Reviewer’s report

Title: Pesticide exposure and risk of Parkinson's disease: a family-based case-control study

Version: 1 Date: 1 November 2007

Reviewer: Giancarlo Logroscino

Reviewer’s report:

General
This paper explores the relationship between pesticides exposure and risk of PD in a family-based setting. The family-based design is important to reduce confounding even if reduction of the power of the study for possible overmatching has to be considered, as the authors point out.

Some comments:
1) The authors should better explain the need to subtract from AAE the mean duration of the disease among cases to calculate the reference age. Is there any problem in this procedure considering the broad range of possible age onset among cases?
2) Do the authors have any reliability assessment in their study for qualitative and quantitative data of pesticide exposure?
3) The gender distribution appears quite different among controls and cases. Is this important?
4) What was the participation rate among cases and among controls?
5) It is not evident from the method section how the different strata of duration and intensity were obtained. (For example the stratum of duration of more than 26 years).
6) Incident/Prevalent bias. Did the authors restrict the analysis to cases with shorter duration of disease?
7) Did the authors separate childhood exposure and adulthood exposure for the analysis of farming and well water exposure?
8) The authors should expand more the discussion on the importance of negative results in the stratum of subjects with positive family history and positive results in the stratum of subjects with negative family history.

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

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

Discretionary Revisions (which the author can choose to ignore)

**What next?:** Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

no competing interests