Does anaesthetic dose really not contribute to mortality?

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Editor—We read with great interest the article by Willingham and colleagues1 evaluating the association between the duration of electroencephalographic (EEG) suppression and 90-day mortality, using the retrospective cohorts from B-Unaware and BAG-RE-CALL trials. Their results show that >5 min of intraoperative EEG suppression increases the risk of 90-day mortality (OR=2.19) when adjustment was not made for confounding variables. However, after adjustment, there was no significant between-group difference. The ‘EEG suppression×low MAP’ factor was an independent predictor of mortality, while low MAP by itself was not. This leads to the conclusion that patients with intraoperative EEG suppression >5 min and MAP<55 mm Hg are at a high risk of 90 day mortality (OR=2.96).

The fact that EEG suppression in the absence of other covariates was not predictive of mortality would reinforce the idea that higher anaesthetic agent utilization per se may not be associated with higher mortality. While the interaction term ‘EEG suppression×low MAP’ does help to identify a subgroup of patients with higher risk of mortality, we wish to point out that both the factors contributing to the interaction term could result from a high dose of anaesthetic. The interpretation becomes even more complicated if one considers the fact that hypotension by itself may cause EEG suppression2 and hypotension may have resulted from a high dose of anaesthetic. This ambiguity could be resolved by using the anaesthetic dose as a covariate in the logistic regression model. If significance of the predictive model is still retained, then one may confidently rule out the association of higher anaesthetic doses with mortality.

Declaration of interest

None declared.

References


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Perioperative management of diabetic patients: new controversies

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Editor—We read with interest the recent editorial Perioperative management of diabetic patients: new controversies.1 This is indeed a topic which continues to cause confusion amongst those involved in the perioperative care of these patients.

We agree with the assertion that the guidelines published by the National Health Services Diabetes in the UK2 act as a useful ‘work in progress’ to help guide our management of diabetic patients, and also with the author’s suggestion that such guidelines will need to continue evolving over time, as new treatments are developed and fresh evidence emerges.

However, we would like to raise a note of caution regarding the conclusion that all diabetic patients, with normal renal function, who are being treated with metformin should continue their medication throughout the perioperative period. Whilst the risk of developing metformin- associated lactic acidosis is indeed low for such patients in most circumstances,3,4 the specific conditions that arise in patients undergoing liver surgery (fluid restriction and impaired liver function secondary to both the pathological process and the treatment for it (i.e. resection with or without neo-adjuvant chemotherapy) make them a particularly high risk group for suffering this complication.

Our unit is a tertiary hepatobiliary centre and routinely performs over 100 liver resections each yr. In the last decade we have seen a handful of diabetic patients with metformin-associated lactic acidosis who had inadvertently continued their metformin up until the morning of surgery. One such patient,