

Subject: [BDS] Editor Decision

Itza, Antonio Braulino, Viviane, Maria Aparecida, Sergio:

We have reached a decision regarding your submission to Brazilian Dental Science, "Radiomic characterization of sinus lift grafts using texture analysis technique in cone beam computed tomography image".

Our decision is: Resubmit

Reviewer A:

Recommendation: Revisions Required

Questionnaire

Does the manuscript contain new and significant information to justify publication?*

Yes

Does the Abstract (Summary) clearly and accurately describe the content of the article?

No

Is the problem significant and concisely stated?

Yes

Are the methods or research design described comprehensively? Is the statistical analysis adequate?

No

Are the interpretations and conclusions justified by the results?

No

Is adequate reference made to other work in the field?

Yes

Is the language acceptable?

Yes

Manuscript Structure

Length of article is:*

Adequate

Number of tables is:

Adequate

Number of figures is:

Adequate

Please state any conflict(s) of interest that you have in relation to the review of this paper (state “none” if this is not applicable).

None

Rating

Interest*

Good

Quality

Below Average

Originality

Good

Overall

Good

Recommendation

Major Revision

Would you be willing to review a revision of this manuscript?

Yes

Comments

Comments to the Author

This manuscript evaluates a study that proposes the application of texture analysis to cone-beam computed tomography images as a predictive tool for characterizing bone grafts in maxillary sinus lift surgeries. The topic is relevant and the study is interesting. However, there are significant methodological, structural, and formatting concerns that must be addressed.

1. A thorough proofreading of the text is required. The abstract is currently written in the future tense, suggesting that the authors failed to update the text from the original research protocol phase to a completed study format.
2. The specific commercial brand of the bone graft (Geistlich Bio-Oss®) should be mentioned exclusively in the Materials and Methods section. In the Introduction

and Abstract, the authors should use generic terminology to describe the biomaterial.

3. The authors must clarify the reliability of the texture analysis results given that a voxel size of 0.25 mm was used. In current clinical and research contexts, this may be considered a relatively low resolution for detailed microstructural analysis. This limitation needs to be rigorously addressed and discussed, supported by relevant scientific literature, to justify why this resolution is sufficient for the study's objectives.

4. The manuscript states that the CBCT scans were free of patient movement. The authors need to explain how this was objectively assessed and guaranteed. Considering the relatively large voxel size used, even minimal patient micro-movement could significantly affect the texture analysis values.

5. The term "cut" is inappropriate when referring to reconstructed CBCT images. The authors should use standard radiological terminology.

6. The in-text citations appear to be misformatted or inconsistent with the journal's required style guide. Please review and correct all references.

7. The rationale behind the statistical choices is unclear. The authors should clarify whether the statistical design and methodology were reviewed or supported by a professional statistician and revise the section accordingly.

8. For reporting numerical data and statistical values, restricting the results to two decimal places seems to be sufficient and would improve the readability of the tables and text.

9. The entire statistical analysis section requires a major revision. It is unusual for the data distribution analysis (e.g., normality testing) to be presented at the very end of the section. Furthermore, the significance level is not mentioned in the main text, appearing only in the abstract.

10. The Results section should be strictly confined to reporting the data. Any descriptions of the authors' actions, justifications, or methodological choices must be relocated to the Materials and Methods section, while interpretations should be moved to the Discussion.

11. The Acknowledgements section in the manuscript provides further evidence of a lack of thorough final review by the authors, which is highly regrettable. Rather than including the necessary specific text, it appears the authors simply copied and pasted the template instructions without completing or reviewing the section.

12. The final concluding statement is speculative and not directly supported by the presented data. If the authors wish to retain this interpretation, it should be moved to the Discussion section. The conclusion should be strictly factual, omitting the

following unsupported extrapolation: "... suggesting effective and symmetrical bone integration. This tool proved promising for the objective evaluation of graft quality, with potential application in surgical planning and longitudinal monitoring of bone regeneration, promoting a quantitative approach complementary to conventional visual analysis."

Reviewer B:
Recommendation: Revisions Required

Questionnaire

Does the manuscript contain new and significant information to justify publication?*

No

Does the Abstract (Summary) clearly and accurately describe the content of the article?

Yes

Is the problem significant and concisely stated?

No

Are the methods or research design described comprehensively? Is the statistical analysis adequate?

No

Are the interpretations and conclusions justified by the results?

No

Is adequate reference made to other work in the field?

Yes

Is the language acceptable?

Yes

Manuscript Structure

Length of article is:*

Too Long

Number of tables is:

Adequate

Number of figures is:

Adequate

Please state any conflict(s) of interest that you have in relation to the review of this paper (state “none” if this is not applicable).

none

Rating

Interest*

Below Average

Quality

Average

Originality

Below Average

Overall

Average

Recommendation

Major Revision

Would you be willing to review a revision of this manuscript?

Yes

Comments

Comments to the Author

The manuscript addresses an interesting topic, which is the use of texture analysis in CBCT images to characterize sinusal grafts. However, in its current form, the manuscript requires substantial revision before it can be considered for publication.

My main concern is that the study somewhat overstates its conclusions relative to the design, sample size, and absence of a biological or clinical reference standard (maybe this the major pitfall). Texture analysis may describe grey-level patterns within the selected CBCT images, but the manuscript repeatedly interprets these parameters as evidence of “bone integration,” “osseointegration,” and “graft quality.” These claims are not fully supported by the data presented. Without histological validation, clinical implant outcomes, longitudinal follow-up, or comparison with baseline/preoperative or earlier postoperative scans, the results should be framed more cautiously as CBCT-derived texture patterns of grafted regions, not as confirmed biological integration.

I also believe that the Results section is too descriptive and partly redundant. Table

1 is very large and difficult to read. The authors should consider simplifying it, possibly by presenting pooled right/left values and key p-values in the main manuscript, with the full slice-level descriptive statistics maybe moved to supplementary material. The text explaining how to interpret p-values is overly didactic and should be shortened.

In addition, the manuscript contains terminology errors such as “breast” and “incision/cut,” which should be replaced by “sinus” and “section/slice.”
