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Mercury Poisoning in Operational Settings among Gilders

Dear Editor,

We read with interest the case series reported by Vahabzadeh and Balali-Mood on occupational overexposure to metallic mercury among gilders,¹ in whom extensive occupational exposures to liquid metallic mercury has been well-established.² However, we would like to raise a few points.

In the “General Findings” section of the article, the authors say “[the workers] only used latex gloves and textile masks.”¹ For regulatory implications, it should be noted that latex gloves are not suitable for the skin protection against any possible toxicity among workers exposed to metallic mercury. We believe workers exposed to metallic mercury should wear either nitrile gloves, neoprene-lined long-cuffed gloves, or silver shield laminated gloves, because they are almost impermeable to metallic mercury.³ This should be the standard universal precaution for all who are exposed to this important toxic metal.⁴ Because our Mercury Study Group has long been involved in the control of mercury hygiene, we can confirm the usefulness of laminated and/or nitrile gloves in protecting metallic mercury diffusion.⁵

In the “Introduction” of their paper, the authors state that “elemental or metallic mercury is the only metal existing in liquid form.”¹ We would like to remind that elemental bromine is a liquid metal at room temperature too.⁶ Gallium, another metallic element, is also liquid at above room

temperature (29.7 °C). And, cesium is another dense liquid metal at or near room temperature.

Finally, the investigators accurately describe that Case 2, a 20-year-old man with elevated levels of mercury in his urine, had anorexia—on neurotoxic basis—and metallic taste¹—clinical findings that appear to be well in line with the diagnosis of mercury poisoning. This is an important and welcome addition, since anorexia involves both males and females overexposed to mercury. Workers and/or patients exposed to mercury may lose approximately 10–15 kg in body weight.⁷ Vahabzadeh and Balali-Mood's paper¹ highlights the importance of considering the control of mercury hygiene through history taking as well as careful follow-up.

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PD Pigatto¹, A Ronchi²,
V Falabella³, G Guzzi^{4*}

¹Department of Biomedical, Surgical and Dental Sciences, Unit of Oral Pathology and Medicine, IRCCS Galeazzi Hospital, University of Milan, Milan, Italy

²Pavia Poison Control Center and National Toxicology Information Centre, Toxicology Unit, IRCCS Maugeri Foundation and University of Pavia, Italy

³Didactic Coordinator, Master in Integrative Medicine, University of Catanzaro, Italy

⁴*Italian Association for Metals and Biocompatibility Research—AIRMEB, Milan, Italy

E-mail: gianpaolo_guzzi@fastwebnet.it

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Authors' Reply

Dear Editor,

We would like to thank Pigatto, *et al*, for their constructive comments on our work.¹ We would appreciate their comment on the appropriate physical protection against mercury vapor in the occupational settings. As was clearly mentioned in our paper, the gilders' protective equipment was inadequate against mercury vapors in their occupational setting; they were only provided with latex gloves and tex-

tile masks. Such inefficient protection can strongly be considered the main cause of mercury poisoning reported. Authorities should be aware of the appropriate protection methods as an initial step to prevent occupational exposure to toxic metal vapors such as mercury.

In our paper, we only reported the well-known toxic liquid metal, mercury, which causes occupational poisoning in gilders.² Bromine is a non-metal halogen, gallium is a radioactive element, and cesium is a soft, silvery-gold alkali metal with a melting point of 28.5 °C that is hardly used and much less likely to induce occupational poisoning.

Finally, we would appreciate the sympathy of Pigatto, *et al*, on our clinical findings, particularly anorexia and weight loss, and also our recommendations to prevent occupational metallic mercury poisoning.

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M Balali-Mood, M Vahabzadeh

Medical Toxicology Research Center, Faculty of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran
E-mail: BalalimoodM@mums.ac.ir

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