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**Tissue Engineering Technology Innovation Using Seaweed As Pulp Capping Materials
That Can Accelerate Dentin Regeneration**

By :
I Dewa Ayu Ratna Dewanti
Departement of Biomedic Dentistry Faculty Jember University

Correspondency : Dentistry Faculty Jember University, Kalimantan street 37, email:
dewadewanti@yahoo.com

Abstract

Background: Pulp capping is endodontic treatment is the main option for maintaining the vitality of teeth. However, problems arise capping materials on the market an average of not deliver maximum results and are expensive. Seaweeds are very often found in Indonesia has been known to have anticancer effects, antioxidant, antiviral, anticoagulant, anti-inflammatory. These effects could be expected to be used as filler material pulp capping which is certainly effective, inexpensive, easy to obtain and have minimal side effects. **Purpose:** This research aims to explore innovative tissue engineering technology using seaweed as an ingredient pulp capping. **Discussion:** The content of seaweed consisting of water (27.8%), protein (5.4%), carbohydrates (33.3%), fat (8.6%) crude fiber (3%) ash (22.25%), enzymes, nucleic acids, amino acids, vitamins (A, B, C, D, E and K) and macro minerals such as nitrogen, oxygen, calcium and selenium and micro minerals such as iron, magnesium and sodium. The content is expected to decrease inflammation, accelerate blood clotting, fight infection and regenerate dentin. Besides mineral content could be expected to stimulate the formation of alveolar bone. **Conclusion:** Tissue engineering technological innovation using seaweed as pulp capping materials produces materials that are effective, inexpensive, easy to obtain and have minimal side effects.

Keywords: Seaweed; inflammation; Pulp Capping; dentin; tissue engineering