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Research Article

**Influence of Ceramic Material Type and Cement Shade on the
Translucency of Lithium Disilicate Ceramic Veneers**

Abstract

Aims: Careful selection of materials and resin cement shade can minimize color changes in laminate veneers. This study aimed to evaluate the influence of two ceramic material types, lithium disilicate glass–ceramic material (Ivoclar, Schaan/Liechtenstein; IPS e.max), computer aided design (CAD) and IPS e.max Press, and four different resin cement shades on color changes in lithium disilicate ceramic laminate veneers.

Methods: Forty extracted human maxillary first premolars were prepared to receive a laminate veneer. Optical scanning and digital designing were used to prepare 20 IPS e.max CAD and 20 IPS e.max Press veneer samples. These samples were divided into four groups based on resin cement shade and material: Group CAD A1 : (IPS e.max CAD with A1 cement shade), Group CAD T : (IPS e.max CAD with translucent cement shade), Group CAD M: (IPS e.max CAD with milky bright cement shade), Group CAD B1 : (IPS e.max CAD with B1 cement shade) and the same divisions for IPS e.max Press. Before cementation, color measurements were obtained using precision colorimeter NR110. After cementation, the ΔE (color change) value was recorded and tabulated. One-way analysis of variance (ANOVA) and Duncan's post hoc test were used to evaluate the influence of ceramic material types and cement shade on ΔE .

Results: There were significant differences between the IPS e.max CAD and e.max Press veneers for the four tested cement shades. The highest color change was observed in press M veneers (8.84_0.63931) while the lowest color change was observed in CAD M veneers (0.5_0.16371). There were significant differences in color change based on cement shade, with B1 showing the greatest change (8.84_0.47440 for Press veneers and 2.3_0.11992 for CAD veneers).

Conclusions: Different shades of resin cements and different manufacturing techniques produce different levels of color changes therefore careful selection of materials and cement shade can minimize color changes in laminate veneers.