6- Suture versus fibrin glue microneural anastomosis of the femoral nerve in Sprague Dewly rat model. a comparative experimental assessment of the clinical, histological and statistical features.

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Abstract:

Introduction. Peripheral nerve injury is a frequently encountered clinical problem that leads to functional losses at the long-term. Although microsurgical repair has been introduced to clinical practice in peripheral nerve injuries, unsatisfactory outcomes regarding functional recovery in target organ cause an increasing interest on studies about nerve injury and biology of the recovery in nerve injuries1. Material and Methods. Sciatic nerves of seventy adult Sprague Dewly rats were transected and primary anastomosis was performed. Rats were then divided into three groups: Control group, while 30 rats were repaired with sutures, and the remaining 30 were repaired with fibrin glue. After 30 days the rats were sacrificed and the sciatic nerves were investigated histologically with morphometrical and statistical analyses. Results. In microsurgical nerve repair, suture placement has been thought to cause hindrance to the sprouting axons and compress the blood supply to the fascicles, thereby impairing the regeneration of the transected nerve ends after repair, with possible neuroma formation. On the other hand, fibrin glue is a simple, effective technique, less time consuming than suturing. Another advantage of this suture-free technique is that it avoids injuring the axon with needles, and the lack of foreign bodies minimizes the inflammatory reaction. Conclusion. We recommend using fibrin glue as it demonstrates less inflammatory reaction, less scar tissue formation, it is less time consuming and provides better outcomes.

Keywords:

Fibrin glue, sutures, peripheral nerve, anastomosis

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