Comparison of the Effect of Conventional and Electroforming Methods on Marginal Integrity: an in Vitro Study

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Abstract

Statement of Problem: Absence of marginal integrity is one of the most important problems in the fixed restoration treatments.

Purpose: The aim of this study is to compare the effect of conventional and electroforming methods on the marginal integrity at PFM restorations.

Materials and Method: In this experimental study, after preparing the metal standard die and molding, 20 plaster dyes were prepared and then randomly divided into two groups of ten each. PFM crowns were prepared using the conventional method in the first group and electroforming method in the second group. After cementing the samples on the die and mounting in transparent resin and grating, all the samples were observed in the electron microscope. Then, the data were analyzed using t-test.

Result: The mean marginal discrepancy and SD was 11.16 ± 1.28 micron in the first group and 3.13 ± 0.79 micron in the second group. T-test results showed that the differences between the two groups were significant (p < 0.05).

Conclusion: According to the result of this study, marginal adaptation in electroforming crowns is better than casting crowns.

Key words: Conventional Method, Electroforming Method, Marginal Integrity