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Effect of Ultrasonic Packing on Interfacial Adaptation of A densely Filled Resin Composite in High C-factor Cavities

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Abstract:

A central goal in adhesive dentistry is to obtain a permanent intimate adaptation between cavity walls and restorative material. This in-vitro study was done to compare the interfacial adaptation of a densely-filled posterior resin composite in high C-factor class I cavities packed either manually or ultrasonically. Twenty extracted human maxillary premolar teeth received standardized class I cavity preparation were restored with Alert condensable composite resin packed either manually or ultrasonically. The teeth were sectioned at the center buccolingually and examined under light microscope for quantitative assessment of interfacial adaptation. The results showed that ultrasonic packing resulted in better adaptation of Alert condensable composite resin than manual packing technique. Meanwhile, this difference was not statistically significantly different ($P<0.05$). It was concluded that packing of densely filled resin composites in high C-factor cavities is a MAST to improve the interfacial adaptation. Moreover, ultrasonic packing of densely filled resin composite was not advantageous over manual packing technique. Dental clinician has to pay a great attention during handling and insertion of packable resin composite in high C-factor cavities, especially with deep and wide versions.

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