Lipid Solubility and Epidural Opioid Efficacy

To the Editor.—The article by Liu et al.1 comparing intravenous and epidural hydromorphone for postoperative analgesia after radical retropubic prostatectomy provides useful information about dosing, efficacy, and safety of the epidurally administered opioid. However, the authors’ opening statement that hydromorphone is an opioid “intermediate in lipid solubility” between morphine and fentanyl, which appears to have been an important reason for performing the study, is misleading, although technically true. In fact, morphine and hydromorphone are hydrophilic opioids with octanol/water coefficients of about 1. As determined by Roy and Flynn2 and cited by Liu et al., the octanol/water coefficients of morphine, hydromorphone, and fentanyl are 0.7, 1.28, and 717.0, respectively. It is important to review the solubilities of these opioids in light of the continuing controversy about whether fentanyl (a lipophilic opioid) has a spinal site of action after epidural administration. In any case, it appears that the observation of Liu et al. that hydromorphone produces spinals mediated analgesia (like morphine) is not entirely unexpected.

A second issue concerns experimental design. Parenteral ketorolac (15 mg) was given to all patients every 6 h for the first 72 h of the study. The rationale for inclusion of ketorolac was that it “possesses potent analgesic effects and may hasten postoperative recovery of gastrointestinal function.” The value of ketorolac as an adjuvant medication for postoperative pain control has been demonstrated for patients receiving epidural patient-controlled fentanyl analgesia after radical retropubic prostatectomy.3 Unfortunately, addition of ketorolac may have eliminated any differences in quality of analgesia or recovery times that otherwise would have been observed between intravenous and epidurally administered hydromorphone, particularly because the opioid was administered by patient-controlled analgesia. Nonetheless, a clear opioid-sparing effect was noted with the epidural route of administration, a finding that should be reassuring to those of us who occasionally administer epidural hydromorphone.

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Laryngoscope Handle Contamination

To the Editor—Tobin et al. described a method of protecting laryngoscope handles from contamination.1 At first glance, the plastic bag appears to be a simple, inexpensive solution to the problem of laryngoscope handle contamination.2 However, looking closely at the photograph, it is clear that the area of the handle closest to the blade (and possibly, therefore, most at risk for contamination) remains uncovered. Perhaps the best way to protect our patients is to sterilize the handle and blade after each use. Although cumbersome, such a routine avoids the false sense of security that the plastic bag provides.

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In Reply—Conroy correctly observes that the system we describe to decrease risk of laryngoscope handle contamination is not infallible.3 Although the use of either disposable equipment or complete handle and blade sterilization after each use would eliminate all risk of contamination, it is our observation that few centers routinely employ either of these methods (except when dealing with patients who pose a known infectious risk to others). The method we describe for the laryngoscope handle protection is certainly a reasonable alternative for routine use. It is our experience that the part of the laryngoscope handle closest to the blade is the least likely site of gross contamination. Commercially available products for laryngoscope handle protection also have difficulty protecting this area because the blade must be allowed to open and close during use. Until a better system is available, we will continue to advocate the use of systems such as we describe for laryngoscope handle protection.

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