عنوان مقاله:

Biomimetic constructions for peripheral nerve regeneration

محل انتشار:

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

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خلاصه مقاله:

The use of tissue-engineered scaffolds to progress or control the regeneration of the peripheral nervous system (PNS) has been an important research field for the past three decades. Autologous nerve grafting, the current gold standard technique for the treatment of peripheral nerve injury, has many internal disadvantages. So the tissue engineered peripheral nerve graft is a real substitute to autologous peripheral nerves. A variety of biomaterials have been used to construct peripheral nerve scaffolds, the main component of tissue engineered nerve graft. Synthetic polymers and natural materials are frequently used individually or together to construct peripheral nerve scaffolds. Current advances in biomimetic scaffold technologies have opened up many new and exciting opportunities, and novel improvements in material, fabrication technique, scaffold architecture, and lumen surface modifications that better reflect biological anatomy and physiology have independently been shown to benefit overall nerve regeneration. However, these findings support the idea that a scaffold with a preformed biomimetic structure is an effective means of achieving peripheral nerve repair. The methods highlighted in this presentation offer an outline of current technological solution and provide a context for future biofabrication development

کلمات کلیدی:

Biomimetic, Peripheral nerve, Regeneration