

Median and ulnar nerve injuries: a meta-analysis of predictors of motor and sensory recovery after modern microsurgical nerve repair.
Ruijs AC, Jaquet JB, Kalmijn S, Giele H, Hovius SE. *Plast Reconstr Surg.* 2005 Aug;116(2):484-94; discussion 495-6.

Abstract

BACKGROUND:

The aim of this study was to quantify variables that influence outcome after median and ulnar nerve transection injuries. The authors present a meta-analysis based on individual patient data on motor and sensory recovery after microsurgical nerve repair.

METHODS:

From 130 studies found after literature review, 23 articles were ultimately included, giving individual data for 623 median or ulnar nerve injuries. The variables age, sex, nerve, site of injury, type of repair, use of grafts, delay between injury and repair, follow-up period, and outcome were extracted. Satisfactory motor recovery was defined as British Medical Research Council motor scale grade 4 and 5, and satisfactory sensory recovery was defined as British Medical Research Council grade 3+ and 4. For motor and sensory recovery, complete data were available for 281 and 380 nerve injuries, respectively.

RESULTS:

Motor and sensory recovery were significantly associated (Spearman $r = 0.62$, $p < 0.001$). Multivariate logistic regression analysis showed that age (< 16 years versus > 40 years: odds ratio, 4.3; 95 percent confidence interval, 1.6 to 11.2), site (proximal versus distal: odds ratio, 0.46; 95 percent confidence interval, 0.20 to 1.10), and delay (per month: odds ratio, 0.94; 95 percent confidence interval, 0.90 to 0.98) were significant predictors of successful motor recovery. In ulnar nerve injuries, the chance of motor recovery was 71 percent lower than in median nerve injuries (odds ratio, 0.29; 95 percent confidence interval, 0.15 to 0.55). For sensory recovery, age (odds ratio, 27.0; 95 percent confidence interval, 9.4 to 77.6) and delay (per month: odds ratio, 0.92; 95 percent confidence interval, 0.87 to 0.98) were found to be significant predictors.

CONCLUSIONS:

In this individual patient data meta-analysis, age, site, injured nerve, and delay significantly influenced prognosis after microsurgical repair of median and ulnar nerve injuries