Reviewer’s report

Title: Site-specific gene expression patterns in oral cancer

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Reviewer: Victor Angelo Martins Montalli

Reviewer’s report:

In this article is investigated the immunohistochemical expression of site-specific expression patterns in squamous cell oral cancer (OSCC). This is an interesting and important research, well conducted, however, the assertiveness of the conclusion on the role of these markers in SCC might be deficient or insufficient. The evidences, according to other studies, highlight that OSCC present different behaviors depending on the anatomic region.

Please, consider the following:

Introduction a) the authors hypothesized a difference in the pattern of histopathological according to the anatomic site. I suggest the term histopathological to be replaced by molecular patterns, because this term might confuse the reader to the histological aspects and, as we know, the OSCC can't be yet classified histologically by the site pattern.

M&M, a) on immunohistochemistry, the authors didn't cite which type of peroxidase system was used. Please provide. b) On Scoring, which two categories were used? Please explain.

Results: a) examples of positive immunohistochemical staining markers studied of OSSC must be shown, not just the XIAP. Please, provide the most important markers which presented strong differences between tongue and floor of the mouth. b) the statistical analysis should be reviewed and the authors should consider rewriting it in such a way as to make clearer to the reader. On figure 2, please add firstly the results of floor of the mouth, tongue and other localizations together and then as presented on Figure 2a and b. b) In SCCs of the floor of the mouth X tongue positive/negative correlation, please add the p value and r2. c) Correct table 3 adding, absolute/relative value, p value, r2 value, 95%CI. c) on figure 2 please correct the type of writing the markers as cited on the text: ex: Xiap to XIAP, etc.

discussion: the use of TMA for SCC is problematic since some of them presents great variation of histologic patterns within the same lesion. How could you avoid this situation, as you affirm in the discussion that your results point a morphological spectrum of SCCs?

-Conclusion: remove the morphological spectrum.

Level of interest
Please indicate how interesting you found the manuscript:
An article of importance in its field

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