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Anticariogenicity of casein-phosphopeptide with amorphous calcium-phosphate complexes

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Purpose: Study was evaluated the effect of Casein-Phosphopeptide with Amorphous-Calcium-Phosphate-complex (CPP-ACP) paste (Tooth-Mousse) and CPP-ACP complex with fluoride (MI paste) on cariogenic microflora system in children.

Design: A total 120-children less than 15-years old with same oral hygiene-habits, participated in this study. They were divided into group(I) (n=20) who did not use CCP-ACP complexes and group(II) (n=100) that were divided into Subgroup(A) (n=50) who used (Tooth-Mousse) and Subgroup(B) (n=50) who used (MI-paste). They used CCP-ACP complexes as a topical application on teeth once daily for 60-seconds. Salivation of each child was stimulated by chewing a paraffin pellet for 5-minutes to collect 3ml of saliva that was divided into three equal parts. pH of saliva was measured by pH-meter using first part of collected saliva. Other parts of collected saliva were used for measuring the Streptococcus-mutans and lactobacilli count in saliva by means of selective culture media. Tests would be repeated after (7, 14, 30, 45) days of material using. Collected-data were statistical analysis by ANOVA test.

Results: Salivary pH of both subgroups were significantly higher than in the group(I), P<0. 05. Streptococcus-mutans and Lactobacillus-acidophilus counts in both subgroups were significantly lower than the group(I), also while comparing subgroup(A) with subgroup(B) there was a significant decrease of bacterial counts in subgroup(B) more than subgroup(A), P<0. 05.

Conclusion: Using CPP-ACP complexes increased salivary pH, which decreased the growth of Streptococcus-mutans and Lactobacillus-acidophilus. CPP-ACP containing fluoride is more beneficial than using CPP-ACP alone which attributed to inhibiting bacterial metabolism by fluoride effect.

Biography

Shady A. Moussa had received his Doctor of Dental Surgery in 2000 from Cairo University (Egypt) and his postgraduate Master of pediatric dentistry and oral public health from Al-Azhar University in 2006 and his PhD in pediatric dentistry and oral public health Al-Azhar University (Egypt) in 2012. He is a lecture in Zagazig University, and currently working as consultant of pediatric dentistry in King Saud Hospital (Saudi Arabia). Dr. Shady published several articles in peer-reviewed journals.

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