

MODERN APPROACHES TO THE TREATMENT OF CHRONIC GENERALIZED PERIODONTITIS USING LASER THERAPY

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Abstract:

This paper examines the effectiveness of diode laser application in the complex treatment of chronic generalized periodontitis. The study compares traditional scaling and root planing (SRP) with combined laser-assisted therapy. Results indicate a significant reduction in pocket depth and improvement in gingival indices.

Keywords: Periodontitis, Diode Laser, Dental Therapy, Inflammation, Oral Hygiene.

Introduction

Chronic generalized periodontitis remains one of the most prevalent oral health issues worldwide, leading to tooth loss and systemic complications. Traditional mechanical treatment often fails to eliminate deep-seated pathogens. The integration of laser technology offers a minimally invasive alternative that enhances decontamination.

Methodology

A clinical study was conducted involving 40 patients aged 35–55. Group A (n=20) received standard SRP, while Group B (n=20) received SRP followed by diode laser irradiation (810 nm). Clinical parameters, including Papillary Bleeding Index (PBI) and Probing Pocket Depth (PPD), were recorded at baseline and after 3 months.

Results

In Group B, the PPD decreased by an average of 2.4 mm compared to 1.6 mm in Group A. Microbiological analysis showed a 90% reduction in Porphyromonas gingivalis count in the laser group. Patients reported less post-operative discomfort and faster healing times.

Conclusion

The use of diode lasers as an adjunct to traditional periodontal therapy significantly improves clinical outcomes. It provides superior antibacterial effects and accelerates tissue regeneration, making it a valuable tool in modern periodontology.

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