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Regeneration of rat sciatic nerve using tubulation and allogeneic transplantation of adipose-derived mesenchymal stromal cells

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Abstract

The effectiveness of application of biodegradable conduit (NeuraGen; INTEGRA, USA) in combination with adipose derived multipotent mesenchymal stem cells and fibrin sealant (Tissucol-Kit; Baxter AG, Austria) on posttraumatic peripheral nerve regeneration was investigated using a rat model of sciatic nerve injury. We demonstrate that our proposed cell therapy confers a neuroprotective effect under our experimental design.

Keywords

Adipose derived mesenchymal stromal cells, NeuraGen, Peripheral nerve injury, Rat's sciatic nerve, Regeneration, Tissucol-Kit