



EGYPTIAN DENTAL JOURNAL



Volume 53, Number 2, April, 2007

Official Journal of the Egyptian Dental Association

EDA website: www.eda-egypt.org

COMPARISON BETWEEN THE EFFECT OF TWO DIFFERENT CHLORHEXIDINE VARNISHES ON THE SALIVARY STREPTOCOCCUS MUTANS AND THE INCIDENCE OF DENTAL CARIES IN HIGH CARIES RISK GROUP OF CHILDREN

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ABSTRACT

This study was conducted at four villages related to Balteem city, Kafr El-Sheikh governorate to evaluate the effect of two types of chlorhexidine varnishes (chlorzoin vs cervitec) on salivary streptococcus mutans levels and caries incidence in 120 high caries risk group of schoolchildren. The selected children were randomly divided into three equal groups (Group I = chlorzoin, Group II = Cervitec and Group III = control group). Six saliva samples were collected at several time sequences. The results showed highly significant reduction in caries incidence of permanent teeth by chlorzoin and cervitec varnishes application while there was no significant reduction in caries incidence of deciduous teeth compared to control group. Also, high significant reduction of salivary streptococcus mutans was achieved with both chlorzoin and cervitec varnishes when compared with each other, with the baseline bacterial count and also when compared to control group bacterial counts.

INTRODUCTION

Dental caries is a multifactorial disease. These factors are the presence of cariogenic microorganisms, fermentable carbohydrates in the diet, susceptible host and time.⁽¹⁾ Acids produced by bacterial action on dietary fermentable carbohydrates diffuse into the tooth surface and dissolve the carbonated hydroxyapatite mineral (a process called demineralization followed by breakdown of organic component of the enamel.⁽²⁾

Streptococcus mutans and lactobacilli either separately or together are the primary causative agent of dental caries.⁽³⁾ Children with high numbers of

these bacteria display higher incidence of dental caries and are considered as high caries risk group.⁽⁴⁾ Since subjects with high levels of streptococcus mutans are generally recognized to be at increased risk of experiencing dental caries, it became evident that a more logical and specific approach for antimicrobial treatment should be based on the same principles as for other infectious disease to inhibit and control the prevalence of caries associated microorganisms.

The therapeutic dosages of the antimicrobial agent have to be given for a sufficient but finite time period to sites with established cariogenic plaque to eliminate or strongly suppress the population of streptococcus mutans.

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