ISSN(O): 2320-5407 | ISSN(P): 3107-4928

ISSN NO. 2320-5407

International Journal of Advanced Research

Publisher's Name: Jana Publication and Research LLP

www.journalijar.com

REVIEWER'S REPORT

Manuscript No.: IJAR - 56975

Title: A Study to Correlate Optical Coherence Tomography Parameters with Visual Acuity in Patients with Diabetic Macular Edema.

Recommendation:

Accept after major revision .....

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

Reviewer's ID: JPR-198

Detailed Reviewer's Report

The authors conducted a hospital-based cross-sectional prospective study on 150 eyes of 120 patients with diabetic macular edema (DME). They correlated seven OCT parameters with visual acuity (VA) to determine which parameter correlates best with vision. They found that CFT, DRIL, EZ disruption, and HRF showed statistically significant correlations, with EZ disruption having the strongest correlation and DRIL being the most common finding.

Major Comments

Originality and Novelty

The study claims there are "very few studies" that have considered all these parameters together. However, several existing studies have already evaluated multiple OCT parameters. The authors need to clearly state what **new** information their study adds to existing literature.

Methodology Issues

Sample size justification: No sample size calculation is provided. How was 150 eyes determined? Was a power analysis done?

Bilateral eyes issue: Thirty patients contributed both eyes (60 eyes). This violates the assumption of independence for statistical analysis (Pearson correlation assumes independent observations). The authors should either:

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- Justify why this was acceptable, or
- Use statistical methods that account for inter-eye correlation (e.g., generalized estimating equations)

Prior treatment: Some eyes had received prior treatment (laser, anti-VEGF, triamcinolone). This is a significant confounder because prior treatment affects both OCT parameters and visual acuity. How was this accounted for?

Statistical Analysis

- Table inconsistency: On Page 12 (Table 3), DRIL frequency is reported as 108 eyes, but on Page 5 (Results section), it says DRIL was found in 85 eyes. This discrepancy needs clarification.
- P-value for CFT: In the abstract, CFT p=0.05; in results (Page 5), it's p=0.005; in Table 2, it's p=0.05. Which is correct?
- Multiple comparisons: Seven parameters were tested. Did the authors apply any correction for multiple comparisons (e.g., Bonferroni)? Without correction, the risk of Type I error increases.

Presentation of Results

- The scatter plot (Graph 1, Page 13) is mentioned but not clearly described. The figure legend is incomplete.
- Mean VA for sub-foveal neurosensory detachment is reported as log 0.80 (Page 10, Table 2) but as log 0.94 (Page 5, line 71?). Inconsistent.

Minor Comments

Abstract

- Line 21: "EZ disruption correlated more with a mean VA of logmar 1.45" – The word "more" is vague. More than what?
- Line 24: "correlation withVision" – missing space.