Nascer e Crescer - Birth and Growth Medical Journal
2019;28(1): 33-35. doi:10.25753/BirthGrowthMJ.v28.i1.13020

WHAT IS YOUR DIAGNOSIS

DERMATOLOGY CLINICAL CASE

CASO CLÍNICO DERMATOLÓGICO

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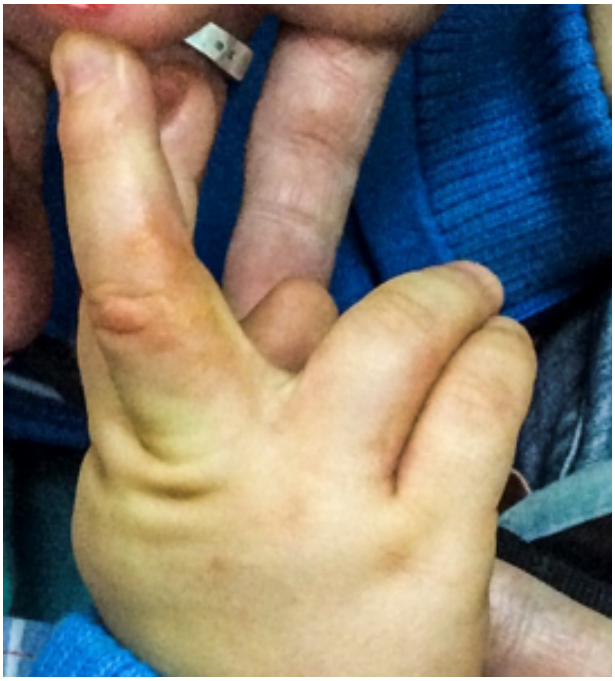
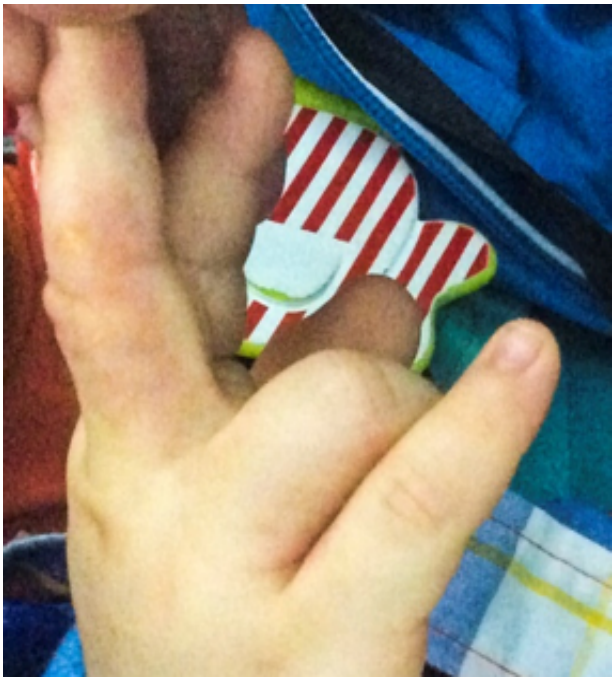
A previously healthy ten-month-old male was referred to the Pediatric Immunoallergology Department due to pruritic skin lesions on the hands over the past two months. The infant usually played with rusty keys. He presented with dermatitis of the intertriginous areas of the hands with papules and vesiculation. Emollients, topical steroids, and avoiding key contact were recommended. On follow-up consultation, the infant remained symptomatic and was submitted to skin prick tests (Atopy Patch Test) with the European Baseline Series.

What is your diagnosis?





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DIAGNOSIS

Allergic Contact Dermatitis (ACD) to metals

The infant had a local reaction and eruptions on the wrist and perioral region, and diagnosis was confirmed by Patch Test that tested positive to nickel, cobalt, and potassium dichromate.

After family education and information about sources of involved allergens, dermatitis resolved, and the child remained asymptomatic.

