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Effect of CPP-ACP on Salivary Parameters and Fluoride Level: Comparison of Two Methods of Application
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Purpose of the study: Casein phosphate products have been introduced for caries prevention, however the manufacturer has no specific instruction on how these should be 'applied'. The aim of this study was to compare the effect of using two different methods of application, namely cotton bud and special tray, for topical application of a casein-phosphopeptide amorphous calcium phosphate product containing 900ppm fluoride (CPP-ACP), on whole saliva.

Materials and Method: Stimulated whole saliva of 10 medically fit subjects were evaluated for saliva consistency, flow rate, pH and buffering capacity following short term topical application of CPP-ACP using the two different methods. Measurement and comparison of fluoride concentration and retention were also carried out for all saliva samples.

Results: There were no differences in salivary parameters (consistency, flow rate, pH, buffering capacity) following applications of CPP-ACP using the two methods of applications. However, there was a statistically significant difference in salivary fluoride concentrations (p<0.05) between pre- and post-treatment in the special tray group. Higher salivary fluoride concentration, with longer retention, was also achieved with special tray application.

Conclusions: Within limitations of this study, it was found that using special tray in short term applications of CPP-ACP results in higher salivary fluoride level compared to the use of cotton bud.

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The Effects of Phenotypic Switching on Cell Surface Hydrophobicity and Antifungal Responses of Selected Oral Candida Species
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Purpose of the study: The objectives of the study were to evaluate the phenotypic switching ability of Candida albicans, Candida dubliniensis and Candida glabrata, and the assessment of the switched phenotype on the cell surface hydrophobicity and susceptibility towards antifungal agents (ampotericin B, nystatin and chlorhexidine).

Materials and Method: To induce phenotypic switching, Candida sp. were cultured on yeast extract peptone dextrose (YPD) agar containing 0.05% phloxine B. Following 5 days incubation, the formed colonies were examined and the phenotypically switched colonies were designated as the 1st switched generations. The switched colonies were subcultured and subjected to a second switching following the same procedure to produce the 2nd switched generations.

Results: The 1st and 2nd switched generations of all Candida sp. were observed to display similar shiny surface appearance with circular and umbonate colony morphology. The switched generations of the Candida sp. exhibited various different phenotype based on the different colony colours. The 2nd switched generation of Candida albicans (Ca6) and Candida dubliniensis (Cd5) were found to have reversibly switched back to the phenotype of the 1st generation of Ca1 and Cd1, respectively. The unswitched and 1st switched generations of Candida albicans, Candida dubliniensis and Candida glabrata showed varying degrees of cell surface hydrophobicity and antifungal susceptibilities upon treatment with the selected antifungal mentioned above.

Conclusions: Phenotypic switching could influence the biological properties, cell surface hydrophobicity and antifungal susceptibilities towards ampotericin B, nystatin and chlorhexidine. Thus, including the possible contribution of phenotypic switching as a property which contributes to the pathogenic potential of oral Candida sp.