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THE IMPACT OF HYALURONIC ACID ON GINGIVITIS AND PERIODONTAL HEALTH

Abstract.

Gingivitis is a reversible inflammatory condition of the gingival tissues, primarily initiated by microbial plaque accumulation. The present study aimed to assess the therapeutic efficacy of 1% hyaluronic acid (HA) gel as an adjuvant remedy to standard scaling and polishing procedures (SPP) in the management of gingivitis. Twenty systemically healthy adults diagnosed with gingivitis were randomly assigned into two parallel groups (n = 10 each). The test group received full-mouth SPP in combination with twice-daily topical application of 1% HA gel, while the control group underwent SPP alone. Clinical parameters, including the Gingival Index (GI), and biochemical markers, namely C-reactive protein (CRP) and lactate dehydrogenase (LDH), were evaluated at baseline and post-intervention. The adjunctive HA therapy group revealed significant improvements in all measured outcomes, with reductions in CRP levels (from 6.68 to 2.78 mg/L), LDH activity (from 177.1 to 88.0 U/L), and GI scores (from 1.7 to 0.2). These results suggest that adjunctive use of 1% HA gel may be effective, non-invasive therapeutic strategy for enhancing the clinical and biochemical resolution of gingival inflammation