

## Immediate Hemodynamic and Gaseous Exchange; Effect of Bi-Level Positive Airway Pressure after Cardiac Surgery: Our Insight to Hamid *et al.*'s Study

The Editor,

Cardiopulmonary dysfunction is a very critical aspect that needs consideration in postoperative cardiac surgical patients. We read with great interest this article about hemodynamic and gaseous exchange effects of BiLevel positive airway pressure (BiPAP) in post-cardiac surgery.<sup>[1]</sup> This is an exciting yet controversial topic, with significant relationships with postoperative complications such as cardiac failure and others. In this study, the authors focus on cardiovascular parameters. We feel that a few aspects of the study need more information for better acceptance of the result.

First, the authors use this ventilator mode in non-hypercapnic patients, which may influence interpretation.<sup>[2]</sup> Also, echocardiographic evaluation and cardiac function correlations, if done, will provide us with better insight. It is known that the hemodynamic response is related to cardiac function and pulmonary hypertension. These are two main factors that are correlated with BiPAP, which authors need to take into account.

Second, it is vital to know the comorbidities, especially chronic obstructive pulmonary disease in patients enrolled.<sup>[3]</sup> Eight (24.2%) patients were obese and the majority were male in the study. We are not aware of the obstructive sleep apnea status of the patients. As these patients are likely to require different (higher) BiPAP settings, it is critical to know whether the authors have used different pressures or not. This aspect is essential to understand the results.

Third, pain and sedation are important aspects that can affect hemodynamics and pulmonary function (gaseous exchange) in postoperative patients.<sup>[4]</sup> Further, the authors consider that the BiPAP application was also able to decrease the need for reintubation in post-cardiac surgery; however, this topic is controversial.<sup>[5]</sup> In this aspect, the readers will get benefitted from the re-intubation criteria, pain, and sedation related management and data. Thanking you and the authors

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### Conflicts of interest

There are no conflicts of interest.

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