

## Bilateral palmar dermatitis possible caused by computer wrist rest

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**Key words:** allergic contact dermatitis; computer; dialkyl thiourea; office worker; rubber; wrist rest.

Computers are almost necessities for private and occupational use. Computer-related skin diseases are documented (4–9). We should remain alert to computer accessories as a potential source of allergic contact dermatitis. Our patient was allergic to a rubber additive, dialkyl thiourea. The positive patch test to dialkyl thiourea of the pad supports our clinical suspicion of allergic contact dermatitis caused by the wrist rest.

### Case Report

A 29-year staffing manager presented with hyperkeratosis and erythema of her palms bilaterally, that had developed over 8 years. Patch testing (2 days) with the extended routine series (American Contact Dermatitis Research Group) showed a positive reaction to dialkyl thiourea (+++) [ICDRG grading system at 2 and 4 days (1)]. She used a computer at

work and rested her hand on a rubber wrist rest. The skin lesions were located on pressure points in contact with the wrist rest. We obtained a thin piece of this rubber for patch testing. The result was positive (+++) at 3 days. With its avoidance and the use of fluocinonide (Lidex®) and vinyl glove occlusion, our patient's palmar lesions were resolved slowly (~80%) at 8 weeks; however, the allergic dialkyl thiourea and rubber pad patch test remained visible for 8 weeks.

### Discussion

Computer accessories such as a wrist rest, mouse mat, and mouse have been implicated as causes of allergic contact dermatitis (Table 1). Wintzen and Zuuren (2) reviewed computer-related skin diseases. Most allergic reactions to the computer accessories are caused by plastic and rubber. We should remain alert to computer accessories as a potential source of allergic contact dermatitis.

Our patient was allergic to a rubber additive, dialkyl thiourea. The positive patch test to dialkyl thiourea of the pad supports our clinical suspicion of allergic contact dermatitis caused by the wrist rest.

The bilateral hyperkeratosis morphology suggests the diagnosis of psoriasis and the patient could have a psoriatic predisposition: we did not extract the dialkyl thiourea, or did we test the other chemicals in the wrist rest, so the diagnosis remains presumptive rather confirmed (3).

Note that the allergic dialkyl thiourea and rubber pad patch test remained visible for 8 weeks. The

relationship between long-lasting patch reactivity and slowly resolving allergic contact dermatitis remains an enigmatic challenge for experimental and clinical dermatologists.

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Table 1. Computer accessories have been implicated as causes of allergic contact dermatitis

| Allergen                                | Patch test result                                                                                                              | Reference                 |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|---------------------------|
| Keyboard wrist rest containing neoprene | Mercapto and thiuram mixes: 2+; balsam of peru: 1+ (it was done 12 years ago. She refused further patch test)                  | Johnson and Elston (4)    |
| Keyboard wrist pad                      | Case 1: no patch result; case 2: no patch result                                                                               | Tanaka et al. (5)         |
| Keyboard wrist rest pad                 | Imidazolidinyl urea 2% aq.; mixed dialkyl thioureas 1% pet.; fragrance mix 8% pet.; thimerosal 0.1% pet.                       | Bassiri and Cohen (6)     |
| Personal-computer mouse mat             | Fragrance mix: ++; diphenylthiourea: +++; 2,6-di-tert-butyl-4-cresol: +++; zinc dibutylthiocarbamate: ++                       | Garcia-Morales et al. (7) |
| Computer mice                           | Case 1: computer mouse plastic: positive diethyl phthalate (5% pet.): positive; case 2: diethyl phthalate (5% pet.): positive  | Capon et al. (8)          |
| Computer mouse                          | Nickel: ++D4; Myroxylon pereirae resin (balsam of Peru): + D2, and ++D4; benzoyl peroxide: ++D3; resorcinol monobenzoate: ++D3 | Goossens et al. (9)       |
| Computer wrist rest                     | Dialkyl thiourea: 3+; computer wrist rest: 3+                                                                                  | This study                |

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