DISCUSSION

ACD is a delayed hypersensitivity reaction triggered by direct skin contact with the allergen or by its ingestion.[1,2] It is histologically characterized by an inflammatory reaction with intraepidermal intercellular edema and monocyte and histiocyte infiltration of the dermis.[3]

In pediatric patients, incidence of ACD increases with age, with few reported cases of ACD in the first year of life.[4–6] However, sensitization to allergens may begin at an early age.[1,4,7–9]

In children, the most common allergens causing ACD include metals, fragrances, preservatives, and p-tert-butylphenol-formaldehyde resin.[4] Most frequently involved metals (nickel, cobalt, and potassium dichromate) are found on jewelry, coins, keys, and costume accessories, but also in cosmetic products, foods (oatmeal, beans, chocolate…), electronic devises (mobile phones, tablets, computers…), and orthopedic and orthodontic equipments.[3]

Several factors are associated with risk of ACD: genetic predisposition, frequency, concentration, and duration of contact with the allergen, skin-barrier disruption, and contact with corrosive metal with increasing hapten release.[10–12]

On the acute phase, ACD presents with a localized erythematous dermatitis with pruritus, edema, papules, and vesicles. Chronic ACD presents with erythema, desquamation, fissuring, lichenification, and excoriations. Typical ACD appears in areas that were in contact with the allergen, but it can also present as symmetrical drug-related intertriginous and flexural exanthema or on previous sites of atopic dermatitis.[3,9,13,12]

Clinically, localized ACD involving the hands can mimic acute palmoplantar eczema (APE), also known as dyshidrotic eczema or pompholyx. APE is a pruritic, vesicular eruption of the palms, soles, or both. Lesion distribution is generally bilateral and symmetrical. The etiology of APE is unknown, and management involves general skin care measures and application of moderate to potent topical corticosteroids. Topical ointments of tacrolimus 0.1% or aluminum chloride 12–20% and phototherapy with narrow band ultraviolet B or high doses of UVA1 light have also been used in some cases.[12]

Diagnosis of ACD and identification of involved allergen(s) is crucial for improving child's quality of life and may have an impact on child's future career. The gold standard for diagnosis is patch testing.[1,2,4]

Treatment consists on avoidance measures, oral antihistamines, steroids (topical or oral), and skin barrier protection. Phototherapy, immunomodulatory, and anti-inflammatory agents may be necessary in refractory ACD.[3,10]

With this report, the authors intend to demonstrate that, although the incidence of ACD increases with age, some children may have disease manifestations within the first months of life. Diagnosis of APE was initially considered, but symptoms did not resolve until implementation of contact avoidance measures with metals identified in the Patch Test. A detailed history, physical examination, and follow-up visits are essential for diagnosis.

ABSTRACT

Allergic contact dermatitis (ACD) is a delayed hypersensitivity reaction. ACD's incidence increases with age and rarely presents in the first year of life. Diagnosis of ACD is suspected based on a detailed history and physical examination and confirmed with patch testing. Avoidance of allergen(s) involved is essential for symptom control.

The authors present a case of ACD associated with multiple allergens manifesting in the first year of life which resolved with avoidance measures.

Keywords: allergic contact dermatitis; infancy; nickel; cobalt; potassium dichromate

RESUMO

A dermatite de contacto alérgica (DCA) é uma reação de hipersensibilidade tardia. A incidência de DCA aumenta com a idade e raramente se manifesta no primeiro ano de vida. Uma anamnese detalhada, associada ao exame físico, permite estabelecer uma hipótese diagnóstica, que é confirmada pelas provas de sensibilidade cutânea (testes de contacto patch). A evicção do(s) alergénio(s) envolvido(s) é crucial para o controlo sintomático.

Os autores apresentam um caso de DCA associada a múltiplos alergénios, manifestada no primeiro ano de vida, e que resolveu com medidas de evicção.

Palavras-chave: dermatite de contacto alérgica; lactente; níquel, cobalto, dicromato de potássio

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Received for publication: 06.09.2017
Accepted in revised form: 16.10.2017