## *Evaluating the Use of the Tobin Index on Mechanical Ventilation Weaning after General Anesthesia*

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To the Editor,

First, we would like to congratulate the authors for the article "Evaluating the use of the Tobin index on mechanical ventilation weaning after general anesthesia" published in this journal [1]. The subject is extremely important for clinical decisions of Intensive Care Units (ICU) professionals and represents a reference for the adequate transition from mechanical ventilation and spontaneous ventilation after general anesthesia.

Some considerations should be made regarding the procedures undertaken by the investigators in the study. The authors observed that patients with postoperative Tobin index between 80 and 100 c.L. $^{-1}$min$^{-1}$ had a higher risk of clinical intercurrences post-extubation. However, according to the Brazilian Society of Pneumology the term weaning refers to the transition from mechanical to spontaneous ventilation in patients on invasive ventilation for more than 24 hours [2]. Therefore, in this study weaning was not done, patients were simply extubated.

As for the individuals included in the study, the population was heterogeneous, which was demonstrated by the significant differences between both groups regarding age, weight,

smoking, and anesthetic risk. We suggest that population pairing should have been made according to the operative risk as determined by the classification of the American Society of Anesthesiologist (ASA) since high risk patients (mostly in group II) could have a greater incidence of complications and worse predictive failure index, which was seen in the study. Not using the ASA classification could have interfered with the variables of the Tobin index, length of stay in the post-anesthetic care unit (PACU), and clinical intercurrences after extubation.

Thus, the results of the study could have been influenced by the significant difference in the characteristics of the study population, such as age, weight, and smoking. According to Saad, several factors increase the risk of pulmonary complications after abdominal surgeries, and obesity can cause a reduction in coughing effectiveness, basal atelectasis, progressive hypoxia, and accumulation of pulmonary secretions [3]. Analyzed isolatedly, age does not constitute an isolated postoperative risk factor; however, it can interfere with lung function when associated with other factors [4]. Smoking also constitutes a risk factor for postoperative complications even in individuals who do not have lung diseases and the patient should stop smoking at least eight weeks before surgery [5].

Although there are controversies in the scientific literature on the use of predictive indexes, this study presents relevant clinical information for the different professionals who work with this type of patient.

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