Reviewer’s report

Title: Osteopontin, asbestos exposure and pleural plaques: a cross-sectional study

Version: 2 Date: 7 November 2010

Reviewer: Bogdan Grigoriu

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General comments

The authors are conducting a cross sectional study concerning the relationship between osteopontin plasma levels, asbestos exposure and the presence of pleural plaques and show that this molecule is not a reliable marker for asbestos exposure or any asbestos associated pulmonary involvement. Despite the negative results the findings are interesting since a previous publication has suggested that osteopontin is correlated with indices of asbestos exposure and is a good candidate as a diagnostic marker in mesothelioma but lately all of these assumptions have been seriously challenged by many publications.

Major Compulsory Revisions

Methodological issues.

1. Ethical issue: even if medical surveillance for asbestos exposed workers is mandatory there are no guidelines for a systematic blood sample collection and assaying of any marker. Therefore if blood collection is not routine in the surveillance of asbestos exposed workers it is preferable to ask for an ethical approval in order to insure that the informed consent correctly informs the patient about the scope of the investigation. However this can be subject to variation according to national ethical regulations.

2. The description of the statistical methods is incomplete. There is no description of how the regression lines were drawn in the scatter diagrams in the methods section. Also the visual information supplied by the scatter diagram and the regression lines should be completed by presenting the equation of the regression lines. At the same time an univariate analysis should be done. Data should be presented along with the results of the multivariate analysis in table 4;

3. The fact that authors generate more examined patients than sampled patients by including those lately addressed to the clinic can generate a considerable bias in the recruiting population and compromise the significance of the results.

Results section

4. The result section is far too short and should describe the result and not just state data is presented in table x, y or z. This information is supplied in the title of the table

5. The authors should include in table 1 the numbers of the original populations
from which the patients were sampled. As stated before only patients randomly selected should be included in the study.

6. I would suggest that data be presented as scatter plots instead of tables since some of the parameters presented are clearly not normally distributed and hence the mean and standard deviation values are meaningless (this is at least the case for peak exposure on very probably cumulative exposure data). These scatter plots should include values for mean and standard deviation (if variables normally distributed) of median and quartiles.

7. In the smoking parameters, age of starting smoking as well as the cumulative number of pack years should be included if the data is available.

8. There is no statistical comparison presented for any variable and any subgroup. The authors only state that some variables are higher in some subgroups but no clear definition of the test used or the exact p values is supplied.

9. The Discussion section can be evaluated after all the above issues are answered.

Minor Revisions

The legends for figures and tables should be more explicative.

The authors acknowledge the differences between various ELISA kits on the market and correctly state that results are not directly comparable. We have recently shown that for two kits available on the market these differences are the results of a proportional “error” effect. The information supplied and interpretability of the data would be improved if the authors would have the same plasma assayed also with another kit.

Also the authors should discuss more in details the differences resulting from assaying plasma and serum since osteopontin is a molecule which is subjected to cleavage during the coagulation process.

As requested by the editorial policy the assessing has also considered the following points:

1. Is the question posed by the authors well defined?
   Yes it is and is of potential importance

2. Are the methods appropriate and well described?
   Yes the methods are appropriate but some clarifications need to be given.

3. Are the data sound?
   The data presenting is interesting but the statistical analysis is to be refined. I would recommend that the authors contact a medical statistician from their organization in order to have a careful evaluation of the results.

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?
The methods for reporting data needs to be improved

5. Are the discussion and conclusions well balanced and adequately supported by the data?
A good evaluation of the discussion is to be done after all methodological and data analysis questions are responded

6. Are limitations of the work clearly stated?
Limitations are not discussed appropriately in the paper

7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?
Yes they do.

8. Do the title and abstract accurately convey what has been found?
The title could reflect more accurately the negative information obtained

9. Is the writing acceptable?
Yes it is very little copy-editing necessary.

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

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**
I declare that I have no competing interests