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Guilt by association?

Letter to the Editor:

We read with interest the article by Han *et al.*¹ on the use of laryngeal mask airway in Cesarean delivery. We agree with the editorial by Roanne Preston² that regional anesthesia (RA) is the preferred choice of anesthesia for Cesarean delivery. However, we disagree with Dr. Preston's assertion that Hawkins *et al.*³ data showed general anesthesia (GA) to be 16 times more lethal than RA. David Chestnut⁴ pointed out the serious limitations of the statistics and their interpretation not the least of which was that at risk patients may have received GA instead of RA.

The British have been rigorously collecting data on maternal mortality. The data is much more complete and in their most recently published triennium of 1994–96,⁵ there was only one death solely attributed to anesthesia. It was a regional anesthetic.

Josten *et al.*⁶ reported their experience with maternal mortality from 1988 to 1996. Of 890,422 births, there were no fatalities attributable to anesthesia. The distribution of anesthesia for Cesarean section was 60.8% GA and 39.2% RA during this time period. There is no suggestion from the German data that one technique is better than another, but that they are both safe.

We believe RA to be the preferred technique to GA but think we are doing ourselves as a group a disservice by stating there is a 16-fold lethality associated with GA over RA. This may be guilt by association, not by causality. By branding GA as intrinsically much more dangerous we encourage other health care

providers, regulators, and the public to consider it reckless disregard any time we elect to, or have to, administer a GA. More hard data is needed before we can come to meaningful conclusions and statements.

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Bedside indices to predict weaning from mechanical ventilation

To the Editor:

An experienced intensivists may be able to predict whether a patient can be weaned successfully from mechanical ventilatory support or not. However, it is always helpful to have criteria on the basis of which the outcome may be predicted. After the introduction of the rapid shallow breathing index - the frequency to tidal volume ratio ($\text{breaths}\cdot\text{min}^{-1}\cdot\text{L}^{-1}$) by Yang and Tobin,¹ many studies have found it to be a very effective and simple bedside index.^{2–4} In an attempt to further improve the accuracy of this index, we modified it by incorporating the weight of the patient as the ratio of frequency to the tidal volume corrected for patient's weight ($\text{breaths}\cdot\text{min}^{-1}\cdot\text{mL}^{-1}\cdot\text{kg}^{-1}$). We hypothesized that the tidal volume corrected for the

TABLE Accuracy of indices

<i>Index</i>	<i>Threshold value</i>	<i>Sensitivity</i>	<i>Specificity</i>	<i>Positive predictive value</i>	<i>Negative predictive value</i>
Minute ventilation (L·min ⁻¹)	≤ 15	0.83	0	0.73	0
Respiratory frequency (breaths·min ⁻¹)	≤ 38	0.91	0.14	0.78	0.33
Tidal volume (mL)	≥ 325	0.70	1.00	1.00	0.50
Tidal volume/patient's weight (mL·kg ⁻¹)	≥ 4	1.00	0.29	0.82	1.00
Maximal inspiratory pressure (cm H ₂ O)	≤ -15	0.96	0.14	0.79	0.50
Frequency/tidal volume (breaths·min ⁻¹ ·L ⁻¹)	≤ 105	0.96	1.00	1.00	0.88
Frequency/tidal volume/patient's weight (breaths·min ⁻¹ ·mL·kg ⁻¹)	< 7	1.00	1.00	1.00	1.00

patient's weight would be more accurate than the tidal volume *per se* as an absolute value since it eliminates the factors contributed by the anthropometric differences in individuals.

After approval by the Ethical Committee, adult patients admitted to a Multidisciplinary Intensive Care Unit for mechanical ventilation were studied. The diagnoses included adult respiratory distress syndrome, chronic obstructive pulmonary disease, pulmonary edema of various origins, pneumonia and lung abscess. The number of days of mechanical ventilation ranged from four to 16 days. The minute ventilation (V_E) and the frequency of respiration (f) were measured using a Wright respirometer. The spontaneous tidal volume (V_T) was calculated by dividing ' V_E ' by ' f '. This V_T was then corrected for patient's weight. The primary clinicians were blinded to the measurements of the study and decision regarding extubation or re-institution of mechanical ventilation was left to their discretion. None of them used the rapid shallow breathing index for their decision-making. Weaning was considered successful if the patient could sustain spontaneous breathing without any form of ventilatory support for 24 hr and longer.⁵ Among the 30 patients studied, 23 were weaned successfully while weaning failed in seven patients due to several reasons. The threshold value of "7" for the modified index was fixed by a *post hoc* analysis. The accuracy of each index is shown in the Table.

The rapid shallow breathing index - the f/V_T ratio is a very useful bedside criterion to predict weaning outcome. The modification of this index as the ratio of

f to the V_T corrected for patient's weight was more accurate in predicting the outcome of weaning in our patients. This has to be further validated by a larger prospective study.

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