

Allergic contact dermatitis caused by elastic bands from FFP2 mask

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CASE REPORT

A 43-year-old nonatopic woman, working as a hospital cleaner, was referred to our contact eczema department with face and neck dermatitis developing since 20 days ago. The patient had no personal history of interest. On physical examination, an intensely pruritic, erythematous-edematous rash was observed, distributed along the contact area of the elastic bands of the FFP2 mask (Figure 1C) on the cheek and cervical neck region (Figure 1A,B). This was treated with topical corticosteroids and oral antihistamines.

Patch tests were performed with the European Comprehensive Baseline Series (Chemotechnique Diagnostics, Vellinge, Sweden), a rubber additives series (Chemotechnique Diagnostics), and the elastic bands "as is." The results were interpreted according to the criteria of the International Contact Dermatitis Research Group. Patch tests were read on day (D) 2 and D4. The patient showed a positive patch test reaction to the elastic band (Figure 1D), carba mix 3% pet., thiuram mix 1% pet., tetramethylthiuram disulfide 1% pet., tetramethylthiuram monosulfide 1% pet., zinc diethyldithiocarmate

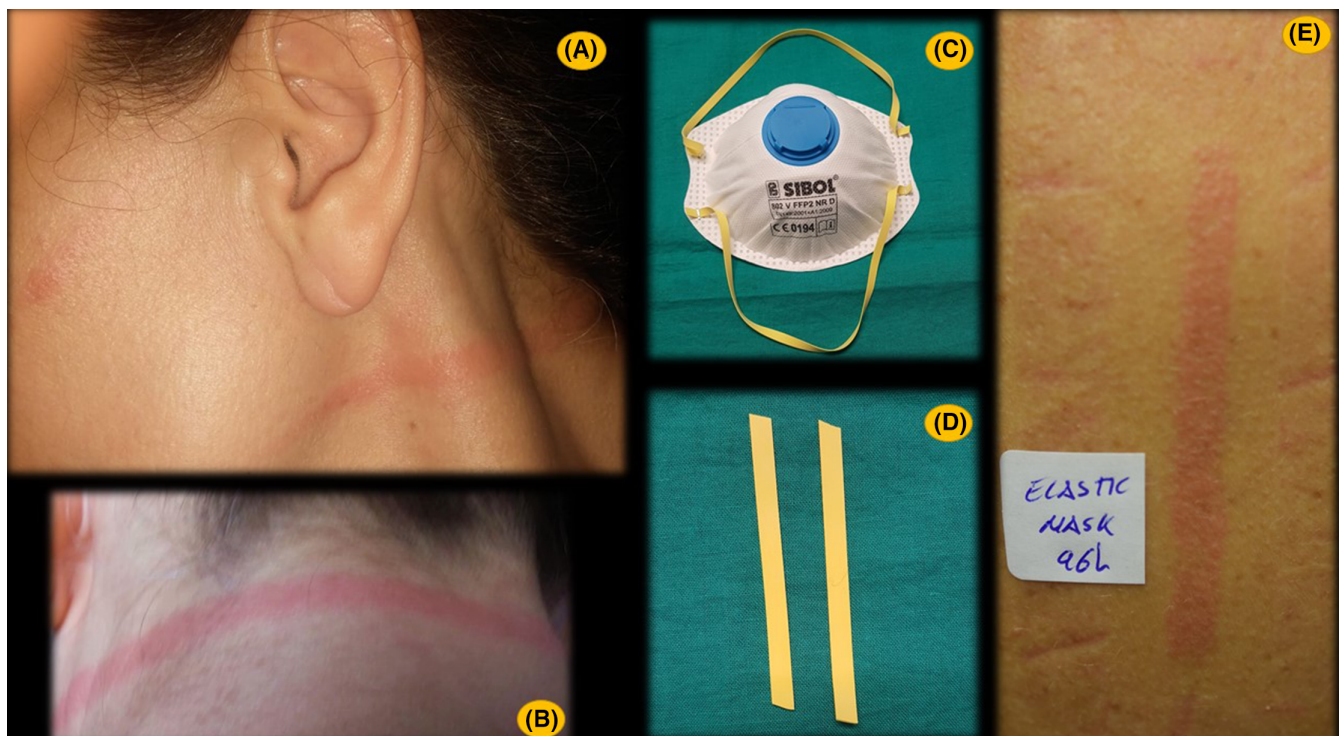


FIGURE 1 (A), Erythematous-edematous reaction of a linear distribution located on the cheek, neck, and (B), posterior cervical area. (C), Sibol PPF2 mask. (D), Rubber elastic band that has been patch tested. (E), Positive patch test to the elastic rubber band from PPF2 mask "as is"

1% pet., and zinc dibutyldithiocarbamate 1% pet. A prick test with latex was negative.

Allergic contact dermatitis caused by elastic bands mask FFP2 (SIBOL, NR-D, NUEVA SIBOL, Zamudio, Spain) was diagnosed. Complete clearance of dermatitis was achieved within 2 weeks after changing the mask to a type with cotton cloth bands.

DISCUSSION

COVID-19 has imposed the use of personal protective equipment on practically all hospital workers.¹ Gloves and masks are the main sources of inflammatory skin reactions. Skin barrier dysfunction and potential skin microbiota dysbalance on the face might make patients more vulnerable to side effects from the masks.² Acne and rosacea patients are the most vulnerable to developing skin reactions to protective equipment. However, also patients without pre-existing skin diseases can develop irritant contact eczema, and less frequently, allergic contact eczema. FFP2 masks are the most popular, and recommended for adequate protection against the SARS-CoV-2. The rubber additives³ thiurams, dithiocarbamates, and mercaptobenzothiazole are the three main allergen groups involved in allergic contact dermatitis to rubber bands in this type of mask. It is essential to diagnose this type of dermatitis, since a continuous contact can cause intense skin lesions, with a significant effect on the quality of life of the patient, and even a decrease of work performance. A latex prick test is necessary to rule out a type I hypersensitivity reaction.⁴

Although changing the mask material is the most effective way to treat allergic contact eczema in these patients, the use of hydrocolloid patches,⁵ mainly those located in the nasal bridge, has been proposed to prevent inflammatory reactions. In light of the results obtained in our patient, we present a case of allergic contact dermatitis caused by the elastic rubber bands of the FFP2 mask. It is crucial that workers wear effective and also safe protective equipment.

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CONFLICT OF INTEREST

None to declare.

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