

Discrepancies Between Meeting Abstracts and Subsequent Full Text Publications in Hand Surgery

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Purpose Research abstracts presented during the proceedings of an annual meeting are often cited and can influence clinical practice. Prior studies show that roughly 50% of abstracts at American Society for Surgery of the Hand meetings are eventually published. Yet, it is unknown how often the results or conclusions of published studies differ from the podium presentation. The objective of this study was to quantify the differences between abstracts presented during the annual meeting of the American Society for Surgery of the Hand and the resulting manuscripts.

Methods We retrospectively reviewed every abstract delivered as a podium presentation at the American Society for Surgery of the Hand annual meeting from 2000 to 2010. We searched the PubMed database for matching publications and compared authorship, country of origin, hypothesis, study design and methodology, changes in study groups or populations, results, and conclusions.

Results Of 798 total abstracts, we analyzed 719 involving the hand, wrist, and brachial plexus. Fifty-six different journals published 393 of the abstracts, for a 49% publication rate. Mean time to publication was 18 months with a median of 14 and maximum of 122 months. There were inconsistencies between the results and/or conclusions in 14% of full-length articles compared with the abstract presented at the meeting. A total of 9% of articles were published with fewer subjects. Authorships changes were noted in 54% of publications.

Conclusions Abstracts represent preliminary investigations and major and minor changes occur before subsequent publication. Caution should be exercised in referencing abstracts or altering clinical practice based on their content. (*J Hand Surg Am.* 2014;39(8):1585–1590. Copyright © 2014 by the American Society for Surgery of the Hand. All rights reserved.)

Type of study/level of evidence Economic/decision analysis IV.

Key words Abstract, hand surgery, indexing, publications.



IT IS EXPECTED THAT THE TERMINAL outcome of a podium presentation at a national meeting will be publication in a peer-reviewed journal. In this way, surgical knowledge is disseminated rapidly but

ultimately with the caution afforded by peer review. Abstracts that are presented in the proceedings of a national meeting receive only informal and often limited peer review, yet are referenced and may be used to guide patient management decisions. One study noted that 53% to 63% of chapters in 3 major orthopedic surgery textbooks included results from abstracts.¹ Although surgeons may immediately apply those results in their practice, the results may never undergo peer review or be published; worse, the conclusions may be altered or overturned. The purpose of our study was to quantify the differences between abstracts delivered as podium presentations at a large national hand surgery meeting and their subsequent published articles.

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MATERIALS AND METHODS

A single author retrospectively reviewed every oral scientific session abstract presented at the American Society for Surgery of the Hand (ASSH) annual meeting from 2000 to 2010, not including the resident and fellows conference or poster presentations. This permitted a 3-year follow-up for the most recent meeting. Abstract data were culled from the published abstract books on the ASSH on-line archives, available at <http://www.assh.org/AnnualMeeting/AnnualMeetingArchives/Pages/Annual-Meeting-Abstract-Books.aspx>. We included hand, wrist, and brachial plexus topics and excluded any abstract that primarily involved the elbow or shoulder joints.

To identify corresponding publications based on the data presented in abstract form, a single author performed detailed searches of PubMed in August 2013 using combinations of key words, title, and author combinations. All authors listed in the abstract were individually searched before declaring an abstract unpublished. In rare cases in which multiple publications resulted, the study background and designs were compared until the closest fit resulted. Publications with expanded goals or study groups that included the relevant abstract data were included. Publications with a narrowed focus that excluded data from the abstract were included as long as the aim or design was not markedly different. Publications with substantial changes in study design or methodology or in which the results and conclusions did not address the hypothesis of the original abstract were also deemed unpublished.

When available, the time to publication was recorded from the day of the podium presentation to the day of publication. The 15th day of the month was used if only the month of publication was available. We recorded the authors on the abstract and publication, country of origin, changes in design or methods, changes in study groups or populations, results, and conclusions. Authorship changes consisted of the addition or deletion of an author, not a change in the order. Because of the diversity of data presented, it was difficult to define objective criteria that comprise a meaningful discrepancy between the oral presentation and published article. Our goal was to quantify only potentially clinically relevant changes. Therefore, we defined a substantive change to a result or conclusion as (1) any double-digit (or larger) change for a quantitative outcome (eg, $\geq 10\%$ change in the reported complication rate); (2) any change in the direction of an outcome (positive to negative or equivocal, or vice versa); and (3) cases in which the presented abstract and subsequent publication had the same number of patients and same

follow-up period but with changes in complications, correlation, satisfaction rate, or success/failure rate. Abstracts were classified by type of subject, human or animal, and basic (if no human or animal subject or whole tissue was the primary subject of investigation) or clinical research.

RESULTS

Between 2000 and 2010, 798 oral presentations were made at ASSH meetings. Of the 719 that involved the hand, wrist, or brachial plexus, 393 were published for a 49% publication rate (range, 36% in 2003 to 61% in 2008) (Appendix A, available on the *Journal's* Web site at <http://www.jhandsurg.org>). The mean delay to publication was 18 months and the median was 14 months, which reflected a few outliers that took many years to publish (range, -1 to 10 y). A total of 36 subsequent full-text studies (5%) were published before the meeting took place or in the same month, and progressively more were published in the ensuing 10 years (Fig. 1). Only 4 of the 393 publications were in non-English language journals. Podium-presented abstracts from these 11 years of meetings were published in 56 different journals. The most common journal was the *Journal of Hand Surgery (American)* (212 publications [54%]), followed by the *Journal of Bone and Joint Surgery* (51 [13%]), the *Journal of Hand Therapy* (11 [3%]), *Plastic and Reconstructive Surgery* (11 [3%]) and the *Journal of Hand Surgery (European Volume)* (10 [3%]) (Figure E1, available on the *Journal's* Web site at <http://www.jhandsurg.org>). The remaining journals had fewer than 10 publications for the period studied.

We found inconsistencies between the results or conclusions in 14% of articles (range, 6% to 27%) compared with those in the abstract (year-by-year data are available in Appendix A). Table 1 lists illustrative cases. Authorship changes between the abstract presentation and the eventual publication were noted in 54% overall.

Whereas 49% of articles are eventually published after the abstract presentation, which should intuitively result in a stable or increased subject sample size, fully 9% of articles were published with fewer subjects.

DISCUSSION

Annual scientific meetings offer the opportunity to present early results and potentially obtain feedback and criticism from a diverse audience of subject experts. Peer-reviewed publication is more robustly indexed and more permanently retrievable, and is the

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