Reviewer's report

Title: Two common nonsynonymous paraoxonase 1 (PON1) gene polymorphisms do not show a strong association with the risk for brain astrocytoma and meningioma

Version: 3 Date: 3 August 2010

Reviewer: Susan Searles Nielsen

Reviewer's report:

Thank you for your explanations and revisions.

Major compulsory revisions: None

Minor essential revisions:

1. Methods: Logistic regression is what would have been used to verify (as reported later in the Results) that adjustment for age, gender and education did not affect odds ratios. Rather, when mentioning logistic regression, there is a reference to “multiple comparison analysis.” (?)

2. Discussion: That controls were quite different from cases on age is of concern not because they could have later developed a brain tumor (I agree this is minor). Rather, the concern is that genotype frequencies could be changing over time. Also, the age difference is one reflection that the control group may not be fully comparable to cases. The newly added text should be reframed as a comparability issue, and also shortened (while keeping the new important note that there are no genetic differences between the Madrid and Extremadura). As much as a detailed addition is appreciated, it is better to not to detract from the other key issues (lack of the highly functional C-108T SNP and PON1 enzyme levels or activity).

3. Tables: Footnote ORs to clarify which models are shown and where.

4. Table 2: Delete the astrocytoma ORs that are not shown for meningioma or all brain tumors combined earlier.

The following discretionary revisions might improve the manuscript.

1. Title: The change in title to make it more neutral is appreciated, and a more simple and completely neutral alternative would be: “Two common nonsynonymous paraoxonase 1 (PON1) gene polymorphisms and brain astrocytoma and meningioma.”

2. Introduction: Delete the 2nd sentence of the Introduction or use a word other than “common,” because primary brain tumors are not common (except among those with some sort of brain tumor, which is probably what is meant, but could be misinterpreted).

3. Discussion: For conciseness it would be accurate to summarize references 52 and 53 together in one sentence simply as having observed no main effects or
interactions with insecticides for the Q192R and/or L55M SNPs, but suggested that the functional C-108T polymorphism and insecticide exposures may be important.

4. Correct typos throughout (e.g. “of” instead of “or” in the 3rd sentence of the Introduction; “organophosphorus” instead of “organophoshorate,” and “attending the hospitals” rather than “attending to”).

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests.