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## Evaluation of clinical and biochemical effects of hyaluronic acid on periodontitis: a split-mouth randomized-controlled trial

**Hacer Sahin Aydinyurt** and **Damla Akbal**

Van Yuzuncu Yil University, Turkey

**Aim:** The aim of this study was to evaluate the effect of hyaluronic acid (HA) as an adjunct to scaling and root planning (SRP) on clinical parameters, periodontal inflamed surface area (PISA) and adenosine-deaminase (ADA), catalase (CAT), glutathione (GSH) levels in gingival crevicular fluid (GCF) in periodontitis.

**Methods:** A total of 24 Stage II-III periodontitis patients were included in this split-mouth, randomized-controlled study. The study population was divided into four groups: in group 1: SRP+saline; in group 2: SRP+HA gel; in group 3: SRP+HA mouth rinse; and in group 4: SRP+HA mouthrinse+HA gingival gel were applied. At baseline and week four, clinical parameters and PISA were calculated. Also, ADA, CAT, and GSH levels were determined by spectrophotometric analysis.

**Results:** There was a statistically significant improvement in clinical parameters and PISA in all groups ( $p<0.05$ ). There was a significant decrease in ADA in GCF and significant increases in CAT and GSH levels after treatment ( $p<0.05$ ).

**Conclusions:** This study showed that HA application as an adjunct to SRP did not affect the clinical results, although, in the control sessions following the application, the results were favorable for the biochemical data's in the gel-applied groups.