A retrospective study on the use of continuous clonidine infusion for sedation in critically ill paediatric patients

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ABSTRACT

Introduction: The off-label use of clonidine as a sedative agent is gaining recognition as it has shown favorable sedative effect with lower risk of tolerance and dependence. **Objective:** To evaluate the effectiveness and safety of clonidine as an alternative sedative agent in critically ill children and to identify factors for clonidine dose requirements. **Materials and Methods:** A retrospective cohort study was conducted on data between June 2020 and April 2023 from paediatric intensive care unit (PICU) of Hospital Tunku Azizah. **Results:** A total of 38 mechanically ventilated patients receiving clonidine for sedation were included. The median age of patients was 2.1 years (IQR 1.1-6.1). Median dose of clonidine used was 0.58mcg/kg/hr (IQR 0.39-0.79) at the first 24 hours of infusion. There were significant reductions in the dose of midazolam (p=0.040) and dexmedetomidine (p<0.001) with clonidine use. There was no correlation between clonidine dose and hemodynamic changes or vasoactive inotropic score. Patients who weigh <12kg were 9 times more likely to get a clonidine dose of ≥0.6 mcg/kg/hr at first 24 hours of infusion (OR:9.086; 95% CI:1.574–52.463; p=0.014). Whereas, patients with longer PICU stay prior to the start of clonidine were 13% less likely to receive higher clonidine dose (≥0.6mcg/kg/hr) at the first 24 hours of infusion (OR:0.874; 95% CI:0.767–0.996; p=0.044). **Conclusions:** Clonidine is an effective and safe sedative agent in critically ill children. Patients' weight and length of PICU stay prior to the of start clonidine were significant factors that affect clonidine dose for the first 24 hours of infusion.