Exposure to metallic mercury and contact dermatitis *

Exposição ao mercúrio metálico e dermatite de contato

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To the Editor:

In their interesting Case Report about a single and unintentional exposure of leg skin to metallic mercury in an 18-year-old man, De Capitani *et al*. [1] state – in the Abstract section - that "Urinary mercury 36h after contact was 5.9 μg/L, and one week later 19.6 μg/L, indicating dermal absorption." We think that their case report deserves comment on several points.

First, the authors argue that the slight elevated urinary mercury concentration is due to transdermal absorption of metallic mercury through his leg skin. Although metallic mercury absorption through the skin can occur in humans, the rates of elemental mercury dermal absorption is approximately 2.2 percent of the uptake quantity in the lungs. [2]

Given that the lungs may have been the relevant entry route of elemental mercury emitted from liquid metallic mercury contained in a glass jar and the absorption through the respiratory tract is about 80 percent, we believe that this should have been added to their interpretation of case results.

Thus, it is unlikely that the increased levels of mercury in urine – which were observed in their patient – were due to the sole skin absorption of elemental metallic mercury leaked from glass bottle.

Second, in the Introduction section, they state that elemental mercury is "a non-liposoluble substance". [1] Instead, to our knowledge, elemental mercury is a highly lipid-soluble metal. [3]

Third, even if patch tests for screening of contact allergy to mercury antigens were not performed after exposure to metallic mercury, as the authors noted, the hypothesis of systemic absorption of metallic mercury through lungs as well as his leg skin is likely to explain erythematous dermatitis spreading to at sites distant from the initial site of mercury exposure.

Finally, De Capitani *et al*. [1] have prescribed systemic corticosteroid to their patient. In our experience, we found that systemic as well as topical steroid are not the optimal management strategy in individuals with mercury overexposure [4] due to their lack of specificity and physicians should carefully consider adverse health effects of treatment with steroid for mercury intoxication before starting any course of action. ❑

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Como citar este artigo/How to cite this article: Pigatto PD, Marsili C, Guzzi G. Exposure to metalic mercury and contact dermatitis. An Bras Dermatol. 2009;84(3):303.

Conflito de interesse: Nenhum / Conflict of interest: None
Suporte financeiro: Nenhum / Financial funding: None

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