Intraoperative Ketamine and Chronic Opioid Use: Less Pain, More Morphine?

To the Editor:

The recent paper by Loftus et al.,1 “Intraoperative ketamine reduces perioperative opiate consumption in opiate-dependent patients with chronic back pain undergoing back surgery,” was of interest to me because I occasionally use the technique described. This group of patients is very complex and I congratulate the authors for undertaking this study.

There are four points that warrant clarification. First, the primary outcome of the study was based on data derived from a review of medical records (i.e., mean [SD]) 48-h postoperative oral morphine equivalent consumption of 500 [300] mg). However, the placebo group consumed only 309 (341) mg of this substance. Can the authors comment on this large difference and its possible relevance?

Second, the term “morphine equivalents” requires further explanation. This terminology was confusing because it was applied to oral and intravenous formulations. Which formulation is used was not always immediately clear. For example, in their table 1,1 were “median preoperative morphine equivalents” delivered orally or intravenously? The text implies that these equivalents are intravenous morphine. If this supposition is correct, then it appears to me that both groups of patients may be consuming more morphine equivalents at 6-week follow-up (data presented as median [interquartile range]). In fact, the placebo group appears to have much higher rates of morphine consumption at 6 weeks compared with their own preoperative consumption levels and the treatment group’s consumption at 6-week follow-up. There is a possibility that the treatment group’s 6-week follow-up consumption has also increased from the preoperative period, which is concerning. Can the authors clarify and comment on these points?

Third, the treatment group had more spinal levels operated on than did the control group. In fact, this difference reached statistical significance. However, this feature of the study was not addressed by the authors. Do the authors believe this difference was clinically significant?

Finally, with regard to these observations, specifically with respect to possible increases in morphine consumption among both groups at 6-week follow-up and the chronic nature of back pain, I believe that a more extended follow-up period is warranted. Do the authors plan to do this?

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Reference


In Reply:

The management of acute postsurgical pain in opiate-dependent patients is one of the most difficult clinical challenges in perioperative medicine. Although ketamine has been shown to be of value in some surgical settings for opiate-naïve patients, there is little information available pertaining to its use in opiate-dependent patients who need to undergo major and painful surgery.

Therefore, we designed our recent study1 to determine the role, if any, of an easily implemented intraoperative ketamine protocol on postoperative recovery parameters. The study, if positive, was designed to be the beginning of an ongoing effort to define optimal treatment for surgical patients who suffer from chronic preoperative pain. As such, we appreciate the opportunity to clarify the issues raised by Dr. Seigne.

Dr. Seigne expressed concern and asked for clarification regarding the fact that the amount of opiate used in the 48-h postsurgical period differed between the population reviewed in order to power the study and the actual study control group. The standard deviations for both groups are quite large. Thus, there was no statistically significant difference. Further, one would expect the groups to be different, given the intrinsic variability in the surgical population of interest.

Dr. Seigne was also concerned by the fact that the study patients, in both the treatment and placebo groups, appear to be using more pain medications at 6 weeks as compared to baseline, and that preoperative morphine use is presented as median (interquartile range) whereas postoperative use is reported as mean (SD). Preoperative morphine use is reported as median (interquartile range) because of the skewed nature of the data; this measure is a better reflection of the population. This was not the case for postoperative morphine use, however, making mean (SD) the more appropriate presentation. Results are reported in intravenous morphine equiva-