

Pengaruh penambahan RGD pada scaffold membran kitosan kulit udang terhadap proliferasi sel pulpa manusia = Effect of RGD addition to shrimp shells chitosan scaffold membrane on human dental pulp cell proliferation

Vania Mariska Putri, author

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Abstrak

Teknik rekayasa jaringan kini dikembangkan untuk perawatan kerusakan tulang yang besar. Pada kasus one wall defect dibutuhkan scaffold dalam bentuk membran yang dikombinasikan dengan RGD untuk memfasilitasi regenerasi jaringan.

Tujuan: Mengetahui efek penambahan RGD kepada scaffold membran kitosan terhadap proliferasi sel pulpa manusia.

Metode: Scaffold membran kitosan kulit udang RGD dipaparkan kepada sel pulpa manusia hasil primary culture dan diuji menggunakan MTT-assay.

Hasil: Terdapat peningkatan proliferasi sel pulpa manusia yang bermakna pada kelompok scaffold membran kitosan kulit udang RGD dibandingkan dengan kelompok kontrol.

Kesimpulan: Scaffold membran kitosan kulit udang RGD mampu meningkatkan proliferasi sel pulpa manusia.

Background: Tissue engineering is now being developed to treat large bone defect. A membrane scaffold with addition of RGD is needed to treat one wall defect as it is capable to facilitate tissue regeneration.

Objective: To analyze the effect of RGD addition to shrimp shells chitosan scaffold membrane on human dental pulp cell proliferation.

Methods: Human dental pulp cell was exposed by shrimp shells chitosan membrane scaffold with RGD addition and was tested using MTT assay.

Result: Proliferation of human dental pulp cell exposed by shrimp shells chitosan membrane scaffold RGD shows a significant increase compared to control.

Conclusion: Shrimp shells chitosan scaffold membrane RGD can increase human dental pulp cell proliferation.