

Subject: [BDS] Editor Decision

Dear Waldemir Francisco Vieira Junior:

Your submission Bond strength to dentin of different CAD/CAM materials for indirect restorations to Brazilian Dental Science Journal, has been revised and according to reviewers' comments, there are questions to be addressed and/or points to be clarified/corrected.

Please answer the reviewers considerations point-by-point in a separate document and also please make all the corrections in the text highlighted in yellow.

Deadline: 30 days

Thank you for considering Brazilian Dental Science Journal for publishing your research.

We are looking forward the revised version of you manuscript.

Sincerely,

Sergio Eduardo de Paiva Gonçalves EDITOR-IN-CHIEF São Paulo State University (Unesp), Institute of Science and Technology, São José dos Campos, SP

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?

Yes

Is the problem significant and concisely stated?

No

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

Yes

Are the interpretations and conclusions justified by the results?

Yes

Is adequate reference made to other work in the field?

No

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

Good

Originality

Good

Overall

Good

Recommendation

Minor Revision

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

Yes

Comments

Comments to the Author

This is an interesting and well-conducted study on the bonding of various polymeric materials used in dental restorations. However, several major concerns should be addressed before the manuscript can be considered for publication:

1. Rationale for the study

The stated main goal—“Studies considering the isolated effect of CAD/CAM material type on adhesion to human dentin are lacking”—is too broad and potentially misleading. CAD/CAM materials of different types have already been tested in numerous bond strength studies. The authors should focus on justifying the need to investigate bonding between dentin and different polymers for milled restorations. This justification should be clearly articulated in the introduction. Furthermore, the claim that the study evaluates the isolated effect of CAD/CAM materials is questionable, since the surface treatments applied to the materials also varied. The introduction and discussion should be rewritten accordingly.

2. Title

The current title, “CAD-CAM materials for indirect restorations”, is redundant.

3. Abstract and text

Use the multiplication sign “×” instead of “X” throughout the abstract and manuscript.

4. Materials and Methods (M&M)

- o First paragraph: Correct “vitreoceramic” to “vitroceramic.”

- o Table 1: Use capital letters in “scotchbond universal adhesive.”

“The blocks of restorative materials were sectioned into dimensions of $14 \times 14 \times 4$ mm³.”

5. Results

- o The resolution of Figure 2 is low and should be improved.

- o The following text is redundant, as it repeats the information already presented in Figure 3, and can be removed:

“The fracture pattern analysis results are presented in Figure 3. It was observed that, for FC, there was a significant association between aging and fracture pattern ($p < 0.05$). Without aging, 61.0% of the sticks for this material exhibited Type 1 failure (cohesive failure in resin cement), while with aging, this percentage decreased to 35.5%. Furthermore, for FC, the percentage of Type 3 failure (adhesive failure between adhesive or resin cement and restorative material) was higher in the aging group (53.3%) than in the non-aging group (30.5%). A significant association between material type and fracture pattern was also observed with and without aging ($p < 0.05$). Without aging, 61.0%, 82.1%, and 50.5% of the sticks with FC, BB, and PK materials, respectively, exhibited Type 1 failure, while 30.5%,

3.0%, and 39.4% of the sticks with FC, BB, and PK materials, respectively, exhibited Type 3 failure. Among the aging groups, 35.5%, 72.9%, and 62.8% of the sticks with FC, BB, and PK materials, respectively, exhibited Type 1 failure, while 53.3%, 4.3%, and 24.5% of the sticks with FC, BB, and PK materials, respectively, exhibited Type 3 failure. “

6. Clarification needed

No pre-test failures were reported. Did the authors include beams of all failure types in the computation? Please clarify these points in the manuscript.

7. Why mechanical ageing and not thermalcycling? Do the authors believe the interfaces might be similarly affected by both types of ageing? Please comment on it.

Reviewer B:

Recommendation: Revisions Required

Questionnaire

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None

Rating

Interest*

Good

Quality

Average

Originality

Average

Overall

Good

Recommendation

Major Revision

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

Yes

Comments

Comments to the Author

Title & Abstract

- The title does not reflect the role of mechanical aging, which is a key variable studied.
- Abstract lacks quantitative results (exact MPa values) to support conclusions.
- The conclusion in the abstract slightly overgeneralizes despite limited in vitro scope.

Introduction

- Limited critical discussion of previous conflicting literature, only mentioned superficially.

Materials and methods

- Lack of justification for sample size ($n=10$) and absence of power analysis.
- Mechanical aging protocol (300,000 cycles, 50 N) is not justified in terms of clinical equivalence.
- Absence of thermocycling, which is commonly used alongside mechanical aging.
- Geometry differences (square vs cylindrical blocks) may affect stress distribution and bonding area comparability.
- No clarification on light-curing standardization (distance, intensity verification).

Conclusion:

The statement that aging did not affect bond strength may be misleading without long-term degradation factors (thermal, chemical).
