

Factors associated with limited hand motion after hand trauma

Yeo Hyung Kim^{1*}, Jung Soo Lee^{1†}

Uijeongbu St. Mary's Hospital, Department of Rehabilitation Medicine¹

BACKGROUND

The purpose of this study was to identify factors that are independently associated with hand total active motion (TAM).

METHODS

A total of 50 patients with unilateral hand injury were included in this retrospective study. The associations between various demographic, injury-related and clinical assessment factors and TAM were determined by univariate and multivariate linear regression analyses. Nerve injuries recognized during surgery and diagnosed with electrodiagnostic (EDX) studies were compared using Pearson's chi square test.

RESULTS

Among multiple injury-related and initial clinical assessment factors, nerve injury diagnosed with EDX studies, hospital stay length, elevated CRP and skeletal injury were independently associated with TAM in the affected hand after adjusting for covariates. Nerve injuries diagnosed with EDX studies were not consistent with those recognized during surgery.

CONCLUSIONS

Our Results suggest that high-energy trauma leading to skeletal and nerve injury with inflammation is associated with limited hand motion after surgery and post-operative immobilization. A comprehensive EDX study may enable identifying occult or recovered nerve injuries, which would be helpful in understanding limitations in finger movements.