



Neuromuscular blockade for early severe acute respiratory distress syndrome: Does sedation make the difference?

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Drs. Needham and Brindley provided a thorough analysis of the paper by Dr. Papazian *et al.* regarding the use of cisatracurium in the early management of severe acute respiratory distress syndrome.^{1,2} However, it is important to consider that the observed benefit might be an unintended consequence of the sedative prescription rather than a direct effect of neuromuscular blockade (NMB). When converted to morphine equivalents, the control group received an average of 1,200 mg more morphine over the first seven days than the NMB group (5,000 μg vs 3,800 μg sufentanil equivalents; $P = 0.54$). Conversely, patients in the NMB group received twice as much ketamine as those in the control group (28,968 mg vs 14,220 mg over seven days, or an average of 2.5 $\text{mg}\cdot\text{kg}^{-1}\cdot\text{hr}^{-1}$ compared with 1.2 $\text{mg}\cdot\text{kg}^{-1}\cdot\text{hr}^{-1}$ for a 70 kg patient; $P = 0.06$). Although neither difference reached statistical significance, the hemodynamic effects of these differences could be important, as opioids are potent venodilators while ketamine has vasoconstricting properties.^{3,4}

Unfortunately, the study only partially addressed this question. The control and NMB groups were similar with respect to the duration of vasoactive drug support, but the analysis of hemodynamic support did not consider accumulated fluid balance as a variable. Consequently, it is unknown whether differences in the amount of intravenous fluids were necessary to maintain hemodynamic stability. This may be relevant, as a restrictive fluid strategy has been

shown to improve outcomes in patients with acute lung injury when compared with a more liberal approach.⁵

The reasons behind the differences in the sedation prescription of the two groups are unclear. Perhaps the use of NMB influences the treating physician's perception of anesthetic requirements and the consequent prescription of ketamine is considered a dissociative anesthetic agent. Perhaps the elimination of the visible manifestations of respiratory distress results in less opioid administration. Regardless of the reason, attributing the benefit observed in this study to a direct effect of NMB may be premature in the absence of an assessment of differences in fluid administration.

Conflicts of interest None declared.

Editor's Note: The authors of the article, Can J Anesth 2012; 59: 105-8, respectfully declined an invitation to submit a reply to the above Letter to the Editor.

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