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Hair mercury concentrations in Korean infants could be influenced by thimerosal-containing vaccines

Dear Editor,

The paper by Kim et al. (2008) determining hair-Hg in Korean children (median age of 18 months) clearly included young infants (<6 months). They detailed their work according to levels of hair-Hg concentrations and explained children's Hg exposure through fish consumption. While hair-Hg is an acceptable indicator of fish-methylmercury exposure, there is a chance that infants' hair-Hg in their study may also contain Hg-metabolites as a result of immunization using thimerosal-containing vaccines (TCV).

Over the last 20 years there has been an increase in the number of TCV given to infants (Dórea, 2007) and one of these vaccines, hepatitis B, is given to newborns in the first day of life (Marques et al., 2007b). Given the age of the infants studied by Kim et al., it is possible that the hair samples of the very young ones may have contained not only TCV-Hg, but also ethylmercury (EtHg) derived from mothers using products containing thimerosal during pregnancy; Rh-negative mothers could have taken anti-RhoD immune globulins and may have passed some EtHg to the newborn.

Although TCV is no longer used in the USA and developed nations, it is still used in a score of other countries. Additionally, because the Hg-preservative (thimerosal) in vaccines vary according to product manufacturer, immunized infants are exposed to varied EtHg concentrations (depending on the vaccine maker) and a wide range of doses — depending on the infant's weight (Dórea and Marques, 2008). As a consequence, additional TCV-EtHg exposure may contribute to a relative increase in infant's hair-Hg (Marques et al., 2007a). In such circumstances the reader needs to know the occurrence of pre- and post-natal EtHg exposure. Although Kim et al. referred to a recent paper dealing with different sources of Hg exposure and children's hair-Hg levels (Marques et al., 2007b), they did not inform on the type of vaccines (used in young

children) or thimerosal products (used by mothers during pregnancy) that might contribute to the levels of hair-Hg concentrations. However, we were informed that participants were recruited during immunization visits to health centers (Kim et al., 2008). Therefore, the contribution of Kim et al. could be enhanced with a post-hoc discussion of this issue.

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