

Analisa efek perendaman susu dan teh hitam terhadap email gigi menggunakan Microcomputed Tomography = Analyses on the effect of milk and black tea on dental enamel using Microcomputed Tomography

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Abstrak

Menganalisa efek susu dan teh hitam terhadap demineralisasi email gigi. Mahkota 30 gigi premolar dipersiapkan membentuk kubus gigi (6mm³). Permukaan oklusal dibentuk jendela oklusal dengan menggunakan stiker berukuran 3x5mm² dan seluruh permukaan gigi lainnya dilapisi dengan varnis tahan asam. Sampel dibagi secara acak ke dalam tiga kelompok dan direndam selama 26 menit dalam larutan remineralisasi: Grup A-susu dan teh hitam ; Grup B-susu ; Grup C-akuabides. Setelah 3 hari perendaman dalam larutan demineralisasi dengan pH 4.4, gigi di scan menggunakan micro-CT. Demineralisasi ditunjukkan dengan mean grey value (MGV). MGV dan standar deviasi pada tiap kelompok secara berurutan adalah: 90.78 ± 19.09, 98.14 ± 24.01, 81.10 ± 20.29. MGV antara ketiga kelompok berbeda bermakna (p<0.05), kecuali antara grup A dan B. Aplikasi menggunakan susu saja menunjukkan efek protektif yang lebih tinggi terhadap demineralisasi dibandingkan dengan aplikasi susu dan teh hitam.

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This study is aimed to analyze the effect of milk and tea on demineralization of tooth enamel. The coronal parts of 30 sound premolars were prepared into tooth blocks (6mm³). An unvarnished occlusal surface window was created for each tooth by covering the occlusal surface with a 3x5mm² sticker and painting other surfaces with an acid-resistant varnish. These blocks were randomly allocated into three groups immersed in remineralizing solutions for 26 minutes, respectively: Group A - milk and tea; Group B - milk ; and Group C - deionized water. After 3 days immersion in a buffered demineralization solution at pH 4.4, micro-CT scans were taken. Demineralization was represented by the mean grey value (MGV). MGV and the standard deviation for each group respectively is: 90.78 ± 19.09, 98.14 ± 24.01, 81.10 ± 20.29. The MGV between the three groups were statistically significant (p<0.05), except between group A and B. Application using only milk showed higher protective effect against demineralization compared to application using milk and black tea.