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Chitosan-based biomaterials proved to have promising characteristics for wound dressing and skin regeneration. In the context of developing new natural-based biomaterials for these applications, chitosan and soybean-based biomaterials were proposed. These materials were shown to be non cytotoxic and to impair human leukocytes activation *in vitro*. Thus the goal of this study was to evaluate the *in vivo* performance of chitosan/soy-based membranes in the regeneration of partial thickness skin wounds. Excisional skin wounds were created on the backs of rats and the healing capacity of chitosan/soy-based membranes was assessed after 1 and 2 weeks. To promote impaired wound healing all rats were injected with a steroid. After one week, membrane-dressed wounds showed less granulation tissue formation and the wounds margins were thinner than in untreated wounds (negative control). Furthermore, in comparison to the positive control (Eppigard[®]), the chitosan/soy-based membranes were also able to reduce the wound size and the thickness of the wound limits. A similar trend was observed 2 weeks after the dressing. The membrane-dressed wounds were almost closed, although with some contraction, and with almost no granulation tissue. For both time periods there were no signs of infection. The observed reepithelialization and engraftment between the regenerated tissue and the original skin reinforces the suitability of the proposed chitosan/soy-based membranes to be used in skin wound dressing.

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(OP 51) Chitosan/Soy-Based Membranes Enhance Wound Reepithelialization in Partial Thickness Skin Wounds

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