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COMPARISON OF THE ANTIMICROBIAL EFFECT OF CHLORHEXIDINE DIGLUCONATE TOOTHPASTE AND COLGATE TOTAL TOOTHPASTE ON THE STREPTOCOCCUS MUTANS LEVELS IN ORTHODONTIC PATIENTS.

by

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ABSTRACT

Background and Objectives: Great changes occur in the oral biofilm, resulting from the increase in retention niches of the orthodontic appliances. The risk of carious and white spot lesions is great in orthodontic patients. A number of antibacterial agents have been tried to reduce the same. In this study we have used Chlorhexidine digluconate as the antibacterial agent. This study is aimed verify the antibacterial effect of the Chlorhexidine digluconate toothpaste through clinical biofilm disclosure, and to quantify *Streptococcus mutans* in orthodontic patients.

Methodology: 44 healthy patients distributed equally in age and gender groups were chosen. They were further divided into two equal groups where, group 1 received Colgate Total toothpaste and Group 2 received Chlorhexidine digluconate gel. Plaque Index was performed and samples of plaque were collected before the use of the allotted toothpaste (T_0), 1 month after the use of the allotted toothpaste the Plaque Index was performed and plaque samples were collected again (T_1). The plaque sample were then analysed for the number of colonies of *Streptococcus mutans*. The results were then statistically analysed.

Results: The colony count of *Streptococcus mutans* showed a significant change within the group containing Chlorhexidine digluconate toothpaste as well as between the groups, the other group containing Colgate Total as the toothpaste. There was a significant difference in the biofilm as well in the group 2.There was significant correlation between the *Streptococcus mutans* colony count and Chlorhexidine diguconate toothpaste in all the patients.

Conclusion: There is a reduction in the colony count of *Sterptococcus mutans* level and change in the Plaque Index when Chlorhexidine digluconate is used as a toothpaste in orthodontic patients.

Keywords: Streptococcus mutans; Chlorhexidine digluconate; Colgate Total; plaque; orthodontics.