A new fibrin seal: Functional evaluation of sensory regeneration following primary repair of peripheral nerves.

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Abstract:

A new fibrin seal has recently been evaluated in terms of axonal regeneration; however morphological examination of the fibre composition of regenerated nerves may not necessarily provide functionally relevant information. This study therefore aims to evaluate the functional regenerated sensation, following peripheral nerve transection treated with fibrin seal. The sural nerve-innervated skin of the rat hindfoot served as the target organ. Previously published results from animals following transection and suture served as controls. Ten 3-month-old female Sprague-Dawley rats were used. The sciatic nerve was divided and rejoined with fibrin seal. The rats were allowed unrestricted movement directly after surgery and allowed to survive for 3 months. Our observations show that the functional results of regenerated polymodal nociceptors and low-threshold mecanoreceptors show no statistical difference well compared with microsuture. This strengthens the early positive morphological impression of this new product. Further prospective studies in man are anticipated.