Reviewer’s report

Title: The morphology of maxillary first and second molars analyzed by cone-beam computed tomography in a Polish population.

Version: 0 Date: 24 Jun 2017

Reviewer: Vania Regina C. Fontanella

Reviewer's report:

General comments

This retrospective observational study aimed to describe the morphology of maxillary 1st and 2nd upper molars assessed by CBCT. However, it is a "pilot" study with no sample size or sample power calculation, no method error neither interobserver agreement assessment. Part of the conclusions is not an answer to the study objective and also not justified by methods employed.

Title

The title is wordy. Please consider a shorter version. My suggestion is: "A cone-beam computed tomography study on upper first and second molars' root canal morphology in a Polish population.

Abstract

"The majority of maxillary first molars had four root canals (59.5%), while only 40.5% had three root canals." 60% versus 40% is not such difference to use "only".

"There are differences in the number and configuration of roots and root canals between maxillary second and first molars in the Polish population." It is a huge generalization from data collected from 112 individuals examined in the same setting.

"CBCT scanning is an effective method for studying dental morphology." This conclusion does not match the study purpose and is not justified by methods.
Background

Line 36. "The internal morphology of teeth is a labyrinthine challenge for the dentist, who is required to make full use of any acquired knowledge and skills to avoid making mistakes during medical procedures." Did authors mean endodontic procedures?

Line 53. "Literature reports often emphasize the need to identify an additional root canal (MB2) in the mesiobuccal root; however, its incidence varies (3-5)." In order to justify the study, please make clear what are the plausible causes for this variations.

Methods

Many questions need clarification. How many CBCT were analyzed to select the final sample? It was consecutive exams? For how long?

The inclusion criteria are missing. Patient must have at least one (or two, or all) 1st or 2nd upper molar, for example.

The sentence "A total of 112 CBCT images of maxillary first (n=185) and second molars (n=207) from 112 patients..." pertains to the results chapter.

"Digitized CBCT images of the maxillary molars were collected..." CBCT is a native digital examination, so the images were not digitized, just selected.

Please mention the software used for examination, how many examiners, and if there was a second-round evaluation

Results

Why patients' age and sex were not considered. To my best knowledge, these variables are relevant.

Tables need attention regarding formatting.

Discussion

Authors pointed out just the CBCT advantages over x-rays. What about radiation doses?
Conclusion

References

If this paper relies on diversity regarding ethnicity, the following references must be considered.


Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

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

Yes

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

No
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

Quality of written English
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