

20TH ANNUAL WORLD DENTAL SUMMIT

March 20-22, 2017 Rome, Italy

Effect of blood and phosphate buffer saline on micro hardness of ProRoot MTA, OrthoMTA and RetroMTA at different levels of materials

Pegah Firouzmanesh

Babol University of Medical Sciences, Iran

Aim: The aim of this study was to assess the micro hardness of BioMTA (OrthoMTA, RetroMTA) in distances of 0.5, 2 and 3.5 mm from exposed surface to blood, phosphate buffer saline (PBS) or distilled water and compare the results with those of ProRoot MTA.

Materials & Methods: A total number of 135 semi-cylindrical molds of poly methyl methacrylate with diameter and height of 4 mm were fabricated. Molds were divided into nine groups. Inferior aspect of the sample molds were exposed to foams soaked with distilled water, blood or PBS. Superior aspect of all sample molds was covered with a layer of para film. Following four days of incubation, molds were sectioned and the Vickers micro-hardness test was performed at three levels: 0.5, 2 and 3.5 mm away from the lower surface of materials.

Results: Blood exposure for all three materials resulted in significant decrease of micro-hardness value in areas with 0.5, 2 and 3.5 mm away from blood, compared to the results observed for distilled water. In all three areas, micro-hardness value of ProRoot MTA and RetroMTA exposed to distilled water and PBS was not significantly different ($P>0.05$). Exposure to blood resulted in significantly lower micro-hardness values at 0.5 and 2 mm levels for OrthoMTA compared to other two materials. However, at 3.5 mm level, micro hardness value of RetroMTA was significantly higher than two other materials ($P<0.05$).

Conclusion: Present study showed that exposure to blood leads to reduced micro hardness of whole thickness of all three material.

Biography

Pegah Firouzmanesh has completed her DDS at Tehran University of Medical Sciences. She is a Resident of Prosthodontics at Babol University of Medical Sciences.

p.firouzmanesh@gmail.com

Notes: