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Determination of post menstrual age and weight at extubation and its relationship with extubation success in premature infants at a neonatal intensive care unit in a tertiary hospital in Manila, Philippines: A 10-year retrospective study

Abstract:

Background: Respiratory distress at birth is commonly seen in preterm neonates, which may necessitate non-invasive respiratory support and, if this is unsuccessful, mechanical ventilation. However, prolonged mechanical ventilation (MV) is associated with risks. The decision to do so often depends on clinicians' personal experiences, clinical judgement through interpretation of blood gas values as ventilator settings are weaned down, and a perception of the increasing lung maturity of the neonate.

Objective: To determine the post-menstrual age and weight at extubation, and their relationship with extubation success in premature infants at a neonatal intensive care unit in a private tertiary hospital. **Methods:** A retrospective study was done to assess the patient demographics, maternal variables, neonatal comorbidities, ventilator parameters, clinical parameters and blood gas values of preterm neonates previously endotracheally intubated in the neonatal intensive care unit of a private, tertiary hospital from January 1, 2013 to December 31, 2022

Results: The study included 156 patients, of who 127(81%) underwent successful endotracheal extubation. Compared to those who were unsuccessfully extubated, those successfully extubated were significantly older in gestational age at birth (median:30 weeks) heavier at birth (median:1076grams); older at extubation(median corrected age:30.6weeks);and heavier at the time of extubation(median:932grams). The proportion of female neonates successfully extubated was higher. On further analysis, weight at the time of extubation and female sex were the only two factors that were significantly associated with successful extubation.

Conclusions: Only weight at extubation (median, 932 grams) and female sex were the only two factors significantly associated with successful endotracheal extubation.

Biography

Michaela M. Alvarez, MD has completed her Doctor of Medicine from De La Salle Health Sciences Institute and completed her Pediatric Residency at Makati Medical Centre. She has recently passed the written specialty exam of the Philippine Pediatric Society and is currently applying for a Pediatric Fellowship Program locally. Audience Take away notes: This study demonstrated that the gestational age at birth, birthweight, weight at time of extubation and female gender were the significant factors to consider when deciding on when to extubate a preterm neonate. It is recommended that this same study be done as a prospective, multi-institution observational study