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REVIEWER'S REPORT

Manuscript No.: IJAR-56812

Title: Advances in Dental Caries Detection: Current Technologies and Future Perspectives.

Recommendation:

Accept as it is .....

Accept after minor revision...Yes.....

Accept after major revision .....

Do not accept (*Reasons below*) .....

Rating	Excel.	Good	Fair	Poor
Originality	•			
Techn. Quality	•			
Clarity	•			
Significance	•			

Reviewer's ID: JPR- Dr. Sireesha Kuruganti

Detailed Reviewer's Report

This review evaluates the manuscript "Advances in Dental Caries Detection: Current Technologies and Future Perspectives," focusing on its structure, clarity, and technical content.

Manuscript Review Report

1. Title and Abstract

* Title: The title is concise and accurately reflects the scope of the narrative review.

* Abstract (Lines 6–25): The abstract provides a clear overview of the clinical challenges of caries detection and correctly identifies the limitations of traditional methods. It effectively summarizes the emerging technologies discussed in the paper.

* Recommendation: Ensure "AI" is consistently defined; it is used as "Al" in line 16 and "artificia" in line 29.

2. Introduction and Background

* Pathology (Lines 31–33): The definition of dental caries as a dynamic, multifactorial disease is scientifically sound.

* Conventional Methods (Lines 39–43): The manuscript correctly notes the subjectivity and sensitivity issues of visual-tactile and radiographic assessments.

* Clinical Practice (Lines 50–52): The caution against using sharp explorers is a critical point for modern minimally invasive dentistry.

3. Advanced Technologies Section

* Laser Fluorescence (Lines 63–70): The distinction between detecting bacterial porphyrins and actual mineral loss is well-made. The mention of false positives due to plaque and calculus (Line 66) is an important clinical caveat.

* Quantitative Light-Induced Fluorescence (Lines 67–72): The author correctly identifies QLF's strength in monitoring remineralization longitudinally.

* Transillumination (Lines 73–82): The contrast between FOTI and NIRT is clear. However, line 82 ends abruptly; ensure the sentence regarding deep dentin lesions is completed in the final draft.

* Optical Coherence Tomography (Lines 83–85): The description of OCT as providing high-resolution cross-sectional imaging is accurate.

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4. Technical & Formatting Observations
* Line Numbering: The document contains some irregular line numbering (e.g., jumping from 9 to 11 in the abstract and repeating numbers in some sections).
* Keywords (Lines 26–29): "Dental car" and "artificia" appear to be truncated or contains typos.
* Citations: The manuscript uses bracketed numbers (e.g., 2, 5, 12) for references; ensure these are cross-checked against the final bibliography for consistency.

Summary of Recommendations
* Correct Typos: Fix "Dental car" (Line 26), "Al" (Line 16), and "artificia" (Line 29).
* Complete Sentences: Review line 82 for missing concluding text.
* Standardize Numbering: Ensure the line numbering sequence is continuous and error-free for the final submission.