

عنوان مقاله:

Nano bio active glass/Vitamin K enhance wound healing procedure

محل انتشار:

اولین کنگره بین المللی مهندسی بافت و پزشکی بازساختی ایران (سال: 1397)

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خلاصه مقاله:

Introduction Skin acts as an important and supportive organ for body. Skin injuries have caused by burning, terrible trauma by accidents, deep incision injuries or something else. Minor trauma can be healed by itself, however a full thickness injury would be a real problem and it is hard to treat by itself normally. There are various methods to treat the wound injuries, one of them using synthetic skin substitute materials. There are some types of bioactive glass (BG) which are optionally selected to investigate their functions and affects in wound healing. In this study 45S5 NBG in combination of vit K were preferred to choose for evaluating of wound healing process. Methods 45S5 Nano bioglass nanoparticles (≥ 100 nm) and Vitamin k /NBG ointment were synthesized 1% gr/ml and 0.5 % gr/ml for each respectively in eucerin. 12 male rats weighting 250 gr were selected and made four 8 mm full thickness injury on low back of animal. One of them remain empty as a control, next one treated every other day by only ucerin, third one treated every other day by NBG ointments and forth one treated each day by NBG/VitK ointments. 1, 2 and 3 weeks' post-surgery, the samples were harvested for histopathology evaluation. Results Histopathological tests revealed that significant different in wound healing between control and experimental groups. The forth group Vitk /nBG were healed by the fastest speed rather than the others. Conclusion Based on functional capacity of BG and VitK in angiogenesis, the finding showed that applying NBG/VitK can improve the wound healing process and it is offered to use them in further studies

کلمات کلیدی:

Nano bioactive glass, Angiogenesis, Vitamin K

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