

Patch test in the management of childhood dermatitis

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Introduction

Allergic contact dermatitis (ACD) in childhood has taken clinical relevance in recent decades due to the increasing allergen exposure of children. The incidence of ACD is low in the first years of life, but it reaches the same frequency as adulthood between 10 and 14 years (13-24%)¹. The correct diagnosis of ACD in childhood is important to avoid possible negative consequences throughout life. The gold standard test to identify ACD is patch testing (PT). PT is performed in about 20% of childhood dermatitis with positive results in 15-70% of cases². Controversies about the utility, convenience, risk of sensitization and indication in pediatric patients of PT have been discussed in the literature. The main sensitizers described in childhood are similar to those of adulthood: metal, rubber and fragrances. We present a series of PT in pediatric population performed in a tertiary hospital.

Methods

1. Retrospective study of PT conducted in the Department of Dermatology in a tertiary hospital of Barcelona from January 2004 to December 2013.
2. Selection of patients aged 18 or under tested by the European Baseline series and GEIDAC (Grupo Español Investigación en Dermatitis de Contacto y Alergia Cutánea) patch test series.
3. Description of the epidemiological and clinical features.
4. Analysis of patch test results.

Results

175 patients, 66 males and 109 females, aged from 18 months to 18 years, were identified. They accounted for 4.13% of all PT performed during the study period. The main reasons for referral to PT were palmar and/or plantar recurrent dermatitis (24%), atopic dermatitis (21%), urticaria (12%) and, localized facial recurrent eczema (10.85%) (Figure 1). 72 (41.1%) patients have a positive personal history of atopy. Positive reactions in PT were obtained in 84 patients (48%), of which 34 were positive to more than one allergen. The main allergens involved in these positive results were by far thiomersal (32.1%) and nickel sulphate (30.9%) followed by cobalt chloride (19%), Balsam of Peru (13%), MCI/MI (11.9%), colophony and fragrance mix (8.3%) (Figure 2). Combined hypersensitivity was detected in 12 patients to multiple metals and, to fragrances and preservatives in 9. No significant differences were observed between positive patch test and age distribution or reason of referral. The clinical relevance was established in 72.6% of patients.

Figure 1. Reasons for referral to patch-testing.

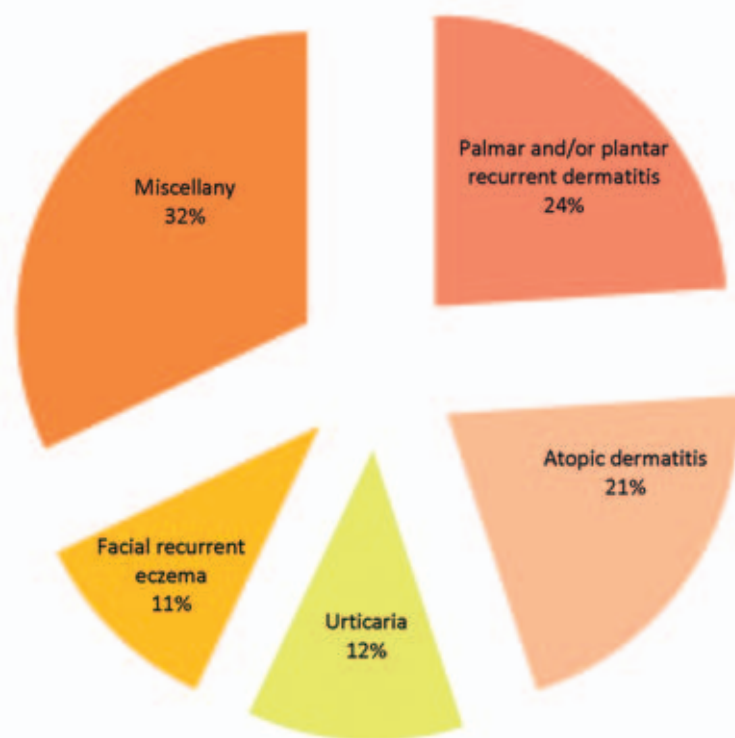
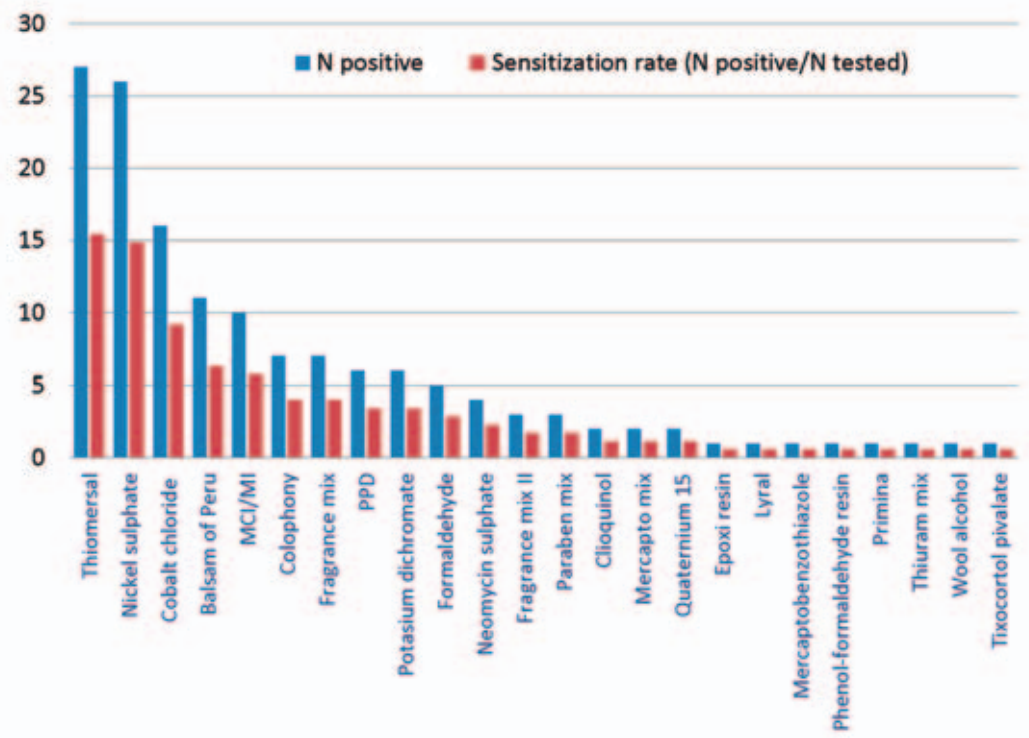


Figure 2. Distribution of positivity to allergen tested: positive cases (N) and sensitization rate.



Discussion

Children are exposed to a wider variety of allergen at younger ages as make-up, beauty products, face-painting, tattoos, piercing, handicrafts, sport, vaccines, natural medicine, etc. This higher allergen exposure has increased the suspicion of ACD in childhood and, consequently, the performance of PT.

The frequency of positive results of PT in childhood in our series is similar to those previously described in the literature. We have found a high proportion of patients sensitized to thiomersal, similarly to nickel sulphate, a higher sensitization rate comparing with previous literature³ and, a high number of patients sensitized to more than one allergen. The present study shows that a wide variety of childhood dermatitis is tested by PT even if an ACD is not suspected, being difficult to establish the clinical relevance of the positive result in some cases.

References

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