Reviewer's report

Title: Periodontal disease and spontaneous preterm birth: A case control study.

Version: 1 Date: 25 April 2006

Reviewer: Gerard J Linden

Reviewer's report:

General

-----------------------------------------------------------------------------------------------

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

Page 6 Line 22. What is meant by the term 'acceptably low'. This should be quantified.

The measurement of GCF volume using the method described is unlikely to have been accurate, particularly given the very low volumes likely to have been recovered in 30s samples from what were in many cases clinically healthy gingival sites. This is likely to have had a knock on effect on concentration calculations. No details of the spread of concentration values are given in Table III. The enzyme amounts rather than concentrations could be substituted with the inclusion of standard deviations.

The authors state that the hygienist was blinded to the group assignment of the participants, however, the inclusion of a group of undelivered women must have had some effect. Only 1/50 of the undelivered group was reassigned as a case. The implication is that the undelivered group were much more likely to be controls and this must have introduced bias. The increase in size of the control group (by including the majority of the undelivered subjects) is likely to have affected the statistical analysis and increased the likelihood of significant differences in enzyme levels between cases and controls. The clinical and enzyme data should be reanalysed leaving out the undelivered group.

On page 9 it states that the cases were examined within 10 days of delivery. In the methods section. On page 6 it states that examinations were between 2-28 days post partum. Was there a difference in the time to examination for the cases and controls? Details should be included as any difference could affect the results.

The previous findings that the enzymes measured were predictive of future attachment loss may not be applicable in this study as other factors e.g. hormonal changes associated with pregnancy will have some effect on gingival inflammation and this is what may be indicated by the results of the GCF analysis.

Chi square analysis is not applicable with cell sizes of <5.

-----------------------------------------------------------------------------------------------

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

There is some lack of consistency with style e.g. 'et al' and 'et al.' are both used in the text.

Page 4 Line21. The sentence beginning 'The population..' does not make sense as it is written. There may be some missing word or words.

Page 4 Line 22. Change 'this'- too vague. Also Line 23 spelling of 'preformed'.

Page 5 Line 2. Change 'this' - too vague.

Page 5 Line 11. Change 'these tissues' to 'the gingival tissue'.

Page 7 Line 4. Omit '(Figure1)'
Page 8 Line 22. ? missing word before 'shown'.

Page 9 Line 5. An indication of how 'periodontal disease' was defined should be included here.

Page 9 Line 20. Insert 'mean' before 'percentage'.

Page 14 Line 15. Change 'disease' to 'inflammation'

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

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

Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests:

I declare that I have no competing interests