Infants on Home Cardiorespiratory Monitors: A Single Center Retrospective Study

S. P. Shah¹, F. Martinez¹, A. S. Kasi²; ¹Emory University, Atlanta, GA, United States, ²Pediatric Pulmonology, Emory University, Atlanta, GA, United States.

RATIONALE: Infant home cardiorespiratory monitoring (HCM) has not been shown to decrease the incidence of sudden infant death syndrome (SIDS). However, these devices are sometimes prescribed to detect apnea and bradycardia in infants at risk for these conditions. Abnormal events identified on HCM may influence management decisions. Outcomes and events in infants on HCM are not well known. METHODS: Retrospective chart review of infants on HCM followed at a large tertiary children’s hospital between 2017 and 2018 was conducted. The analyzed data included the following: gender, gestational age, indications, duration of monitoring, events recorded, reasons for discontinuing HCM, and mortality. RESULTS: We identified 750 infants on home cardiorespiratory monitoring, 374 females. The mean gestational age was 33.7 ± 4.8 weeks (range 22-42 weeks). Indications for HCM included: brief resolved unexplained event (BRUE, 66%), apnea of prematurity (15%), airway obstruction (3% - cleft palate, airway malacia, Pierre Robin syndrome), sibling of SIDS patient (6%), feeding dysfunction (7.5% - dysphagia, gastroesophageal reflux disease), and seizures (2.5%). The mean duration of HCM was 66.3 days. The recorded events included apnea (11%), bradycardia (30%), apnea and bradycardia (6%). There were no recorded events in 53% infants. HCM was discontinued in all infants and the reasons for discontinuing HCM included: physician orders (51%), against medical advice (19%), lost to follow up (8%), and termination of service (22%) when there were no downloads obtained over 4 months. There were 5 (0.7%) deaths during the study period. CONCLUSIONS: Our study demonstrates several underlying diagnoses in infants as indications for home cardiorespiratory monitoring. We conclude that most of our patients on HCM did not have any recorded events such as apnea or bradycardia. Ongoing analysis of our data comparing indications for HCM with frequency of events and duration of monitoring may help identify infants who would benefit the most from HCM.

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