

The Effectivity of hyaluronic acid 0.1 % on the healing process of traumatic ulcer caused by fixed orthodontic appliance

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Abstrak

Introduction: Hyaluronic acid is a substance of human connective tissues and is reported to have important role in wound healing process, facilitating the migration and cell differentiation during the development process of embryo, and the tissue repairing. **Objectives:** To study the effectiveness of Hyaluronic Acid 0.1% on the healing process of traumatic ulcer caused by fixed orthodontic appliances based on the size, redness and pain perception of the ulcer. **Material and Methods:** Thirty two subjects with fixed orthodontic appliance who had traumatic ulcer on buccal or labial mucosa due to the presence of fixed appliance on the examination day were included and divided into 2 groups. The first group (K1) was instructed to gargle with 10 ml hyaluronic acid 0,1 %-contained mouthwash for 2 minutes after tooth brushing, twice a day for 4 days in a row. The second group (K2) is given the same instruction but with placebo. The size and colour (redness) of the ulcer were measured before and after treatment using a caliper and customized redness measurement index. The pain perception was measured after treatment using a questionnaire. **Results:** The percentage of changes (decline) in wound size and redness changes (decline) in K1 were more significant compared to K2 ($p < 0.05$). The change of pain perception in K1 was not significant compared to K2 ($p > 0.05$). **Conclusion:** Hyaluronic acid 0.1 % -contained mouthwash seemed to be effective in accelerating the wound healing, in size and colour of the ulcer, but might not be effective in reducing pain of the traumatic ulcer compared to placebo.