

INTISARI

Prosedur *bleaching* untuk mengatasi warna gigi dapat menyebabkan perubahan struktur email dan penurunan kekuatan geser braket. Penggunaan bahan desensitisasi baik yang mengandung fluor maupun tidak mengandung fluor dapat remineralisasi email karena prosedur *bleaching*. Penelitian ini bertujuan untuk menganalisis pengaruh pemberian bahan desensitisasi fluor dan non fluor terhadap kekuatan geser braket keramik pasca prosedur *in-office bleaching*.

Penelitian menggunakan 27 gigi premolar atas pasca ekstraksi yang dibagi menjadi 3 kelompok (n=9): kelompok kontrol (*bleaching*), kelompok fluor (*bleaching*+ desensitisasi fluor), kelompok non fluor (*bleaching*+ desensitisasi non fluor). Kemudian dilakukan prosedur bonding braket keramik dengan sementasi komposit resin. Semua kelompok diuji kekuatan geser dengan *universal testing machine* dengan kecepatan 1 mm/menit dan dilakukan perhitungan skor *adhesive remnant index*. Data kekuatan geser yang diperoleh dianalisis menggunakan *one way Anova*, dilanjutkan dengan uji *post-hoc Tukey*, skor ARI dianalisis dengan uji *Kruskal-Wallis*.

Hasil penelitian menunjukkan terdapat peningkatan kekuatan geser pada kelompok fluor: $15,36 \pm 4,67$ MPa dan kelompok non fluor : $12,39 \pm 6,81$ MPa, dibandingkan kelompok kontrol: $6,32 \pm 4,83$ MPa. Tidak terdapat perbedaan skor ARI pada semua kelompok.

Kesimpulan dari penelitian ini adalah bahan desensitisasi fluor maupun non fluor dapat meningkatkan kekuatan geser braket keramik dengan sementasi resin komposit pasca *in-office bleaching* dan skor ARI pada semua kelompok sama.

Kata kunci : kekuatan geser, bahan desensitisasi, *in-office bleaching*, braket, keramik,

ABSTRACT

Bleaching procedures to overcome discolorization can cause changes in the enamel structure and decrease the shear bond strength of orthodontic brackets. The use of fluoride or non fluoride containing desensitizing agents can provide remineralization due to bleaching procedures. This study aims to analyze the effect of fluoride and non fluoride desensitizing agents on the shear bond strength of ceramic brackets after in-office bleaching procedures.

Twenty seven extracted maxillary premolars was equally divided into 3 groups with 9 sample of each. In control group, bleaching was performed. In fluor group, bleaching and application of fluoride containing desensitizing agents was performed. In non fluor group, bleaching and application of non fluoride containing desensitizing agents was performed. Bracket bonding procedure was carried out with composite resin cementation. All groups were tested for shear bond strength with universal testing machine, the adhesive remnant index score was calculated. One way analysis of variance (ANOVA) was used to compare shear bond strength. Tukey's significant differences tests were uses for post-hoc comparison. Adhesive remnant index (ARI) was analyzed with Kruskal-Wallis test.

The results showed that shear bond strength increased ($p < 0,05$) on fluor group: $15,36 \pm 4,67$ MPa and non fluor group : $12,39 \pm 6,81$ MPa compared to control group: $6,32 \pm 4,83$ MPa. No significance difference of adhesive remnant index among the groups.

The conclusion of this research is both of desensitizing agents increased the SBS of ceramic bracket with composite resin adhesive after in-office bleaching procedure while ARI scores showed no difference.

Keyword : shear bond strength, desensitizing agent, in-office bleaching, ceramic, bracket