



Effects of mercury on the endocrine system

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LETTER

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To the Editor:

Tan et al. (2009) presented an excellent and impressive review of the effects of mercury on the endocrine system in both humans and animals. They correctly point out that mercury—a well-known neurotoxicant—is an important endocrine disruptor that mimics estrogen's effects with no direct action on hormones.

However, we would like to raise the following two points.

In the "Accumulation of Hg in the endocrine system" section of their review article, the authors cite a study [Kosta et al., 1975] indicating that there is a specific accumulation of mercury in the postmortem tissue of the thyroid gland of mercury mine workers who were exposed occupationally. Then they assert that "The current depth of information in this area is limited by a lack of this type of data gathered post mortem." We are surprised by this assertion.

Tan and colleagues fail to cite our recent article (Guzzi et al., 2006), which emphasized the significant contribution of mercury amalgam to the increase of the long-term thyroid burden of mercury. In our study on mercury amalgam disposition in human organs, we have found that levels of total mercury in thyroid specimens were about five times higher in cadaver samples with 12 or more than 12 occlusal amalgam surfaces, as compared with those who had three occlusal amalgams surfaces. Thus, elevated thyroid levels of mercury are not necessarily related to occupationally and/or environmentally exposed persons, as high levels have been determined even in the general population in subjects with dental amalgam fillings who have had mercury-containing amalgam exposure.

We also would like to call attention to an error in their description of the chemical symbol for elemental metallic mercury. In the "Chemical forms of mercury" section of their review article, Tan et al. write the chemical symbol for elemental mercury as Hg^{2+} . Perhaps because they mistyped the symbol? The correct chemical symbol for elemental or metallic mercury is Hg^0 and is read as "mercury zero" (Nuttal, 2004).

We believe that the endocrine system should be considered as a potential target tissue upon mercury exposure, along with the kidneys and the nervous system.

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