

Efek aplikasi chitosan terhadap penurunan proses demineralisasi email In Vitro (uji kerusakan permukaan) = Effect of chitosan application in the decrease of enamel demineralization process In Vitro (surface damage test)

Deskripsi Lengkap: <https://lib.ui.ac.id/detail?id=20421463&lokasi=lokal>

Abstrak

[Chitosan memiliki gugus amino dan hidroksil yang diduga reaktif terhadap ion asam sehingga dapat meningkatkan pH lingkungan dan menghambat proses demineralisasi email. Penelitian ini bertujuan menganalisis kelarutan email yang diberi chitosan pada suasana asam serta mekanisme kerja chitosan. Sebelas gigi pascaekstraksi dibagi menjadi kelompok baseline, kelompok kontrol negatif, kelompok perlakuan asam+chitosan, dan kelompok perlakuan chitosan. Hasil penelitian menunjukkan peningkatan pH lingkungan dan penurunan kerusakan permukaan email yang diberi chitosan dalam suasana asam dibanding kelompok kontrol negatif. Chitosan terbukti menghambat proses demineralisasi email in vitro, Chitosan's amino and hydroxyl groups are assumed to react with acid ions, increase environmental pH level, and thereby interfere enamel demineralization process. This research aims to analyze the enamel surface damage after chitosan application in acidic environment and chitosan's mechanism of action. Eleven postextraction teeth are categorized as baseline, negative control, acid+chitosan application, and chitosan application group. Results showed that there is an increase in environmental pH level and a decrease in enamel surface damage after chitosan application in acidic environment compared to negative control group. Chitosan is proven to interfere enamel demineralization process in vitro]