

Calcium Phosphate Cement/Gypsum Composite as Dental Pulp Capping

Authors : Jung-Feng Lin, Wei-Tang Chen, Chung-King Hsu, Chun-Pin Lin, Feng-Huei Lin

Abstract : One of the objectives of operative dentistry is to maintain pulp health in compromised teeth. Mostly used methods for this purpose are direct pulp capping and pulpotomy, which consist of placement of biocompatible materials and bio-inductors on the exposed pulp tissue to preserve its health and stimulate repair by mineralized tissue formation. In this study, we developed a material (calcium phosphate cement (CPC)/gypsum composite) as the dental pulp capping material for shortening setting time and improving handling properties. We further discussed the influence of five different ratio of gypsum to CPC on HAP conversion, microstructure, setting time, weight loss, pH value, temperature difference, viscosity, mechanical properties, porosity, and biocompatibility.

Keywords : calcium phosphate cement, calcium sulphate hemihydrate, pulp capping, fast setting time

Conference Title : ICBE 2017 : International Conference on Biomaterials Engineering

Conference Location : Kyoto, Japan

Conference Dates : April 27-28, 2017