Pengaruh Waktu Pemaparan Scaffold Hidroksiapatit/Alginat dan Scaffold Hidroksiapatit/Alginat/Kitosan terhadap Sel Punca: Pengujian Viabilitas Sel = The Effect of Exposure Time between Hydroxyapatite/Alginate Scaffold and Hydroxyapatite/Alginate/Chitosan Scaffold on Stem Cells: Cell Viability Test

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Abstrak

Penelitian ini bertujuan untuk mengetahui viabilitas sel punca sum-sum tulang manusia setelah dipapar larutan ekstrak scaffold HA/alginat (30/70) atau scaffold HA/alginat/kitosan (30/50/20) selama 24, 48, atau 72 jam. Larutan ekstrak scaffold diuji dengan MTT. Hasil viabilitas sel pada pemaparan 24, 48, atau 72 jam scaffold HA/alginat secara berurutan 78,3±7,90%, 69,4±10,63%, 80,6±10,89%, sedangkan pada scaffold HA/alginat/kitosan secara berurutan 94,2±10,55%, 81,8±13,91%, 96,7±16,28%. Pada waktu pemaparan 24 jam, viabilitas sel antara scaffold HA/alginat dan scaffold HA/alginat/kitosan berbeda bermakna (p<0,05). Viabilitas sel scaffold HA/alginat/kitosan secara signifikan lebih tinggi dibandingkan dengan viabilitas sel scaffold HA/alginat pada waktu pemaparan 24 jam.

.....This study aims to determine the viability of human bone marrow stem cells after exposed to the extract solution of HA/alginate (30/70) or HA/alginate/chitosan (30/50/20) scaffolds. The cell viability was evaluated by MTT assay. The cell viability of HA/alginate scaffold on 24, 48, or 72 hour is 78.3±7.90%, 69.4±10.63%, and 80.6±10.89%, respectively, while the cell viability of HA/alginate/chitosan scaffold is 94.2±10.55%, 81.8±13.91%, and 96.7±16.28%, respectively. The cell viability obtained from the HA/alginate and HA/alginate/chitosan scaffold in 24 hour is significantly different (p<0.05). The cell viability of HA/alginate/chitosan scaffold is significantly higher than that of the HA/alginate scaffold in 24 hour.