

Antiplaque Effect of Mastic Chewing gum

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Abstract

Chemical plaque control is a useful aid to mechanical oral hygiene, and various chemical agents have been evaluated as antiplaque agents. (*Tellefsen, 1996*). It has been shown that mastic chewing gum has antibacterial effects on Gram positive and Gram negative bacteria in many studies. The antiplaque and antigingivitis effect of mastic chewing gum was investigated. The aim of this study was to determine the effect of the mastic chewing gum on dental plaque accumulation and gingival inflammation and also the effect of mastic on bacterial growth in supragingival plaque.

Fifty two dental students who were both systemically and periodontally healthy were participated in this study. Those were randomly divided into two equal groups (26 in each), the effect of mastic was assessed over a period of seven day 7. 26 students received the mastic chewing gum and other 26 received a placebo chewing gum with double blind parallel design. All students before day 0 received professional teeth cleaning and their plaque index reached to near zero. {0.5 mean plaque score}. The plaque and gingival indices were recorded at day 0 and day 7. In addition samples of supragingival plaque were collected at each visit. A total of 104 bacterial samples were obtained which suspended in 1 ml sterile normal saline (0.9%) and inoculated onto blood base agar, chocolate agar, and nutrient agar base plates which incubated aerobically at 37C ° for 24 hours. Identification of microorganisms were isolated from the dental plaque sample of the two groups. The results showed values in plaque index among control group (0.597) at day 0 while at day 7 (2.638). The test group showed (0.555) at day 0 while at day 7 (1.331) The result of gingival index for control group at day 0 (0.807) while at day 7 (0.1183) The figures for test

group at day 0 (0.0529) and at day 7 (0.1004) respectively. The total number of bacterial colonies was significantly reduced during 7 days by using mastic chewing gum compared to placebo ($p < 0.05$). The main reduction was with streptococci s.pp. In test group. The reduction was from (76.9%) at day 0 to (3.84%) at day 7. In conclusion mastic chewing gum significantly reduced dental plaque accumulation and streptococci s.pp.