

Free microneurovascular Toe-to-Hand transfer in hand reconstruction

Z. Zhang¹, K. Wang¹, *G. Wang¹, B. Wu¹, W. Liu¹, H. Ye¹, L. Ma¹, J. Yang¹,

¹ Hand Surgery Hospital, Orthopaedic Hospital of Longgang District, Shenzhen, P. R. China.

*Corresponding author: wangkl2011@gmail.com

The purpose of this study is to conduct a review of the surgical outcomes of free microneurovascular Toe-to-Hand transfer in hand reconstruction under various degrees of trauma. Over the period from 2001 to 2013, Shenzhen Longgang Hand Surgery Hospital, (P. R. China) has treated 85 patients and conducted 99 toe-to-hand transfers. We have reviewed these cases in terms of surgical strategies and functional recovery of fingers after surgery. Results show a very high successful rate with all 99 reconstructed fingers regaining most of the functionality. Even through reoperation were required for 3 patients due to vascular crisis, our 6 months to 4 years of follow-up investigation show all the reconstructed fingers successfully restored the shape and hand function. Due to the complex nature of hand injury, it is of importance to develop a computer based patient specific surgical planning tool to predict the healing outcomes under various surgical strategies.

Keywords: reconstruction; micrographic surgery; transplant