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Comparing shade changes of ceramic restorations using different translucent resin cements

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Aim: The main aim of this study was to evaluate the shade change of three manufacturers of translucent resin cements on the final color of ceramic veneers.

Materials & Methods: Thirty (30) disk-shaped ceramic specimens (IPS e. Max, 0.6 mm x 7.00 mm diameter) and 30 composite resin background specimen blocks were fabricated (3mm x 10mm diameter). They were then divided into three groups, each group containing 10 ceramic disks and 10 composite disks. The ceramic disks were cemented on the composite resin background blocks using translucent cement from three different manufacturers. (Group1 - Variolink Esthetic LC Neutral by Ivoclar Vivadent, Liechtenstein, Group 2 - eCement Translucent by Bisco, U.S.A Group 3 - RelyX Veneer Cement Translucent by 3 M ESPE, U.S.A). A spectrophotometer (VITA EasyShade Advance) was used to measure the color parameters before and after cementation. The color differences were then statistically analyzed using one-way ANOVA. Significance was set to $P < 0.05$.

Results: The final shade of the ceramic veneers showed the most significant changes in ΔE value for the translucent shade from eCement by Bisco while Variolink and Relyx showed a less significant color change. However, all three translucent cements exceeded the clinically acceptable threshold of $\Delta E > 3.3$.

Conclusions: The three brands of translucent resin cement all produced clinically noticeable shade change on the ceramic veneer with Variolink Esthetic cement having the least effect on the color of the ceramic and eCement producing the most color change.

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