

Management of mercury exposure in Hong Kong Poison Centre

To the Editor—In their article on the assessment and clinical management of patients with mercury poisoning, Fan et al¹ studied individuals who were non-occupationally exposed to mercury. The authors presented the results of a retrospective analysis (41 persons) who were referred to the Hong Kong Poison Information Centre and described their experience clearly.¹ We were pleased to see that the conclusions are fair and in line with those suggested previously.² However, two points in the report by Fan et al need clarification. First, a sentence of the Results in the Abstract states that “Individuals with abnormal tissue

mercury levels were uncommon.”¹ This statement incorrectly suggests that both blood and urine mercury concentrations may reflect the ‘tissue’ body burden of mercury. Instead, both whole blood as well as urine mercury levels are not able to identify chronic mercury poisoning in exposed individuals.^{2,3} Several reported cases suggest that inconsistencies may occur between the patient’s urinary mercury levels and symptoms of severe mercury poisoning, even in accidental exposure.⁴ Second, the authors also claim that “Removal of existing amalgams without a good dental indication is also not advised, as this would

temporarily raise blood Hg levels through inhaling more vapour". We would like to add that since 2003 we have developed a new technique for the removal of amalgam.⁵ This procedure makes it possible to control the release of mercury vapour during amalgam-replacement therapy because the entire mercury filling is removed en bloc,⁵ and mercury levels in saliva, blood, and urine did not oscillate from baseline levels.

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References

1. Fan KL, Chan CK, Lau FL. Mercury exposure: the experience of the Hong Kong Poison Information Centre. *Hong Kong Med J* 2011;17:292-6.
2. Goyer RA, Clarkson TW. Toxic effects of metals. In: Klaassen CD. Casarett & Doull's toxicology: the basic of poisons. 6th ed. New York: McGraw Hill; 2001: 822-6.
3. Mutter J. Is dental amalgam safe for humans? The opinion of the scientific committee of the European Commission. *J Occup Med Toxicol* 2011;6:2.
4. Gattineni J, Weiser S, Becker AM, Baum M. Mercury intoxication: lack of correlation between symptoms and levels. *Clin Pediatr (Phila)* 2007;46:844-6.
5. Guzzi G, Minoia C, Pigatto P, et al. Safe dental amalgam removal in patients with immuno-toxic reactions to mercury. *Toxicol Lett* 2003;144 Suppl 1:35S-36S.

Authors' reply

To the Editor—We agree to Guzzi and Pigatto's comment that the blood and urine level of mercury may not reflect the body tissue burden of mercury. For mercury-poisoned patients, the best marker for body tissue burden should be the concentration in the effector organs, ie the brain and kidneys. However, in most scenarios, these concentrations are not measurable unless at autopsy. It is not practical to rely on these measurements to diagnose mercury poisoning. Therefore, in the report, we have stressed the importance of obtaining a detailed exposure history, evaluating the clinical signs and symptoms

and measuring the blood and urine mercury levels. As for Guzzi's technique of amalgam removal, we have no further comments.

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