https://doi.org/10.1590/1806-9282.20230269

Comment on "Continuous clonidine infusion: an alternative for children on mechanical ventilation"

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Dear Editor,

We read with great interest the article entitled "Continuous clonidine infusion: an alternative for children on mechanical ventilation" by Neves et al.[1]. This study highlights the potential benefits of using clonidine infusion as a sedative for mechanically ventilated children, which is a welcome addition to the current options available for pediatric sedation. The authors have done an excellent job of providing a detailed account of their experience with clonidine infusion in pediatric patients. The study's findings indicate that clonidine infusion was an effective sedative with a lower incidence of adverse effects compared to the commonly used sedatives such as benzodiazepines and opioids. The results are significant and can have a considerable impact on the care of mechanically ventilated pediatric patients. However, we would like to raise the following potential concerns.

First, the authors stated that the target sedation level was determined subjectively based on the individual patient's clinical status and therapeutic goals. However, it is unclear which indications were used to determine the target sedation level. This subjectivity may introduce bias into the study results and limit the generalizability of the findings. We believe that it would have been better if the authors had used a well-known sedation score, such as the Richmond Agitation-Sedation Scale (RASS)[2,3] or relevant pediatric sedation score[4], to determine the target sedation level. This additional information would have provided a more objective measure of the level of sedation and allowed for more accurate comparisons with other studies using similar sedation methods.

Second, it would be beneficial to discuss the potential advantages and disadvantages of continuous clonidine infusion compared to other methods using sedatives such as benzodiazepines or propofol. For example, clonidine has been shown to have less impact on respiratory drive compared to benzodiazepines, which could be particularly relevant in children on mechanical ventilation. Additionally, the potential for rebound hypertension and bradycardia should be considered when using clonidine for sedation, and appropriate monitoring and dose adjustments should be implemented. Furthermore, it would be interesting to discuss the potential implications of this study on the future of sedation management in critically ill children. Could continuous clonidine infusion become a first-line option for sedation in this population, or should it be reserved for specific patient populations or situations? Could this approach lead to fewer adverse events associated with sedation in critically ill children, and could it lead to shorter durations of mechanical ventilation and ICU stay?

Third, this study collected data on heart rate (HR), mean arterial pressure (MAP), diastolic blood pressure (DBP), and systolic blood pressure (SBP) in three time periods. However, since the study was performed in a pediatric intensive care unit (PICU), it is crucial to monitor these parameters continuously throughout the entire procedure of continuous clonidine infusion. This is because transient hypotension, tachycardia, or bradycardia can easily be missed if only measured in three time periods. It is suggested that future studies on this topic should consider continuous monitoring of HR, MAP, DBP, and SBP to ensure accurate and comprehensive data collection. This will provide a more detailed understanding of the safety and efficacy of clonidine infusion for sedation in mechanically ventilated children.

AUTHORS' CONTRIBUTIONS

YZ: Conceptualization, Investigation, Supervision, Writing – original draft. **LS**: Conceptualization, Investigation, Supervision, Writing – review & editing.

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Conflicts of interest: the authors declare there is no conflicts of interest. Funding: none.
Received on March 05, 2023. Accepted on March 16, 2023.

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