Reviewer's report

Title: Chronologically Matched Toenail-Hg to Hair-Hg Ratio: Temporal Analysis within the Japanese Community (U.S.)

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Reviewer: Mineshi Sakamoto

Reviewer's report:

Reviewer #: REVIEW of the manuscript entitled: "Chronologically Matched Toenail-Hg to Hair-Hg Ratio: Temporal Analysis within Japanese Community (U.S.)" by Tom Hinners. et al.

The present study includes chronologically matched hair-Hg and toenail-Hg in 43 women within the Japanese community (U.S.). The main aim was to investigate the chronologically matched hair-Hg to toenail Hg ratio within female Japanese community (U.S.).

This is an important study. However, the small sample size (n=41) is a major draw-back. Thus, the results should be interpreted with caution. More detailed comments are given in the following text.

Detailed comments

Abstract

Line 1. P1, Toennail Hg levels are used as a biomarker of methylmercury (MeHg) exposure. MeH is lacking.

The authors should mention that the participants were females. Difference in growth ratios hair and toenail is not examined.

The authors showed Hg value by arithmetic mean. However, the distribution of toenail-Hg looks more logarithmic normal from Figure 1. They should use geometric mean or median.

Lines 5 and 7. P2, Hg should be MeHg. The authors measured total Hg in toenail or hair to estimate MeHg exposure.

Background

Lines 8 and 13, mercury should be MeHg.

Line 1 from the bottom. Should be “for MeHg exposure”.

Lines 1 and 14 P3, mercury should be MeHg.

Line 15 P3, why only between cardiovascular effects. How about the neurological effects?
Results

(p>0.05) is not necessary because the authors mentioned that the significant level was set a 0.05.

The authors used arithmetic mean. However, the figure shows median and the quartile values, and the toenail-Hg does not show normal distribution. All the arithmetic means are bigger than medians.

They should use geomean or median.

In the same reason, correlation coefficients should be calculated by their log changed figures.

Discussion

In a lamination of this work, they should add the sentence that these results are obtained from females.

Mercury exposure, Hg level, and Hg body burden should be changed to MeHg.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.