

describe the fat infiltration extension to the deep layer of muscle. There is only one report of a giant NLCS.⁵ This case may indicate that there is some relationship between NLCS and intramuscular lipomatosis because two lesions developed simultaneously, and NLCS recurred and has grown to a huge size, even though complete surgical excision was performed 8 years ago. Our extraordinary NLCS suggests that giant NLCS can be associated with fat infiltration deeply into the muscles and is related to recurrence of NLCS and a tendency to grow; therefore, an adequate imaging study for the giant NLCS and proper management should be considered. Because giant NLCS has been rarely reported, more reports and studies are warranted to confirm our hypothesis.

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Nickel allergy and dermatitis following use of a laptop computer

To the Editor: Nickel allergy affects up to 17% of women and 3% of men and is the most common cause of contact sensitization.¹ Over the second half of the 20th century, nickel allergy was caused by different categories of consumer products including suspenders, buttons, zippers, rivets, and earrings.¹ In



Fig 1. Nickel contact dermatitis. Prolonged skin contact with ulnar surfaces of the hands.



Fig 2. Nickel contact dermatitis. Pruritic vesicular dermatitis on ulnar surface of the hand.

response, nickel regulations were introduced during the 1990s in Denmark, Sweden, and the European Union (EU), respectively.^{1,2} To date, these have significantly reduced the prevalence of nickel allergy and dermatitis, albeit the EU Nickel Directive is still breached.¹ We recently demonstrated that new consumer items, such as mobile phones,³ could release excessive amounts of nickel and cause nickel allergy. Herein we present yet another source of nickel allergy and dermatitis.

A 50-year-old non-atopic woman was referred with pruritic vesicular dermatitis on the ulnar surfaces of both hands. She had not previously experienced dermatitis following skin contact with metallic items. Dermatitis developed a few weeks after she began using a new Apple MacBook Pro laptop (Fig 1; Apple Inc, Cupertino, CA). The dermatitis was located on skin areas which had been in prolonged contact with metallic parts framing the keyboard (Fig 2). She experienced complete symptom relief after she stopped using the computer.

Patch testing was performed with the European baseline and extended series using Finn Chambers

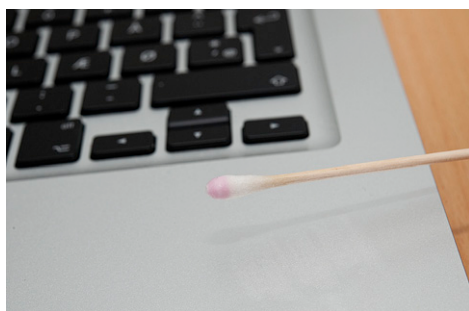


Fig 3. Nickel contact dermatitis. Positive dimethylglyoxime test result.

(8 mm, SmartPractice, Phoenix, AZ). The patch tests were applied to the upper back and occluded for 2 days. Readings were done on day 2, day 3, and day 7 according to the recommendation from the International Contact Dermatitis Research Group. The patient reacted with a 2+ reaction to 5% nickel sulfate in petrolatum on day 2. Nickel spot testing using the dimethylglyoxime test was positive when performed on the metallic surface of the computer (Fig 3). Microstructural surface characterization and chemical analysis were performed on the surface of the computer using scanning electron microscopy (SEM) (JEOL 5900, JEOL Ltd, Tokyo, Japan) in combination with energy dispersive spectroscopy (EDS) (Oxford Link ISIS analyzer, Oxford, UK) with INCA Energy EDS software. We found 1.9 to 3.2 weight percent nickel on the surface depending on the site of examination. Nickel release using the EN 1811 reference test method⁴ was 0.3 μg nickel/ cm^2 per week from the bottom surface and 0.2 μg nickel/ cm^2 per week from the hand rest area.

We have identified a new source of consumer nickel exposure. Excessive amounts of nickel may be released from metallic laptops which, in this case, was due to treatment with a nickel-containing coating substance. In our patient, de novo nickel sensitization was suspected. We recently presented a highly nickel-reactive woman showing that even very low amounts of nickel release may cause allergy and dermatitis.⁵ Moreover, when using a laptop computer, the hands tend to sweep across the keyboard frame, resulting in an accumulation of nickel ions on the skin—a factor we plan to investigate in a future study. We encourage computer

manufacturers to prevent excessive nickel release from their products and dermatologists should be aware of this novel cause of nickel sensitization.

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