

Comparative physical and mechanical characterization of two new hybrid restorative materials in comparison with resin composite restorative material:

An in vitro study

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Abstract

The recently developed hybrid restorative materials contain the essential components of conventional glass ionomer and light cured resins. They were designed as a trial to solve certain drawbacks of both basic materials. The objective of this study was to determine certain physical and mechanical properties of two polyacid modified resin composites in comparison with two widely accepted micro filled composite resins. The two selected hybrid materials were Dyract and Variglass and they were compared with Heliomolar and Z100 composite resins as regard polymerization shrinkage following a precise method of measurement without the use of sophisticated instruments, compressive strength and surface hardness. The results indicated that polyacid modified resin composite materials showed, lower volumetric polymerization shrinkage lower compressive strength and lower but comparable hardness values in comparison with selected composite resins.

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