End-to-side nerve repair using fibrin glue in rats.

Authors: Silva D.N., Coelho J., Frazilio F.D.O., Odashiro A.N., De Carvalho P.D.T.C., Pontes E.R.J.C., Vargas A.F., Rosseto M., Da Silva A.B.A.

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Abstract:

Purpose: To evaluate axonal regeneration after end-to-side nerve repair with fibrin glue in rats. Methods: Forty-five Wistar rats were divided into three groups: group A (n=15), were not submitted to surgery (control group); group B (n=15) were submitted to fibular transection without repair; and group C (n=15), were submitted to fibular transection with end-to-side nerve anastomosis using fibrin glue, in the lateral surface of an intact tibial nerve. The three groups were submitted to walking track (30 and 90 days) and posterior morphometrical analysis (90 days). Results: The functional tests demonstrated that there was no difference in the walking track during the study in group A ($p>0.05$). The group B had walking pattern impairment in the two tests ($p>0.05$). The group C had walking pattern impairment in the first test, with important recovery in the second test ($p<0.05$). The morphometrical assessment revealed significantly higher number of regenerated mielinates axons in group C, compared to group B ($p<0.05$). Conclusion: The end-to-side nerve repair with fibrin glue shows axonal recovery, demonstrated through functional and morphometrical ways in rats.