CORRESPONDENCE

Comment on “Anesthetic technique and cancer outcomes: a meta-analysis of total intravenous *versus* volatile anesthesia”

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To the Editor,

We read with great interest the article entitled “Anesthetic technique and cancer outcomes: a meta-analysis of total intravenous *versus* volatile anesthesia” by Yap *et al.*¹ This article gathers currently available evidence and provides valuable information about the effects of different anesthetic techniques on cancer prognosis. Nevertheless, we question whether some of its analyses may need some modification.

In the analysis of recurrence-free survival (RFS), Yap *et al.* used volatile anesthesia as the reference group to generate the hazard ratio (HR) for RFS with the use of total intravenous anesthesia (TIVA), reporting that the TIVA was associated with an improved RFS (pooled HR, 0.78; 95% confidence interval [CI], 0.65 to 0.94; $P < 0.01$). Although the Oh *et al.* study² (that was included in the Yap *et al.* meta-analysis) reported the unadjusted HR of RFS

also using volatile anesthesia as the reference group (HR, 1.339; 95% CI, 0.935 to 1.916; $P = 0.111$), it appears that Yap *et al.* inverted the HR (and 95% CI) extracted from the Oh *et al.* study to its reciprocal value, which led to an overall effect in the opposite direction (i.e., in favour of TIVA).

We re-performed the meta-analysis of the HR of RFS with Review Manager (RevMan version 5.3, The Nordic Cochrane Centre, The Cochrane Collaboration, 2014, Copenhagen, Denmark) using the generic inverse variance method with a random-effect model to pool the data and entered the unadjusted HR extracted from the Oh *et al.* study without inversion. Meanwhile, we did not alter the other data of the included studies. This yielded a result where TIVA, compared with VA, showed no significant benefit in terms of RFS (pooled HR, 0.87; 95% CI, 0.66 to 1.15; $P = 0.33$). Thus, TIVA may not necessarily have the beneficial impact on RFS that has been implied by Oh *et al.*² and others.³

This letter is accompanied by a reply. Please see Can J Anesth 2020; 67: this issue.

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