Reviewer's report

Title: Association between the plasma/whole blood lead ratio and history of spontaneous abortion: a nested cross-sectional study

Version: 1 Date: 24 April 2007

Reviewer: Lorentz M. Irgens

Reviewer's report:

General

This well written paper represents an interesting study on the effect of lead on spontaneous abortion.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct).

1. The questions posed by the authors are new. However, the idea of studying the ratio might be more adequately introduced. The essence is presented in Discussion; viz. “Under this hypothesis current blood or plasma Pb would not necessarily be strongly associated to history of miscarriage, since blood or plasma Pb concentrations are more dependent on intra-individual temporal variation than plasma/blood Pb and would therefore be less correlated between pregnancies”. The genetic implications of the hypothesis are interesting.

2. The methods are appropriate and well described. However, to categorize the study as a nested cross-sectional study seems inappropriate. I would rather suggest: a nested retrospective cohort study. The data seem to be sound and limitations are adequately discussed.

3. The discussion is comprehensive. The main finding is the association between subsequent plasma/whole blood ratio and previous abortion. However, I miss a discussion of social class as a confounder. One would expect a higher lead exposure in lower social classes and the question should be addressed whether lead or other factors associated with low social class (e.g. smoking) are the causal ones. Adjustment for schooling as performed might to some extent solve the problem. The effect of this adjustment should be accounted for.

What next?: Accept after minor essential revisions

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.