



Baseline series update

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Dear Editor,

A wide variety of substances may be involved in the genesis of allergic contact dermatitis (ACD), thus recommending treatment according to the culprit allergen is difficult. For this reason, all patients with suspected ACD should preferably undergo patch testing for a standard baseline series,¹ which consists of a series of allergens that are commonly associated with ACD in a certain population.² The allergen should cause a positive and significant reaction in 0.5% to 1% of patients tested to be included in a baseline series.³ Thus, the baseline series should be constantly updated by adding new allergens and removing those that have become irrelevant.² The issues in question are: what standard baseline series is available today? How and when was it created? How may we improve it?

A historical survey shows that the desire to create a regional baseline series is old. With this purpose, Brazilian specialists gathered at the Brazilian Congress of Dermatology in Curitiba, state of Paraná, in 1993 and created the Contact Dermatitis Brazilian Studying Group (Grupo Brasileiro de Estudos em Dermatite de Contato, GBEDC). The aim was to create a standard patch test series for the Brazilian population using a standardized method that would be published later, which was a novelty at the time. Thus, in 1995/1996, 967 patch tests were performed with the proposed baseline series, and the study was published in 2000.⁴ Tests were positive in 62% of participants, with nickel being the most common hapten, followed by thimerosal, a substance currently of little relevance. In addition to standardizing tested antigens, the order of testing was considered an important factor in the prevention of false-positive results. Substances with similar chemical structures may cross-react and should not

be tested in close proximity to each other.^{5,6} However, the standard Brazilian baseline series has never been updated in the sense of adding new substances and removing those whose sensitization prevalence is sufficiently low or not sufficiently relevant.

In 2013, the Colegio Ibero-Latinoamericano de Dermatología proposed the creation of a more comprehensive baseline series that included relevant substances and updated concentrations. The new series comprised 40 allergens and was published as a consensus in 2015 by the Dermatitis de Contacto de la Sociedad Argentina de Dermatología group.⁷ The aim was to create a unified patch test series for all countries in Latin America with the goal of standardizing ACD conducts and practices.⁸ In addition, the use of a “multinational” baseline series could allow comparative studies between countries, increasing the knowledge of geographic variations related to sensitizations.⁹ A study conducted in Argentina with the Latin American baseline series found that nickel was the most common allergen, followed by palladium and methylisothiazolinone. Tests were positive in 82.4% of patients.¹⁰

There are several differences between the Brazilian and Latin American baseline series. The Brazilian series does not include any markers of allergy to corticosteroids.¹¹ The Latin American series includes as markers of fragrance sensitivity fragrance mix I and II, similarly to international series, and Lyrat[®]. It also includes other formaldehyde releasers, such as diazolidinyl urea and imidazolidinyl urea.⁸ Benzocaine was replaced by caine mix, the most comprehensive marker of local anesthetics, following the European baseline series.¹² Other important additional allergens were included to facilitate the diagnosis of specific allergies, such as cocamidopropyl betaine (surfactant), propyl gallate (antioxidant), sesquiterpene lactone (plants), disperse blue (textile dyes), dialkyl thiourea (neoprene), and tosylamide/formaldehyde resin (enamel).⁸ The inclusion of methylisothiazolinone in the Latin American baseline series lead to the identification of an important allergy epidemic, which was previously undiagnosed.¹³

The Latin American baseline series was finally commercialized in Brazil at the end of 2020, following requests from the expert community. It was adapted to

include hydrocortisone acetate instead of tixocortol, as the latter is not sold in Brazil. In addition, propolis replaced primin, which currently lacks relevance, according to the European baseline series.¹⁴ A prospective study using the adapted baseline series reported that tests were positive in 67.9% of patients and found significant sensitivity to methylisothiazolinone, as expected, which was positive in 13.5% of patients.¹⁵

However, we believe the issues surrounding patch testing are not resolved. How often does a patient with clinical symptoms suggestive of ACD test negative for the disease? Several hypotheses may explain this, but could it be due to an outdated baseline series? Nonetheless, due to Brazil's continental dimensions, a baseline series supported by new and recent international research that is relevant to the country's reality should be created. Haptens such as thimerosal and others that are no longer allowed in personal care products should be removed, and acrylates, which are no longer exclusive to artificial nail products, should be included.¹⁶ We understand that special attention should be given to substance concentrations to prevent patch test sensitization, but concentrations should not be low enough to cause false-negative results. All substances should be identified by their CAS Registry Number, and manufacturing companies should be required to provide substances with a degree of purity as close to 100% as possible. These measures would help standardize the quality of supplies, allowing patch tests to reach a level of excellence.

Considering the aforementioned, the Board of Directors of the Brazilian Association of Allergy and Immunology (Associação Brasileira de Alergia e Imunologia, ASBAI), chaired by Dr. Emanuel Sarinho, understood the issues and took action. First, the Board created the Department of Contact Dermatitis and supported educational activities aimed at informing allergists of the novelties in the field. Second, the structure of lectures at national congresses was changed to allow for more specific classes, avoiding commonplace topics on the subject. Finally, the Board also promoted the launch of a book exclusively on the topic of ACD. In summary, the Board understood that it was time to create a group focused on learning about new scientific evidence on the field to elaborate a new baseline series, which will decisively improve patch testing quality in the country.

It is time to update.

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