

COMPARATIVE STUDY OF PREVENTIVE PROTOCOLS IN CHILDREN AT HIGH CARIOGENIC RISK

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ABSTRACT

The aim of this study was to compare the efficacy of two preventive protocols - fluoride gel (F) alone or combined with chlorhexidine varnishes (CHX) - on sialochemical, clinical and microbiological parameters in a group of children at high cariogenic risk.

Two therapeutic-preventive protocols were applied in 73 children at high cariogenic risk (average age 6.2 ± 1.4 years old) and clinical parameters (simplified oral hygiene index: OHI-S; decayed, missing and filled teeth: dmft index; sugar intake and exposure to fluoride), as well as sialochemical parameters (salivary pH and flow, buffer capacity) and microbiological parameters (CFU/mg of dental biofilm of *Streptococcus mutans* group) were recorded and correlated before and after the protocols. Association was found between parameters that cause deficient control of dental biofilm: high values of OHI-S index,

CFU/mg dental biofilm, sugar intake and the d component of dmft index, and lower values of salivary flow rate and buffer capacity. After the protocols, a significant decrease was found in OHI-S and CFU/mg dental biofilm. No significant difference was found with children's gender and age.

The association observed between OHI-S and cariogenic bacteria emphasizes the importance of prevention, especially regarding the oral health of the most vulnerable children. The early inclusion of F associated with CHX in the initial step of preventive and therapeutic protocols would provide benefits regarding oral microbe control while children acquire new habits of oral hygiene.

Key words: dental caries susceptibility, children, saliva, fluoride, chlorhexidine.

ESTUDIO COMPARATIVO DE PROTOCOLOS PREVENTIVOS EN NIÑOS DE ALTO RIESGO CARIOGÉNICO

RESUMEN

El objetivo de este trabajo fue evaluar la eficacia de dos protocolos preventivos - fluoruro (F) sólo o combinando con clorhexidina (CHX) - sobre indicadores clínicos, sialoquímicos y microbiológicos, en una población de niños de alto riesgo cariogénico.

Se aplicaron dos protocolos terapéutico-preventivos en 73 niños en edad escolar de alto riesgo cariogénico y se determinaron y correlacionaron parámetros clínicos (índice de higiene oral simplificado IHO-S, ceo-d, consumo de azúcar y exposición a fluoruros), sialoquímicos (pH y flujo salival, capacidad amortiguadora) y microbiológicos (UFC/mg de biofilm dental de *Streptococcus grupo mutans*) antes y después de la aplicación de los tratamientos.

Se observó una asociación entre los parámetros que producen una deficiente control de placa bacteriana: altos valores de

IHO-S, de UFC/mg biofilm dental, de consumo de azúcar, del componente c del índice ceo-d y los menores valores de flujo salival y de capacidad amortiguadora. Luego de la aplicación de los tratamientos, se observó una disminución significativa de IHO-S y UFC/mg biofilm dental. No se observaron diferencias significativas con el género y la edad de los niños.

La asociación observada entre los niveles de higiene oral y de bacterias cariogénicas enfatiza la importancia de la prevención y atención de la salud de los niños más vulnerables. La incorporación del F asociada a la CHX en la etapa inicial de los protocolos terapéutico-preventivos ofrecería tempranamente beneficios en el control microbiano mientras se incorporan hábitos de higiene oral.

Palabras clave: niños, susceptibilidad a caries dental, saliva, clorhexidina, fluoruro.

INTRODUCTION

Knowledge which has come to light in recent years regarding dental caries has led to a new paradigm and comprehensive approach to its treatment. The multifactorial etiology and complex pathogenesis of dental caries involve microbiological, histological, immune and biochemical aspects, which lead to a diagnostic

criterion and therapeutic reformulation for a preventive approach. In odontopediatric clinical practices, it is essential to unify the criteria for a certain diagnosis, identifying individual children or groups of more vulnerable children. With this purpose, clinical indexes have been associated to sialochemical and microbiological tests¹. The former arise from dental medical