Reviewer's report

Title: The Candida species that are important for the development of atrophic glossitis in xerostomia patients

Version: 0 Date: 17 Mar 2017

Reviewer: Mitsuo Kishi

Reviewer's report:

Overall comment

Recently, non-albicans are reported to be detected with high frequency in not only immunocomprised patients but also general elderly. Therefore, identifications of characteristics for C. albicans and non-albicans are significant.

This study focused contributions of both species on atrophic glossitis, and I believe that this study is valuable in this clinical field. The study design was valid, and meaning of the results and the limitations of this study were well examined.

However, there are some concerns as below.

First, authors used Student's t-test for comparisons of Candida species or age. Student's t-test is applicable only when data had normal distribution. The same can be indicated for Pearson's correlation and linear discriminant analysis. Authors should present the distributions had normality. If data did not show normal distributions, non-parametric analyses such as Mann-Whitney U test, Spearman's rank correlation and logistic regression analysis.

Second, authors proposed the prediction model using discriminant function of C. albicans CFU, saliva flow rate and age, in addition to relationships of those factors with atrophic glossitis should be used. Prediction model is valuable when estimation of precise diagnosis by simple screening or prediction of future incidence by current status. However, the target of the prediction model was present atrophic glossitis that was easily judged by inspection. Rather, measurements used for the prediction were hard to obtain. I think the prediction model is not valid in this study design.

Finally, the subjects enrolled in this study were patients whose main complaint is dry mouth. To generalize the results from this study, the sampling bias should be considered. However, no discussion was done in this paper.
Minor Essential Revisions

Page 4, line 18: …are also pathogenic in humans [2, 8-13] A recent…

There is no period between sentences.

Page 7, line 11: Candida colonization

This may mean amount of Candida. Please discriminate colonization (detection) and amount (colony count) of Candida through this paper.

Page 7, lines14- 15: The patients were divided into four…status (denture wearing/non-denture wearing).

This sentence suggested that authors carried out one-way ANOVA of Candida amounts for 4 groups. Please revise the sentence to be suitable for 2 way ANOVA description.

Page 7, lines15: hyposalivation [RSFR ≤1.5 mL/15 min]

Please show the reference that support the validity of this cutoff value.

Page 7, lines 21-24: Study population  A total of 231 patients…189 were women (81.8%).

This sentence as well as the subtitle should be described in materials and methods section.

Page 7, the last line -page 8, line 12.

This paragraph corresponded to Table 1 was hard to follow because Table 1 included 2 tables. Two tables entitled Table 1 should be separated. Accordingly, manuscript should be revised.

Page 9, lines 1-3: A chi-squared test revealed…extent (Table 1). The chi-squared test also revealed that denture wearing was associated with atrophic glossitis.

I cannot understand whether denture wearing was associated or not with atrophic glossitis. In addition, p-values should be shown.
Table 1

As described above, tables in Table 1 should be separated.

Please confirm the values in the rightest column of the second table.

In both tables, addition of summary line of Grade 1-4 is recommended.

Table 2

Atrophic glossitis and number were presented in every lines. Please simplify and clarify the table.

Table 5

I think this table is not needed as described in the overall comment.

Figures 1-3

These graphs were not suitable to present results of 2 way ANOVA. Please clarify 2 factors, inter-group difference, intra-group difference and interaction between factors.

In addition, title of Y axis is not valid. Please revise to the other title e.g., "amount of Candida".
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

No

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

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Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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