

Reviewer's report

Title: Influence of Genetic factors on Toluene diisocyanate-related symptoms

Version: 1 **Date:** 22 December 2007

Reviewer: Piero Maestrelli

Reviewer's report:

The authors investigated the association of polymorphisms of several genes with prevalence of symptoms of the eyes, upper and lower airways in workers exposed to toluene diisocyanate (TDI). As a reference group, workers non-exposed to TDI were examined. Different associations were found between genotype and symptoms in exposed and non-exposed groups. The study is quite original. Although some of the significant associations may be spurious due to the large number of comparisons, the findings are potentially interesting. The design of the study and the presentation of the results is often confusing.

Major

1. Symptoms. It is not specified whether the symptoms considered in the analysis were work-related or not, and current or not. If the symptoms were work-related, it should be mentioned what kind of jobs did the reference workers, without the need for the reader to go to ref. 19.
2. Statistical analysis. It is mentioned (pag 11) that subjects were stratified for exposure in logistic regression analysis. How was the stratification made? By air measurements, by urine biomarkers? If the non-exposed subjects were included in this analysis and stratified as having zero exposure, why the results are presented separately for exposed and non-exposed groups in table 2?
3. Abstract. The summary of the results in the abstract does not appear in line with the significance of the associations presented in the results. CYP1A1 variant carriers had increased risk for wheeze only. No significant associations are shown in TDI-exposed for TNF-308 variants.

Minor

Table 1: Was there any significant difference between the two groups for the variables shown in the table?

Pag 8-2nd para, Legend to table 1: It is not clear the meaning of "a few individuals (N=7) approved analysis of metabolizing genes."

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, but I do not feel adequately qualified to assess the statistics.