

**Republic of Iraq  
Ministry of Higher Education  
and Scientific Research  
University of Baghdad  
College of Dentistry**



# **Effect of Herbal toothpaste on *Streptococcus mutans* count detected from plaque attached to stainless steel and ceramic brackets (*In vivo* study)**

**A Thesis Submitted to the College of Dentistry, University of  
Baghdad in Partial Fulfillment of the Requirements for  
the Degree of Master of Science in Orthodontics**

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**2020 A.D.**

**1442 A.H.**

# Abstract

Plaque retention during the use of a fixed orthodontic appliance has been determined to be an important etiological factor in the development of demineralization. The purpose of this study was to examine the effect of different brackets materials on *Streptococcus mutans* count using different types of toothpaste.

Plaque samples were collected from premolar teeth of twenty right handed patients who have done an orthodontic treatment and divided into two groups, a hookless stainless steel bracket bonded on upper right first premolar and a hookless ceramic bracket on upper left first premolar for all patients, the samples were taken before bonding as a baseline record , after 48h of bonding (using only a toothbrush without toothpaste or any other chemicals) and after two weeks patients in first group instructed to use conventional fluoridated toothpaste while patients in second group instructed to use herbal toothpaste. the calculation of the *streptococcus mutans* count was done using the plate counting method utilizing a colony counter.

Results showed that there was an obvious decrease in *streptococcus mutans* count after the use of both types of toothpastes (conventional fluoridated and herbal) in plaque samples collected from both types of brackets (stainless steel and ceramic), however there was no statistically significant difference ( $P > 0.05$ ) between the two types of toothpastes included in the study and between the two types of brackets bonded on the selected teeth.

In conclusion, brushing with toothpaste will decrease *streptococcus mutans* count regardless its type (conventional fluoridated or herbal) and regardless of type of bonded brackets ( stainless steel and ceramic).