases of contact dermatitis for acrylates, we usually recommend the use of nitrile gloves. However, because there was also the factor of airborne contact dermatitis in the face, the use of gloves only would not be sufficient. There was a positive reaction to 2-HEMA, but given possible future cross-allergies and the high level of difficulty in obtaining exact compositions, we recommended avoiding all acrylates completely. The patient subsequently discontinued performing the procedure himself and supervised his colleagues instead. The hand eczema was resolved, but the lesions on his face persisted due to an airborne distribution of 2-HEMA causing an airborne contact dermatitis. After avoiding all contact, the lesions persisted for several months before disappearing completely.

DISCUSSION

2-Hydroxyethylmethacrylate was added to the European standard series in 2019 due to the rise of exposure to acrylates causing contact dermatitis (eg, artificial nails for women). It is a monomer that is cured quickly after polymerization and is used to make various polymers, as well as for automotive vehicles coatings, adhesives, printing inks, appliances, and metal applications. The addition of 2-HEMA to the European standard series has made it possible to detect other less-obvious contact allergies. Furthermore, avoiding direct contact is not always sufficient to prevent a persistent contact allergic eczema, since an airborne transfer of allergens may also lead to contact allergic eczema, especially of the face. It is therefore important to acknowledge that a contact dermatitis that has developed after prolonged exposure to acrylates may persist for a longer time, even after avoiding further contact.¹⁻³

CONFLICT OF INTEREST

There are no conflicts of interest.

AUTHOR CONTRIBUTIONS

Virginie Vandaele: Investigation (equal); methodology (equal); writing – original draft (equal). **Luc Bossuyt:** Data curation (equal); investigation (equal); writing – review and editing (supporting). **Hilde Lapeere:** Writing – review and editing (equal). **Annelies Stockman:** Supervision (equal); writing – review and editing (equal).

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