iPad—Increasing Nickel Exposure in Children

abstract

We discuss allergic contact dermatitis to the iPad to highlight a potential source of nickel exposure in children. *Pediatrics* 2014;134:e580–e582

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KEY WORDS

allergic contact dermatitis, iPad, nickel

ABBREVIATIONS

ACD—allergic contact dermatitis

AD—atopic dermatitis

Dr Jacob performed the clinical assessments and patch testing and drafted the initial manuscript; Dr Admani assisted with clinical assessments and patch testing and completed all manuscript revisions; and both authors critically reviewed the manuscript and approved the final manuscript as submitted.

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Allergic contact dermatitis (ACD) is becoming increasingly prevalent in the pediatric population, with nickel the allergen most commonly detected.\(^1\) Common sources of nickel exposure in children include nickel-releasing clothing fasteners, ear piercings, and nickel-containing dental work.\(^2,4\) In addition, significant nickel release has also been associated with laptop computers, cell phones, razors, wind-up toys, and video-game controllers.\(^5\)–\(^10\)

**CASE REPORT**

An 11-year-old boy with a history of atopic dermatitis (AD) presented for evaluation of generalized dermatitis that had been present for >6 months. This dermatitis was different from the patient’s typical pattern of AD and was not responding to standard topical corticosteroid therapy, namely triamcinolone 0.1% ointment (Fig 1). As a result, ACD was suspected, and patch testing was performed by using the thin-layer rapid use epicutaneous patch test (T.R.U.E. Test, SmartPractice, Phoenix, AZ). Readings at 96 hours demonstrated a 1+ reaction to nickel that was accompanied by significant worsening of the patient’s dermatitis.

At the avoidance counseling session, it was noted that the family had a first-generation iPad (Apple Inc, Cupertino, CA), purchased in 2010, that the patient had used with increasing frequency over the last 6 months. The iPad tested positive for nickel with dimethylglyoxime (Fig 2). The patient was instructed to specifically avoid contact with objects containing nickel and was advised to use the Smart Case, which provides overall coverage of the iPad, as opposed to the Smart Cover, which only provides coverage of the screen and leaves the entire back of the iPad exposed. Notably, after covering his iPad and complying with a nickel avoidance regimen (including a reduced nickel diet), the patient’s dermatitis significantly improved.

**DISCUSSION**

ACD to Apple products (laptops and iPhones) has been reported.\(^5\)–\(^7\) The iPad, however, has not previously been reported as a potential source of nickel sensitization in children. Portable electronic devices are becoming increasingly popular among children of all ages and are used both for entertainment/distraction and as educational tools. The significant cost associated with purchasing these items may preclude replacement. Measures may need to be taken to reduce the skin-to-device contact either by using a case or cover or simply applying duct tape to create a barrier. Patients should be instructed to test the case or cover for nickel before purchase and to select one that is nickel-free.

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