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CORRESPONDENCE

In reply: Sugammadex in end-stage renal disease: too early for a "free-pass"

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To the Editor,

Magoon *et al.*[1] raise concerns regarding our retrospective review of sugammadex (SGX) use in patients with end-stage renal disease (ESRD).[2] We agree that our research suffers from a lack of data on quantitative neuromuscular monitoring. Our own institution is a strong proponent of quantitative neuromuscular monitoring whenever neuromuscular blocking agents (NMBA) are utilized and since the time frame of our study, we now integrate this information into our anesthesia records as recommended by a recent international panel of experts.[3]

We also agree that cardiac complications are particularly important as such side-effects have been described following administration of SGX. We did provide data in Appendix 2 regarding cardiac complications after 30 days but did not extract intraoperative hemodynamic values that would have allowed us to comment on the incidence of bradycardia or arrhythmia following SGX administration in patients with ESRD. Nevertheless, we can confidently share that no instances of cardiovascular collapse occurred following SGX administration in our cohort, as all anesthetic records, recovery room course, and postoperative notes were fully reviewed for our study. Based on a recent meta-analysis,[4] we would expect the incidence of serious adverse events (such as cardiac collapse) following SGX administration to be approximately 1%. Interestingly, this incidence is less than such events associated with neostigmine, although this difference did not reach significance ($P = 0.091$).[4] While cardiovascular events are dramatic and must be reported, the incidence of postoperative residual weakness remains unacceptably high and much more common than cardiac arrhythmia following NMBA antagonism. This meta-analysis also showed that SGX significantly reduced the incidence of residual weakness when compared with neostigmine ($P < 0.001$). Nonetheless, we recommend slow administration of SGX (over ~30 sec) and maintaining hemodynamic monitoring in an effort to detect infrequent cardiovascular perturbations during emergence.

The retrospective nature of our efforts and lack of control group means readers must place our results in the appropriate context. It is our hope that this effort can serve as an important reference for future researchers as they work to design prospective randomized-controlled trials for this "off label" use of SGX. While we have not issued a "free pass" to utilizing SGX in patients with ESRD, we do provide incremental evidence that this drug can be an option to reverse neuromuscular blockade in this patient population. There are various paths that clinicians can take to reach the destination that is restored neuromuscular function. Unfortunately, none of these paths are "free" as they all carry some degree of risk.

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