

Analisis toksisitas membran scaffold kitosan RGD cangkang kepiting terhadap sel pulpa gigi manusia = Toxicity analysis of crab shells chitosan RGD scaffold membrane on human dental pulp cells

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Abstrak

BATAN telah membuat membran scaffold kitosan RGD cangkang kepiting SKRCK dan membran scaffold kitosan cangkang kepiting SKCK. Pembuatan SKRCK dan SKCK dalam bentuk membran bertujuan untuk mengatasi kasus one wall defect akibat periodontitis. Penambahan RGD bertujuan untuk meningkatkan perlekatan sel pada scaffold. Scaffold harus bersifat biocompatible tidak toksik.

Tujuan: Menganalisis toksisitas membran SKRCK terhadap sel pulpa gigi manusia. Metode: Sel pulpa gigi manusia dikultur selama 5 hari. Setelah itu kelompok perlakuan dipapar membran SKRCK dan membran SKCK kontrol. Kemudian diinkubasi selama 24 jam.

Hasil Penelitian: Nilai rerata viabilitas sel pulpa gigi manusia pada kelompok SKRCK 1mg dan 2mg adalah 315,9 dan 298,9, sedangkan pada kelompok SKCK 1mg, dan 2mg adalah 514,7 dan 520,8.

Kesimpulan: SKRCK tidak toksik terhadap sel pulpa gigi manusia. Kata Kunci: kitosan cangkang kepiting, scaffold, RGD, toksisitas, sel pulpa gigi manusia

Introduction: BATAN has made crab shells chitosan RGD scaffold membrane SKRCK and crab shells chitosan scaffold membrane SKCK. SKRCK and SKCK made in the form of a membrane aims to solve the case of one wall defects due to periodontitis. The addition of RGD aims to enhance cell attachment to the scaffold. The scaffold should be biocompatible non toxic.

Objective: To analyze the toxicity of SKRCK membrane on human dental pulp cells. Methods The human dental pulp cells were cultured for 5 days. After that the treatment group was exposed to the SKRCK membrane and membrane SKCK control. Then incubated for 24 hours.

Results: The mean viability of human dental pulp cells in group 1mg and 2mg SKRCK was 315.9 and 298.9, whereas in the group SKCK 1mg and 2mg is 514.7 and 520.8.

Conclusion: SKRCK did not give toxic effects on human dental pulp cells. Keywords crab shells chitosan, scaffold, RGD, toxicity, human dental pulp cells.