In Reply to “Postoperative Pain Management With Liposomal Bupivacaine in Patients Undergoing Orthopedic Knee and Hip Arthroplasty at a Community Hospital”

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We read with great interest the article by Jacob and colleagues, “Postoperative Pain Management With Liposomal Bupivacaine in Patients Undergoing Orthopedic Knee and Hip Arthroplasty at a Community Hospital.”¹ Many of these authors’ findings are in direct conflict with a recently published multicenter, prospective, randomized, double-blind, controlled trial.² The disparity may be due to the injection technique, volume utilized, or the absence of bupivacaine HCl utilization in the study drug arm by the single surgeon in this study.

In an article recently published by Mont and colleagues,² liposomal bupivacaine (LB) combined with bupivacaine HCl was compared with bupivacaine HCl alone. The admixture utilized in the LB group consisted of 266-mg LB (20 mL), bupivacaine HCl 0.5% (20 mL), and normal saline 80 mL. This was compared with bupivacaine HCl 0.5% (20 mL) and normal saline 100 mL. The 2 solutions were infiltrated following a very specific technique, consisting of 80 to 120 total needle sticks in specific locations.³ Results from this 16-center study showed a 77% reduction in opioid consumption (20.9-mg morphine equivalents [ME] vs 93.6-mg ME, $P = .0108$) in the first 72 hours after surgery favoring LB. Also noted was a reduction in cumulative pain scores (measured as area under the pain curve) from 12 to 48 hours ($P = .0381$). A notable finding is that 10% of patients in the LB arm remained opioid free at 72 hours postoperatively compared with zero in the control arm.

In addition, the authors state that their results are similar to that of other studies reported in the literature. While that may be the case, all of the studies cited by Jacobs and colleagues are single-center studies. To our knowledge, other than the work by Mont et al, there are no multicenter, prospective, randomized, double-blind, controlled trials published to date. The article by Mont et al provides a reproducible protocol that should yield similar results if followed accordingly.

The authors state that LB provided no benefit in overall pain management and utilize the average change in the Numeric Rating Scale (NRS) as the basis for this claim. However, in their knee population, the difference in average

NRS scores was 0.32, whereas the difference was 0.52 in the total hip arthroplasty population. Both values are well below the accepted, clinically meaningful difference of 2.⁴ Similarly, the difference in knee flexion of 4° on postoperative days 2 and 3 reported in this article does not meet what is considered the clinically meaningful definition.⁵

We would argue that contrary to the conclusion Jacob and colleagues present, the results of their retrospective study do show an overall benefit in pain control for patients receiving LB. In their study, patient pain scores were similar, while LB patients utilized 40-mg ME less than patients in the control group. In addition, LB patients had a reduction in nausea complaints and displayed similar ambulation and knee flexion outcomes. Finally, a reduction in hospitalization by 1 day as reported in this study also has the potential to reduce overall health care costs in this patient population.

Declaration of Conflicting Interests

The author(s) declared the following potential conflicts of interest with respect to the research, authorship, and/or publication of this article: Both Brian Faley and Lani Dvorak are employees of Pacira Pharmaceuticals, Inc, and own stock in Pacira Pharmaceuticals, Inc. Meghan Faley’s husband is employed by and owns stock in Pacira Pharmaceuticals, Inc.

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