Comments on “Sensory Outcomes in Digital Nerve Repair Techniques: An Updated Meta-Analysis and Systematic Review”

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We have read with interest the recently published article “Sensory Outcomes in Digital Nerve Repair Techniques: An Updated Meta-analysis and Systematic Review” by Drs. Herman and Ilyas.¹ We applaud them for their efforts to study this important and all too common clinical problem. However, although the authors claim to have conducted a systematic review and meta-analysis, we believe that their review does not meet the criteria to be considered a meta-analysis. Consequently, the article is unable to provide evidence-based recommendations for the management of digital nerve injuries that have a nerve gap.

This work is best classified as a literature review, not a systematic review or a *meta-analysis*. The included studies are inappropriate for meta-analysis as they are predominately observational studies, include the same or overlapping portions of the same study groups, fail to compare techniques directly, and lack consistent assessment of post-operative sensibility. It is also problematic that the mean follow-up periods were so different: “The mean follow-up for neuroorrhaphy, allograft repair, autograft repair, and conduit repair was 1.3, 9.4, 23.2, and 21.1 months, respectively.” These differences could have been accounted for if the meta-analysis was properly conducted. The authors failed to assess the level of evidence using a verified instrument or to comment on the quality of evidence used in making their recommendations; nor were assessments of bias discussed, which are requirements for properly conducting a systematic review; and the authors failed to follow the widely accepted PRISMA Guidelines.²

The meta-analysis portion of the study was not conducted properly to generate a pooled estimate of what technique should be used to manage a nerve gap. The data were combined incorrectly without adjusting *p-values* with multiple comparisons after completing the incorrect statistical analysis.³ This renders their conclusion of nerve grafting as superior to nerve conduit null and void based on the evidence presented.

Properly conducted meta-analyses are intended to supersede the level of evidence produced in a well-conducted, randomized, placebo-controlled, double-blinded study.⁴ Given this, it is imperative that the hand surgery community keep this in mind when conducting systematic reviews and meta-analyses, because our patients depend on us to provide the best care possible based upon the best available evidence. At this time, if asked, we would tell our patients that neuroorrhaphy, nerve conduits, autografting, and allografting are all safe, effective, and accepted means of reconstructing nerve gaps in digital nerve injuries but at this time none has been clearly shown to be superior.

Although we appreciate the authors’ efforts and the opportunity to review their findings, it is our hope that in the future, we as a community will continue to strive for a higher standard and take the time to properly conduct high-quality trials, systematic reviews, and meta-analyses to answer difficult clinical questions.

Ethical Approval

This study was approved by our institutional review board.

Statement of Human and Animal Rights

This article does not contain any studies with human or animal subjects.

Statement of Informed Consent

Informed consent was obtained from all individual participants included in the study.

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