Reviewer's report

Title: Allergic conditions and risk of hematological malignancies in adults: a cohort study tex

Version: 1 Date: 5 July 2004

Reviewer: CLAVEL Jacqueline

Reviewer's report:

General
The present paper exploits prospective data from a large well-designed study, which cumulated a particularly long time of follow-up. A major strength of the study is that the status towards allergy is collected before the follow up. The relationship between immune conditions and hematological neoplasms is an interesting issue, which deserved to be addressed on this cohort.

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

The main questions concern:

1- Concordance between twins
   a- The authors should describe the concordance between twins for both allergic conditions and hematological malignancies
   b- The authors stated, in the Methods section, that they use the correlation between twins to correct confidence intervals. References are given but methods should be described, at least briefly.
   c- The method used seems to disregard the relationships within pairs of twins. It is my feeling that the appropriate Cox model should include a frailty component shared by the twins of a pair.

2- Time variations
   a- The study covers a large range of birth years. How did the incidence of allergy and of hematological malignancies evolve during this period?
   b- How is the calendar time accounted for in the analysis? It seems that the present data offer the opportunity of separating age and period terms. Did the authors introduce a period effect in the regression?

3- Sample description
   a- Information should be provided on person-years with or without histories of various allergic conditions. A count of missing values on allergy should also be included.
   b- What was the age-sex distribution at the time when data were collected?
   c- How was the general mortality of the cohort distributed with respect to major causes of death?

4- Confounding
   Why did the authors consider alcohol consumption and smoking as potential confounders? Was there a relationship between alcohol drinking/smoking and either allergy or hematological malignancies, or both?

5- Interpretation of results
   a- In discussion page 10, the authors state that “if anything, our results support the antigenic stimulation hypothesis”. Could the authors detail this hypothesis? Antigenic stimulation is more likely to interact with lymphoid cells. What is the author interpretation for the fact that the results are only convincing for leukemia other than CLL, and probably mainly for myeloid leukemia?
b- The results mainly rely on hives. How was it asked for in the questionnaire?
c- Is allergy related to other causes of death in the cohort?

6- Other points
In the Background section, the paragraph « Most previous studies are retrospective case-control studies, which may have resulted in that effects of cancer on the immune system were assessed, rather than the opposite association. » is unclear. Retrospective case-control studies can, indeed, provide information collected retrospectively on the effect of the immune system on cancer.

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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)

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Discretionary Revisions (which the author can choose to ignore)

What next?: Accept after discretionary revisions

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests:

None