RAISING COMPOMER SURFACE HARDNESS BY DIFFERENT POST-CURING METHODS

Bassem Fathi El Mallakh, * Bsc, BDS, Msc, PhD
Hamdi Mohammed, ** DDS, MScD, PhD, FADM
Samar A. Al-Saleh, *** BDS, MScD
Nazeer Khan, * Msc, PhD***

**Associate Professor, Department of Dental Biomaterials, Faculty of Dentistry, Alexandria Univ.*
Former Associate Professor & Head, Division Biomaterials, King Saud University,
College of Dentistry, Riyadh, Kingdom of Saudi Arabia.
Professor, Division of Dental Biomaterials, King Saud University College of Dentistry.
Lecturer, Department of Prosthetic Dental Sciences, King Saud University. College of Dentistry.
Assistant Professor of Biostatistics, King Saud University College of Dentistry.

ABSTRACT

Purpose:

To investigate whether the surface hardness of a compomer restorative material (Dyract) can be raised using two different methods (heat + pressure or heat + light) an to monitor the surface hardness changes over time (up to 16 days) of water-stored specimens.

Materials and Methods:

Fifteen disc specimens (7mm diameter x 2mm height) were prepared of Dyract and light-cured. Specimens were arbitararily divided into three groups of five specimens each. Group were treated as follows:

Group I: no treatment (control)

Group II: heat + light post-curing: 100 °C for 8 win.

Group III: heart + pressure post-curing: 120° + 7 bars for 10 min.

Vicker's hardness number (VHN) was measured for the specimens immediately after post-curing (T_1) and at 1, 3 & 16 days of water storage (T_2, T_3 & T_4) respectively.

Data were collected and statistically analyzed using ANOVA with repeated measures and Tukey 's multiple range test.

Results:

The means VHN (kgF/mm^2) at T,for all groups were significantly different with Group III being the highest (54.2) and Group I the lowest (26.25). At T_2 VHN for Group I increased significantly (38.68) such that Groups I & II became not significantly different while Group III remained higher than both. This relationship continued until the end of the study (T_4).

Clinical significance:

Dyract restorations fabricated and post-cured by heat + pressure posses higher immediate and delayed surface hardness than non-post cured ones.

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