

in reduced release of myoglobin or better outcomes for patients? Where is the evidence that future patients will benefit if we follow Lee's advice to update the advantages and disadvantages of succinylcholine in light of the study by Turan *et al.*? Should we interpret this study to say that statins should be withdrawn in patients who will require succinylcholine? I think the most prudent course is to interpret the data in the same way as the authors: "the effect of succinylcholine given to patients taking statins is likely to be small and probably of limited consequence."

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## References

1. Turan A, Mendoza ML, Gupta S, You J, Gottlieb A, Chu W, Saager L, Sessler DI: Consequences of succinylcholine administration to patients using statins. *ANESTHESIOLOGY* 2011; 115: 28-35
2. Lee C: Succinylcholine should be avoided in patients on statin therapy. *ANESTHESIOLOGY* 2011; 115:6-7

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## In Reply:

I welcome de Oliveira's and Butterworth's balancing views on whether succinylcholine should be avoided in patients on statin therapy. Succinylcholine has proven controversial again, as it has repeatedly for decades. With no intention to suggest a contraindication, my standpoint remains, "Why succinylcholine at all?" *versus* "Why not succinylcholine?" Since its introduction, so many relaxants of better pharmacological profile have been developed that I believe succinylcholine would be more valuable if it is used only when it is advantageous or specifically indicated.<sup>1</sup> This is not the case in patients on statin therapy.<sup>2</sup> A minor disadvantage is still a disadvantage, and therefore undesirable, considering that it can easily be replaced.

I appreciate de Oliveira's concern about using a statement instead of a question in the title of my editorial. This was specifically considered before its submission for publication. After so many have been raised, why bother just raising another question? Instead, I opted to raise a point, and justify it with a balanced review of the history, economics, and pharmacological profiles of succinylcholine, which I have followed for decades.<sup>1</sup> Specific indications for succinylcholine were updated.<sup>1</sup> Contrary to de Oliveira's perception that I

might have a negative personal experience, I have always advocated for succinylcholine where it is advantageous. For example, I still suggest that if one dose of succinylcholine has worked well in a patient, it is quite handy to extend its use for as long as significant Phase II block can be avoided. Most serious problems with succinylcholine occur with the first dose, when its advantage of rapid recovery and low cost has not yet been fully exploited. Also of note is that in obstetric anesthesia, where rapid-sequence induction-intubation is often indicated, the rapid onset and offset features of succinylcholine often make it the relaxant of choice.

My statement, "many inexpensive anesthesia drugs have been removed from anesthesia practice, why not succinylcholine," as quoted by de Oliveira, should be read in its context. It was made specifically against the cost-saving argument for succinylcholine. Unless specifically indicated, a dose of succinylcholine followed shortly by a nondepolarizing relaxant is often a waste, an unnecessary risk, and expensive for a few minutes of relaxation. The procurement, stocking, dispensing, and recording of succinylcholine usage are no less expensive than other relaxants, especially considered on a per-minute basis.

According to Butterworth, "we do not have evidence that avoidance of succinylcholine in patients receiving statins will improve outcomes." I would not wait for a large-scale outcome study to note the new evidence that succinylcholine adds to statin-related muscle damage, which admittedly appears minor in a limited study. I would neither expect a large-scale outcome study to show any new advantage of succinylcholine. Butterworth further asked, "Should we interpret this study as to say that statins should be withdrawn in patients who will require succinylcholine?" Possibly, but the question is not germane if succinylcholine can readily be replaced to begin with. How many patients on statin therapy "require" succinylcholine?

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## References

1. Lee C: Succinylcholine should be avoided in patients on statin therapy. *ANESTHESIOLOGY* 2011; 115:6-7
2. Turan A, Mendoza ML, Gupta S, You J, Gottlieb A, Chu W, Saager L, Sessler DI: Consequences of succinylcholine administration to patients using statins. *ANESTHESIOLOGY* 2011; 115: 28-35

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