

## Efek Klorheksidin terhadap pengurangan degradasi kekuatan ikat geser resin komposit-Dentin (eksperimen laboratorium) = Chlorhexidine effect against degradation of composite resin-dentin shear bond strength (laboratory experiment)

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### Abstrak

Ketahanan ikatan resin komposit-dentin merupakan salah satu penentu keberhasilan restorasi resin komposit. Tujuan penelitian ini adalah menganalisis efek klorheksidin terhadap degradasi kekuatan ikat resin kompositdentin.

Metode: Dua puluh empat sampel dentin yang diambil dari mahkota gigi premolar, dibagi menjadi tiga kelompok yang diberikan perlakuan berbeda. Kelompok I diberi perlakuan bahan bonding tanpa klorheksidin, kelompok II diberi perlakuan klorheksidin dan bonding, kelompok III diberi perlakuan bonding mengandung klorheksidin, pada tiap kelompok dibagi menjadi 2 sub-kelompok yaitu kelompok tanpa direndam dan kelompok yang direndam NaOCl 10% selama satu jam, sehingga didapat enam sub-kelompok. Kemudian seluruh kelompok di ukur kekuatan ikat gesernya menggunakan Universal Testing Machine. Satu sampel dari setiap sub-kelompok dilakukan Scanning Electron Microscope (SEM). Data dianalisa statistik dengan uji hipotesis Kruskal Wallis yang dilanjutkan dengan uji Mann-Whitney.

Hasil: rerata kekuatan ikat geser sebelum perendaman NaOCl 10% tertinggi kelompok I sedangkan rerata kekuatan ikat geser setelah perendaman NaOCl 10% tertinggi pada kelompok III. Terdapat perbedaan bermakna antara kelompok I terhadap kelompok II dan antara kelompok II terhadap kelompok III.

Kesimpulan: Klorheksidin mempunyai efek terhadap pengurangan degradasi kekuatan ikat geser resin komposit-dentin.

.....Resilience of composite resin-dentin bonding known as one of success composite resin restoration determinants. The purpose of this study was to analyze the effect of chlorhexidine on reducing the degradation of composite resin-dentin shear bond strength.

Methods: Twenty-four premolar crowns were divided into three groups then given different treatments. Group I was treated material bonding without chlorhexidine, group II was treated with chlorhexidine and bonding, group III was treated with chlorhexidine-contained bonding. Each group was divided into two sub-groups: the group without immersion of NaOCl 10% and the group with immersion of NaOCl 10% for one hour, then it were obtained six sub-groups. After twenty-four hours, shear bond strengths measured using Universal Testing Machine. A sample of each group was photographed with Scanning Electron Microscope (SEM). Statistical analysis was done by Kruskal Wallis test, then followed by Mann Whitney test to determine significance between groups.

Results: The mean value of shear bond strength before immersion of NaOCl 10% was highest on Group I, while the mean value of shear bond strength after immersion of NaOCl 10% was highest on Group III. There are significant differences between Group I with Group II and between Group II with Group III.

Conclusion: Chlorhexidine have an effect on reducing the degradation of shear bond strength of resin-dentin bonding.