

Research Report

PERBEDAAN SEALING ABILITY PADA CHITOSAN MEMBRANE SCAFFOLD YANG DIAPLIKASIKAN HUMAN ADIPOSE-DERIVED MESENCHYMAL STEM CELL (hADMSCs) DIBANDINGKAN DENGAN KALSIUM HIDROKSIDA PADA PERMUKAAN DENTIN (An Animal Study)

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Abstract

Background: Pulp capping is performed in caries cases that aims to maintain the vitality of the pulp tissue and stimulate the formation of the dentine bridge. Sealing ability is the ability of a material that can be docked with the surface of other materials that function to prevent leakage of liquid, bacteria and pressure. Sealing ability of pulp capping material on the dentine surface plays an important role in stimulating the formation of the dentine bridge. **Purpose:** This study aimed to investigate and compare sealing ability of *chitosan membrane scaffold seeding human adipose derived mesenchymal stem cell* and calcium hydroxide on the dentine surface. **Method:** This study used chitosan membrane scaffold seeding human adipose derived mesenchymal stem cell were applied as direct pulp capping material on the dentine surface for 7 days, 14 days and 28 days. The sealing ability of pulp capping materials on the dentine surface was measured using *scanning electron microscope*. **Result:** The average distance of pulp capping were applied with *chitosan membrane scaffold seeding human adipose derived mesenchymal stem cell* for 28 days is 0 μm , The average distance of pulp capping were applied with *chitosan membrane scaffold* 0,326 μm , The average distance of pulp capping were applied with calcium hydroxide is 0,847 μm . **Conclusion:** The average distance of pulp capping were applied with *chitosan membrane scaffold seeding human adipose derived mesenchymal stem cell* for 28 days is 0 μm *Psoralens* is the the best sealing ability of materials pulp capping.

Keywords : *Direct Pulp Capping, Sealing Ability, Calcium Hydroxide, Chitosan Membrane Scaffold, Human Adipose Derived Mesenchymal Stem Cell*

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