



## Predictors of GA in CD: a response to Townsend et al.

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To the Editor:

We thank Townsend et al. [1] for their interest in our study [2] and for their comments. The authors raised several questions that warrant clarification.

They suggested that our study failed to identify important maternal risk factors due to the methodological approach. We should clarify that during the design stage of the study we initially considered more than 20 potential risk factors for urgent/emergent Cesarean delivery under general anesthesia (GA), including maternal factors. However, after a thorough multidisciplinary discussion on what we believed to be the most clinically relevant and frequently occurring in our practice, we identified 10 risk factors and hence used the appropriate sampling method for the given study period [1]. While this list may not be entirely comprehensive or complete, we believe that our choice does not compromise the accuracy of our data, and we would certainly welcome future studies with larger sample sizes that might elicit other risk factors.

With respect to their suggested risk factors and supporting references, we believe that the differences may reflect a different clinical practice than ours. As an example, the administration of GA for patients with obesity class 3 and preeclampsia is not consistent with the practice at our

tertiary care institution—on the contrary, at our institution, we prioritize the provision of regional anesthesia for patients with these comorbidities [3]. Furthermore, while we did not report on race and ethnicity, it is our practice to advocate for regional anesthesia for all of our obstetric patients.

We agree and acknowledge the ASA's statement that GA may be the most appropriate choice in certain circumstances [4]. However, even in some urgent or emergent intrapartum scenarios, regional anesthesia may still be a feasible option with steps taken such as active surveillance of labor epidural catheters and frequent, multidisciplinary communication. Palanisamy et al. have demonstrated this with their overall rate of GA for Cesarean delivery of 0.5–1% at their comparable tertiary care center [5]. We recognize that there might be institutional variation in practice as well as variation amongst providers within an institution, and this limitation is described in detail in the discussion section of our manuscript [2].

We thank Townsend et al. for highlighting the discrepancy on the incidence of abnormal fetal heart rate in Tables 2 and 3. The discrepancy arose because we grouped the subcategories of maternal/fetal compromise together (abnormal fetal heart rate, cord/fetal prolapse, placental abruption) in an attempt to broadly encompass the idea of limited time for decision-making. We recognize that this may have caused confusion in interpreting the data. Furthermore, we acknowledge the errors in cord/fetal prolapse numbers, as there were 14 in total with 13 proceeding under GA (should be corrected to “13” in Table 3), and the error in Table 5 with respect to the  $n$  values for the RA and GA groups (should be  $n = 102$  and  $n = 105$ , respectively).

Finally, the backward variable selection method we used is appropriate to assess the effects of all variables simultaneously. In fact, according to the reference Townsend et al. provided, the performance of the backward variable selection was close to the “purposeful selection of variable” method proposed by Bursac et al. and may be better than the “stepwise” method [6].

While we recognize the limitations of our study, including those brought forward by Townsend et al., we believe

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that our study provided very useful information for our own practice and to other institutions with similar clinical practice patterns. Furthermore, it also serves as a starting point for future investigations that are much needed into this important topic.

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