EDITORIAL

International Consensus on Periprosthetic Joint Infection

Let Cumulative Wisdom Be a Guide

The medical and surgical community understands and supports evidence-based medicine, which involves the judicious and explicit use of current best evidence when making decisions about the care of our patients. The community also recognizes that some aspects of medicine may not lend themselves to creating high-level evidence, nor should one attempt to do so in such cases. One will fail to discover any Level-I studies endorsing the importance of hand washing or the use of surgical gloves during surgery. The shrewd observations of intellectuals and scholars who came before us serve as the basis of some of the most critical practices in medicine today. Sir John Charnley, through extensive studies, was perhaps one of the first scholars who outlined the importance of perioperative antibiotics for the prevention of periprosthetic joint infection.

There is another barrier that may stand in the way of generating high-level evidence. As eloquently described by Benjamin Freedman, *equipoise,* or “a state of genuine uncertainty on the part of the clinical investigator regarding the comparative therapeutic merits of each arm in a trial,” needs to exist for one to contemplate starting a randomized study. What if an orthopaedic surgeon truly believes that the addition of antibiotics to cement spacers provides a more effective treatment for patients with chronic periprosthetic joint infection? Would randomizing patients to receive spacers that do not contain antibiotics and, in essence, are an inferior mode of treatment, not present an ethical issue?

The interest in generating high-level evidence may, at times, meet logistic issues that could prevent the execution of such studies. One can, for example, foresee the logistic issues that may exist for a study that attempts to examine the role of personal protection systems in the prevention of periprosthetic joint infection. Evidence-based medicine has been criticized on another front as well. The “artificial” circumstances under which randomized studies are executed often undervalue the importance of surgical expertise in decision making and the complexity of clinical circumstances that require individualization. Randomized trials also often overlook patient preferences and cultural differences that may exist. As stated by Sackett et al., a true model of evidence-based medicine should include the “integration of best research evidence with clinical expertise and patient values.”

It is with the recognition of the latter issues and the lack of high-level evidence for much of what we do that the International Consensus Meeting on Periprosthetic Joint Infection was organized. Delegates from various disciplines, including orthopaedic surgery, infectious disease, musculoskeletal pathology, microbiology, anesthesiology, dermatology, nuclear medicine, rheumatology, musculoskeletal radiology, veterinary surgery, and pharmacy, as well as numerous scientists with an interest in orthopaedic infections, came together to complete this initiative. The process of generating the consensus spanned ten months. Every stone was turned in search of evidence for best practices, with more than 3500 related publications evaluated. The evidence, when available, was assessed. Otherwise, the cumulative wisdom of 400 delegates from fifty-two countries and more than 100 societies was amassed to reach consensus on practices that lacked higher-level evidence. The design of the consensus process was to include as many stakeholders as possible, allow participation in multiple forums, and provide a comprehensive review of the literature.

After synthesizing the literature and assembling a preliminary draft of the consensus statement, more than 300 delegates attended the face-to-face meeting in Philadelphia and were involved in active discussions and voting on the questions and consensus statements. The document generated is the result of innumerable hours of work by delegates dedicated to this initiative. It can be found at http://www.msis-na.org/international-consensus/.

We are certain that the best practice guide set forth by this initiative will serve many of our patients for years to come. It is essential to state that the information contained in this document is merely a guide to practicing physicians who treat patients with musculoskeletal infection and should not be considered as a standard of care. Clinicians should exercise their wisdom and clinical acumen in making decisions related to each patient. In some circumstances, this may require the implementation of care that differs from what is stated in this document.

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References