SUMMARY


Recently, the microsurgical repair of segmental peripheral nerve injuries with the interposition of autologous nerve grafts, has contributed to better functional results. Adopting a predegeneration method in experimental rat sciatic nerves, the author studies the influence of these grafts to promote regeneration of new mielinated fibers. Specific clinical situations for its use are depicted. Four groups of Wistar rats were subjected to predegeneration at intervals of 1, 2, 4 and 8 weeks, followed by the transfer as autografts to the contra-lateral recipient nerve beds. Conventional transplant of the donor autograft is proposed as the control group, fresh nerve grafts. The animals were all killed after six weeks of transplantation and stained blocs were prepared for histomorphometric analyses at the level of the graft and at the distal segment of the recipient nerve. The results of the study and control groups were compared statistically. The author concludes that predegeneration of peripheral nerves in rats, was successful to promote axonal sprouting, but time were a determining factor. After four weeks of predegeneration, satisfactory axonal growth could not be seen possibly because the neural graft tube collapsed structurally. Reference is made at two to four weeks of predegeneration as the most favorable time for the use of this method when compared to conventional nerve grafting.

Keywords: Sciatic nerve/transplantation, wistar rats, nerve transfer/methods, autologous transplantation/methods, nerve degeneration/physiopathology, nerve regeneration/physiology.