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Contact Point

Sensitization to isobornyl acrylate in a tertiary Belgian hospital

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Allergic contact dermatitis (ACD) to isobornyl acrylate (IBOA) has been largely reported. Consequently, it was recognized as the 'Contact Allergen of the Year 2020' by the American Contact Dermatitis Society. The prevalence of IBOA sensitization has been evaluated from 0,7 to 3,8% in patients with adverse skin reactions to medical devices (MD) used in diabetes (1, 2). However, to our knowledge, the prevalence of sensitization to IBOA in the general patch-tested population has not yet been established.

Methods

All patients attending the Contact Allergy Unit of the Dermatology Department, Cliniques universitaires Saint-Luc in Brussels between July 2019 and November 2020 were patch-tested with IBOA 0.1% in petrolatum (pet.) (Chemotechnique, Vellinge, Sweden).

Results

During this 16-month study period, of the 522 patients who were patch tested with IBOA, three presented a positive patch test reaction (0,57%). Their mean age was 29 years (range: 11 to 59), one was a woman and all three reported ACD to MD (glucose sensors or insulin pump). None of the 522 patients tested with IBOA 0.1% pet. presented irritative reactions nor active sensitization to IBOA.

Discussion and conclusion

IBOA has become a well-known allergen responsible for ACD caused by medical devices for diabetes. However, IBOA has recently been responsible for ACD due to other MD such as infusion sets for treating pulmonary hypertension (3), electrocardiogram electrodes (4) and disposable tensiometers (5). MD are not the only source of IBOA. Recently, few papers

reported ACD to IBOA present in glues contained in protective covers of smartwatches (6) and in UV-tempered-glass screen protectors on mobile phones (7).

Data in this study are limited due to the occurrence of the COVID-19 pandemic during the study period. This resulted not only in the absence of tests being performed for 3 months (March-May) but also, even later, some diabetic patients, considered to be at risk during this pandemic, avoided coming in for testing when presenting with cutaneous reactions to their MD.

This study seems to confirm that diabetic medical devices for diabetes remain the most important source of IBOA sensitization. No new source of sensitization could be identified.

The low rate of positive patch test reactions to IBOA found in this Belgian study (<1%), do not recommend its inclusion in the European baseline series. However, it is important to test it in cases of suspected ACD with medical devices, but also glues and adhesives.

References

1. Pyl J, Dendooven E, Van Eekelen I, den Brinker M, Dotremont H, France A, et al. Prevalence and Prevention of Contact Dermatitis Caused by FreeStyle Libre: A Monocentric Experience. *Diabetes Care*. 2020 43(4):918-20.
2. Hyry HSI, Liippo JP, Virtanen HM. Allergic contact dermatitis from glucose sensors in type 1 diabetes patients. *Contact Dermatitis* 2019;81(3):161-6.
3. Malinauskiene L, Šlekyte G, Mowitz M, Isaksson M, Zablockis R. Allergic contact dermatitis caused by isobornyl acrylate in two patients treated for idiopathic pulmonary arterial hypertension. *Contact Dermatitis* 2020;101111/cod13617 doi:10.1111/cod13617. 2020;doi:10.1111/cod.13617. doi:10.1111/cod.13617 [published online ahead of print, 2020 May 20].
4. Corazza M, Mantovani L, Zedde P, Forconi R, Scuderi V, Borghi A. A case of allergic contact dermatitis to (meth)acrylates in electrocardiogram electrodes. *Contact dermatitis*. 2020;83(2):152-4.
5. Renaudin H, Darrigade AS, Dendooven E, Foubert K, Aerts O, Milpied B. Allergic contact dermatitis from a disposable blood pressure cuff containing isobornyl acrylate and 2-phenoxyethyl acrylate. *Contact dermatitis*. 2020.
6. Otero-Alonso A, Rodríguez-Vázquez V, López-Pesado I, Fernández-Redondo V. Smartwatch protective cover's glue: A new non-occupational acrylate allergy. *Contact dermatitis*. 2020;83(2):159-61.
7. Amat-Samaranch V, Garcia-Melendo C, Tubau C, Puig L, Serra-Baldrich E. Occupational allergic contact dermatitis to Isobornyl acrylate present in cell phone screen protectors. *Contact dermatitis*. 2020.