INTISARI

Pulpitis reversibel merupakan inflamasi ringan pada pulpa yang dapat disebabkan oleh preparasi kavitas sehingga mengakibatkan hilangnya kontinuitas lapisan odontoblas. Kitosan cangkang kepiting bakau (*Scylla serrata*) memiliki sifat antiinflamasi karena mampu menghambat pembentukan prostaglandin E_2. Prostaglandin E_2 merupakan mediator inflamasi yang mampu menstimulasi vasodilatasi dan peningkatan permeabilitas vaskular. Tujuan dari penelitian ini adalah untuk mengetahui pengaruh kitosan cangkang kepiting bakau terhadap kontinuitas lapisan odontoblas yang mengalami pulpitis reversibel.

Subjek penelitian ini adalah 45 ekor tikus Sprague dawley betina berusia 2-3 bulan. Induksi pulpitis reversibel dilakukan dengan preparasi kavitas. Kavitas dibuat dengan *diamond bur* bur 0,8 mm pada daerah oklusal molar satu kiri atas. Tikus dibagi menjadi tiga kelompok: kelompok perlakuan, kontrol positif dan kontrol negatif. Kitosan diaplikasikan di kavitas molar tikus pada kelompok perlakuan, kalsium hidroksida pada kelompok kontrol positif dan pada tikus kontrol negatif tidak diberi bahan kaping pulpa. Kavitas lalu ditumpat menggunakan semen ionomer kaca. Tikus dikorbankan pada hari ke-1, 3, 5, 7, dan 14 setelah perlakuan. Rahang kiri atas diambil untuk pembuatan preparat histologi dan diwarnai dengan hematoxilin eosin.

Hasil analisis statistik menunjukkan perbedaan kontinuitas lapisan odontoblas yang signifikan ($p<0,05$) antara tiga kelompok. Kesimpulannya, aplikasi kitosan cangkang kepiting bakau mampu memperbaiki kontinuitas lapisan odontoblas.

Kata kunci: pulpitis reversibel, kitosan cangkang kepiting bakau, lapisan odontoblas

ABSTRACT

Revesible pulpitis is a mild inflammatory of the pulp caused by cavity preparation resulting in discontinuity of the odontoblastic layer. Mud crabs (Scylla serrata) shells chitosan has anti-inflammatory effect because its known to be able to inhibit the production of prostaglandin E_2. Prostaglandin E_2 is an inflammatory mediator that able to stimulate vasodilatation and increasing vascular permeability. The aim of this research was to study the effect of mud crabs shells chitosan on the continuity of odontoblastic layer.

The subject of this study were 45 of 2-3 months female Sprague dawley rats. Reversible pulpitis induced by cavity preparation. A cavity was made with 0.8 mm round diamond bur on the occlusal area of the upper left first molar. The rats were divided into three groups: treatment, positive control, and negative control groups. Mud crabs shells chitosan was applied on the bottom of the cavity in the treatment group, while calcium hydroxide was applied on the bottom of the cavity in the positive control group. The cavity in the negative control group were left untreated. The cavities were then filled with glass ionomer cement. The rats were sacrificed on the day 1, 3, 5, 7, and 14 after the treatment. The maxillary jaws were processed for histological specimens and stained with hematoxilin eosin. Continuity of the odontoblast was observed under microscope with 400x magnification

Statistical analysis results showed a significant difference ($p<0,05$) in the continuity of odontoblastic layer among the three groups . In conclusion, application of mud crabs shells chitosan able to repair the continuity of odontoblastic layer.

Keyword: reversible pulpitis,mud crabs shells chitosan, odontoblastic layer