Retensi dan intrusi fluor pada permukaan email setelah aplikasi dengan substrat ikan teri (stolephorus sp.)

Abstrak

Background : Topical fluoridation recently is still the main caries prevention method. Fluoride application on enamel surface is aimed to convert the hydroxyapatite (HA) crystal to fluoroapatite (FA) or hydroxyfluoroapatie (HFA) form. Fluoride retention and intrusion onto enamel after Fluoride application, therefore, are the most important factors to ensure the formation of FA and HFA crystals. Natural Fluoride sources can be obtained from sea fishes, like teri (anchovy) fish. Teri medan (S baganensis) and teri jengki (S insularis) are the most pupolar teri fishes in Indonesia, and they are known 10 have high fluoride content. 17-34 ppm. This research objectives are to measure fluoride retention and intrusion on enamel surface after application using teri medan and teri jengki substrate. Material and Method : 8 extracted third impacted molars were used. During the research, those teeth are immersed in ono-ionic aquadest (aquadem). Each tooth were cut bucco-lingually and mesio-diastally to obtain 4 enamel specimens. The specimens (totally 32) the divided into 3 major groups. 12 each for EDS group and intrusion groups and 8 for control. The EDS group divided Into 2 sub-groups for application with teri medan and teri jengki. Similar procedure were done for intrusion and control groups. All EDS and intrusion specimens then immersed in the 5% teri substrate for 5 minutes. Flushed with aquadem, then stored in aquadem for 3 hours. Procedure above then repeated 26 times. Control specimens were immersed in saline for 5 minutes, before flush and stored in the aquadem solution. All the EDS specimens examinated using LEO
Scanning and micro analysis electron microscope. Intrusion groups evaluated with Olypus BX41TF fluorescence mocroscope. Results
uorescence microscope. Results fluoride retention for teri jengki groups is 5.28%, and for teri medan group is 3.26%, while for control group is 1.94%. Fluoride intrusion for teri jengki group is 11.48 um, teri medan 8.74 um, and for control group is 0.84 um. Anova and Bonferroni test showed different result between experiment and control group and between teri jengki and teri medan group, both for retention and intrusion examinations. Conclusion : based in this research, it can be concluded that teri jengki and teri medan fishes substrate give better result on fluoride retention and intrusion on enamel surface, compared to the control group. Application using teri jengki substrale gives better fluoride retention and intrusion on enamel surface compare to the teri medan substrate appllication