Reviewer’s report

Title: Three-dimensional quantitative analysis of adhesive remnants and enamel loss resulting from debonding orthodontic molar tubes

Version: 2 Date: 12 July 2014

Reviewer: Abbas R Zaher

Reviewer’s report:

The authors have answered most of the raised points sufficiently to allow their manuscript to be published. Most of the original criticisms have been corrected as proposed.

However, minor corrections are required to be done.

Minor Essential Revisions:

1. The author mentioned in his response to the reviewers that since a great difference between the surface before bonding and after debonding, no calculations were used to assess the sample size.

   Even if a great difference was expected, the author need to mention how sample size was calculated to detect these significant differences in enamel loss and adhesive remnants before bonding and after debonding. For example, why did the authors choose 15 experimental teeth in this study?

2. The authors mentioned in his letter that no study error was calculated and that the precision of the scanner (2µm) was maintained by the calibration procedure to overcome errors during analysis.

   This statement need to be added to the materials and methods section.

3. In Abstract, Aim of the Study:

   “Aims:
   Presenting a new method for direct, quantitative analysis of enamel surface. Direct measurement of adhesive remnants and enamel loss resulting from debonding molar tubes from human enamel.”

   The aim needs rephrasing omitting any repetition.

4. In Conclusion: “Enamel loss is a side effect of fixed orthodontic treatment.”

   This conclusion is not coherent with the present study.

5. In Discussion Section, Paragraph 1, Line 2:

   “In our opinion, the area of enamel damage and the volume of enamel loss are dependant on the bracket square surface size.”
Using the term “In our opinion” is inappropriate. It is better to add a supporting reference.

6. In Discussion, 1st Paragraph, 5th line:
“The brackets used in the present study … “
The word “brackets” should be replaced with “molar tubes”

7. In Discussion, 2nd Paragraph, 5th and 6th lines:
“Due to light reflection direct analysis of enamel surface was impossible, but plaster models of the surfaces to be scanned were made, thus causing an inevitable measurement error [20].”
The entire statement is unclear and needs rephrasing.

8. In Discussion, 10th paragraph, 2nd line:
“The accuracy of the Atos scanner declared by the produced and maintained by regular calibration is 2µm.”
The statement needs correction.

9. Figures 2, 3 and 4 could be better combined in a single figure with the same figure caption.

10. The article needs some correction regarding the use of punctuation marks especially the addition of commas (,) and colons (:) whenever appropriate.

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

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician

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