Situations Where Intravenous Lidocaine Should Not Be Used as an Analgesic Adjunct?

To the Editor:

In their excellent review, Dunn and Durieux[1] examine the use of perioperative intravenous lidocaine as an analgesic adjunct. There are situations where additional local anesthetics may be used, thereby raising the concern of local anesthetic toxicity. Such situations include patients receiving either a transverse abdominis plane block, another regional nerve block, infiltration of the wound, or instillation into a joint. It may be possible if infiltration, instillation, a transverse abdominis plane block, or other regional nerve block is administered at the end of the case that intravenous lidocaine can be used during the case, hopefully accruing some benefit, and then turned off at the time of the block. It might be that the waning of the lidocaine infusion blood levels will be roughly matched by the rising blood levels from the block and toxicity would be unlikely. Are there any data to guide the decision to use intravenous lidocaine in these situations and to verify the safety of this approach? It would seem that if the blocks are administered at the beginning of the case, there may be a higher risk of local anesthetic toxicity, but with a working block, the lidocaine infusion would not be as helpful.

I would be hesitant to use intravenous lidocaine for large liposuction cases, because there can be large doses of local anesthetic administered in the tumescent solution that can potentially cause the blood level to rise to toxic levels. It would seem safe to use intravenous lidocaine during spinal, but not epidural, anesthesia, because the amount of local anesthetic administered in a spinal is small. If the epidural infusion is maintained postoperatively, intravenous lidocaine would not be as helpful. Are there any data that addresses these situations?

Competing Interests

The author declares no competing interests.

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In Reply:

We thank Dr. Roth for his response to our Clinical Concepts and Commentary article.[1] Although the risk of local anesthetic toxicity in patients receiving intravenous lidocaine in combination with local anesthetic for wound infiltration or peripheral nerve block is an appropriate concern, to our knowledge no published data exist on this topic. Therefore, it is not possible to formulate recommendations. Intravenous lidocaine is a component of many enhanced recovery protocols and is an alternative to epidural analgesia in patients for whom placement is difficult or contraindicated.[2,3] Patients undergoing major abdominal procedures at our institution receive an infusion of intravenous lidocaine intraoperatively and for the first 24 h after surgery as part of a multimodal analgesic regimen. Usual doses of local anesthetic are used for skin infiltration in these cases, and we have not observed toxicity. Similarly, we routinely use intravenous lidocaine as a component of total intravenous anesthesia, with additional local anesthetic used for skin infiltration prior to incision. We avoid use of intravenous lidocaine in procedures where liposomal bupivacaine is used due to concerns for toxicity.

Competing Interests

The authors declare no competing interests.

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Pain as a Predictor of Disability in Elderly Population

To the Editor:

We would like to congratulate Kaiho *et al.* for their study published in the April 2017 issue. The study results showed that moderate-to-severe pain is significantly associated with a future risk of functional disability in patients with joint pain and/or fractures. The authors administered a cogent questionnaire to a significant sample size of the elderly population and then compared their findings to data from the Long-term Care Insurance database.[1]

In this study, it is interesting to note that pain severity was positively associated with disability due to joint pain and/or fractures, yet there was a negative association with disability due to dementia and no significant association with stroke. The authors administered a questionnaire to assess pain in all study participants; however, pain in conditions such as dementia and stroke often is underestimated and undertreated owing to the

limited ability of patients with these disease states to self-report.[2] Healthcare providers may need specialized skills, tools, and training to assess the severity of pain in patients with moderate-to-severe dementia.[2,3] The authors did not mention how pain was assessed in this subset of patients. Self-reporting should be used whenever it is appropriate, but behavior assessment tools are recommended in patients with advanced dementia.[4,5]

In elderly patients with dementia, various measures (tools) have been developed for caregivers to assess the severity of pain. Among those, the Pain Assessment Checklist for Seniors with Limited Ability to Communicate (PACSLAC) and the Pain Assessment in Advanced Dementia Scale (PAINAD) are found to have the strongest psychometric evidence.[5] Furthermore, PACSLAC-J is a modified scale developed mainly for the Japanese population with communication impairments.[6]

Taking the above factors into consideration, we believe that an assessment with the appropriate tools may show that the severity of pain increases the risk of disability in elderly patients with dementia. Overall, this is an excellent study with compelling results. However, the incidental disability due to pain may be more than what the study suggests. This is particularly true in patients with dementia. Future studies may need to focus on assessment of pain with appropriate tools in elderly patients with dementia to better understand the association between pain and disability in these patients.

Competing Interests

The authors declare no competing interests.

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In Reply:

Drs. Venkata, Upadhyay, and Talari expressed concern about our assessment of pain in elderly patients, assuming their limited ability to self-report. We agree that lack of precise evaluation of cognitive function of participants at baseline is a limitation of the present study. However, we excluded persons who already had been certified as disabled, by the Long-term Care Insurance information, at the start of the follow-up; therefore, all analytic subjects were considered to be capable of fully understanding the questionnaire and making valid and reliable responses.[1]

We evaluated the severity of pain using a verbal rating scale (VRS). Studies comparing various pain intensity scales showed that VRS and simple numeric rating scale (NRS) have the highest validity and reliability in rating pain intensity in older adults, even in those with mild cognitive impairment.[2,3] In 2007, VRS and NRS also were recommended as the best scales for guidance on the assessment of pain in elderly people by the British Pain Society and British Geriatrics Society.[4]

Although we discussed that our finding of a negative association between the severity of pain and functional disability due to dementia may be influenced by the impact that treatment with nonsteroidal antiinflammatory drugs has on dementia risk, our study did not assess medication use. Whether pain predicts future cognitive function is still an important question that needs to be answered. We also believe that further studies should be performed using detailed information, such as data on medication, the chronological change in pain, and the appropriate assessment of pain.

Competing Interests

The authors declare no competing interests.

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