CORRESPONDENCE

Uncertainty in the methods and interpretation of a meta-analysis of airway complications from lidocaine lubrication

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To the Editor,

I very much appreciated reading the meta-analysis by Liao *et al.* examining the use of lidocaine lubricants to prevent intubation-related complications.¹ The authors concluded that lidocaine lubricants applied on endotracheal tube did not prevent postoperative sore throat. Nevertheless, their study methods and interpretation were questionable.

Firstly, Liao *et al.* described that they pooled the data with a DerSimonian and Laird random-effects model. Nevertheless, it appears that they actually did so using a Mantel-Hansel random-effects model; this inconsistency should be clarified. They also stated that they assessed publication bias using Egger's test. Nevertheless, their methods state that Review Manager (Cochrane Collaboration, Oxford, England) was used to do the analysis, and this test is not actually contained in that software package. Clarification on how this was accomplished would be helpful. An additional issue is that Liao *et al.* included a study by Kori *et al.* That study was not a randomized-controlled trial,² so it should have been excluded from their analysis.

There also appears to be an issue with the trial sequential analysis (TSA) they performed. They suggested that the TSA supported the rejection of any benefit of lidocaine lubrication. Nevertheless, because the Z-curve did not cross the futility line, the TSA more

correctly suggests that the current null efficacy of lidocaine lubrication is a “false-negative”.

Lastly, Liao *et al.* seem to have modified numerous times their review protocol that had been registered on PROSPERO (CRD42017073259). This kind of post hoc protocol violation is generally prohibited, because additional analyses could lead to a significant finding simply by chance; thus, this modification requires some clarification. These methodologic limitations add considerable uncertainty to their study.

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References

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This letter is accompanied by a reply. Please see *Can J Anesth* 2020; this issue.

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