00069 Incidence and Predictors of Respiratory Adverse Events in Children Undergoing Procedural Sedation With Intramuscular Ketamine in Paediatric Emergency Department

Lee Jia Le, Tham Lai Peng

KK Women's & Children's Hospital

Aims: Though ketamine is one of the safest medications used in procedural sedation in children, respiratory adverse events can still occur. To our knowledge, currently, there has been no Asian study done on the predictors of respiratory adverse events. This study aimed to determine the incidence and to find factors associated with respiratory adverse events in children undergoing procedural sedation with intramuscular (IM) ketamine in a paediatric emergency department (ED) in Singapore.

Methodology: A retrospective analysis was done on all children who underwent procedural sedation with IM ketamine in the paediatric ED between 1 April 2013 and 30 November 2017. The demographics and epidemiological data, including any adverse events and interventions were extracted electronically from the prospective paediatric sedation database in the ED. The site of procedure was determined by review of medical records. Descriptive statistics were used for the incidence and baseline characteristics of the patients.

Univariate and multivariate logistic regression analyses were performed to determine the significant predictors.

Result: Out of 5,568 children who underwent procedural sedation with IM ketamine in the ED during this period, 120 (2.2%) developed respiratory adverse events. None of the patients required intubation or cardiopulmonary resuscitation. The incidence rate was higher in children aged below 3 years old at 4% (OR 3.217, 95% CI 2.225 – 4.650; p <0.001). Higher initial dose of IM ketamine administered (4mg/kg vs. 3mg/kg) was also a significant predictor (OR 2.139, 95% CI 1.469 – 3.116; p <0.001). Gender, ethnicity, time of arrival in ED, diagnosis, top - up dose of IM ketamine, failed LA, additional sedatives and analgesia, morphine, and types and sites of procedure were not significant predictors.

Conclusion: The overall incidence rate of respiratory adverse events is 2.2%. Age and initial dose of IM ketamine are significant predictors.