

**A Randomized Controlled Clinical Trial to Evaluate the Adjunct Effectiveness of Diode Laser Gingivectomy in Maintaining Periodontal Health during Orthodontic Treatment**

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**Aim:** To evaluate the effectiveness of adjunctive diode laser gingivectomy in periodontal health management among orthodontic patients.

**Materials and methods:** Thirty patients with gingival enlargement were randomized into two groups. The control group received non-surgical periodontal treatment (NSPT). The test group received NSPT and adjunctive diode laser gingivectomy. Plaque Index, Gingival Index, Bleeding on Probing, Probing Pocket Depth, and Gingival Overgrowth Index were assessed at baseline, 1-month, 3-month, and 6-month intervals.

**Results:** Both groups showed significant improvements in periodontal health ( $P < 0.05$ ). Significant improvements in periodontal health were evident earlier on among the test group ( $P < 0.05$ ). The magnitude of improvement in periodontal health compared to baseline was greater in the test group ( $P < 0.05$ ).

**Conclusions:** NSPT with or without the use of diode laser gingivectomy are effective in the management of gingival enlargement among orthodontic patients but the adjunct use of lasers can produce improvements earlier on.