Perioperative Pain Management in Orthopedic Surgery

Paul F. Lachiewicz, MD

Perioperative pain management should now be an integral part of all inpatient and outpatient orthopedic surgical procedures. In addition to planning the surgical approach, equipment, and implants needed for a successful surgical outcome, the orthopedic surgeon should also be involved with and help plan the perioperative pain management strategies. Patient outcome and satisfaction data, especially pain relief after surgical procedures, will soon be required to be reported to the Centers for Medicare and Medicaid Services (CMS) using the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey scores,¹ and lower scores may eventually negatively affect hospital reimbursement. This special supplement to ORTHOPEDICS is focused on newer aspects of perioperative pain management.

Multimodal pain protocols are now considered “state of the art” for all surgical procedures. The first article reviews the general concepts of multimodal pain management, with a major goal being the reduction in the amount of opioid medications required for the postoperative orthopedic patient. This goal should be carefully considered, as The Joint Commission recently issued a Sentinel Event Alert on the safe use of opioids to reduce adverse events in hospital settings.² The alert included suggestions for actions regarding hospital processes, technology, education, and standardized tools that can be used to screen patients for risk factors associated with oversedation and respiratory depression. This alert also recommended the use of modalities, nonopioid medication, and nerve blocks to decrease the incidence of opioid-related adverse reactions.

The second article of this supplement introduces the use of intravenous acetaminophen for perioperative pain protocols for a wide variety of orthopedic procedures. Although this medication has been routinely used for almost 10 years in Great Britain, it has only been available for use in the United States since January 2011. Many orthopedic surgeons may not be familiar with the mechanism of action and the unique pharmacokinetics of this medication when given intravenously. There are major differences in serum and cerebrospinal fluid levels when this medication is given orally and intravenously. The third article, from Great Britain, is a prospective cohort study of the use of intravenous paracetamol (acetaminophen) preoperatively in a group of elderly patients with hip fractures. These elderly patients with multiple comorbidities seem to be an ideal group to be given nonopioid medications both pre- and postoperatively. The fourth article is a retrospective cohort study of one hospital’s multimodal pain management protocol in total hip and knee arthroplasty patients, specifically looking at the preoperative use of two intravenous medications to decrease the amount of opioid medication used postoperatively. Pain management seems particularly crucial after total knee arthroplasty, because late residual unexplained pain may be related to less than optimal postoperative pain management. Obviously, there are many multimodal pain strategies that may be employed for these patients. The final paper describes one hospital’s postoperative multimodal pain protocol following adolescent scoliosis surgery, in which rapid recovery of gastrointestinal function and avoidance of ileus is important for rapid overall recovery.

The orthopedic surgical team should consider a reevaluation of their present pain management protocols to increase patient satisfaction and decrease the amount of opioid medication given perioperatively.

REFERENCES
