

TRANSITIONAL NEONATOLOGY: HOW TO OPTIMIZE CARE FOR AN OLDER NICU POPULATION

Robert C Lynch¹, Bheru Gandhi², Lakshmi Katakam²

¹ Baylor College of Medicine, Department of Pediatrics, Neonatology

² Texas Children's Hospital, Pediatrics, Neonatology

Background: Survival rates for high risk NICU populations are increasing and have been associated with higher morbidity and prolonged length of stay. As a result, a new population of technologically dependent, medically complex infants is expanding. This cohort brings new challenges as it exposes neonatologists to pathophysiology they are not specifically trained to manage. To meet this challenge, the Neonatology and Critical Care sections at Texas Children's Hospital (TCH) collaborate to determine where these patients will receive the most age appropriate care. We analyzed the patients transferred between the sections to show the evolution of the age at transfer and length of stay in the respective units.

Materials/Methods: Retrospective analysis of transfers from NICU to PICU or TICU (previously PCU) from 2010-2019 who were admitted to the NICU under 4 months of age and transferred due to advanced age, institutional policy or related reasons. Patients transferred for care not provided in the NICU, congenital heart surgery, or after a short stay in either unit were excluded from analysis. Each patient was assessed both for baseline descriptive information as well as major changes in clinical care that took place 30 days pre and post transfer.

Results: A total of 26 patients were identified with an average gestational age of 28 weeks (+/- 4.71) and birthweight of 995 grams (+/- 696). The patients were primarily born at outside facilities with only 31% (8 out of 26) born at TCH. The average chronological age at time of transfer was over 8 months (258.7 days) with a clinically significant decrease from 422 days in 2015 to 246 in 2019. The percentage of length of stay that occurred in the NICU has declined every year since 2015 except for a slight increase in 2019 (2015-85%, 2016-69%, 2017-68%, 2018-56%, 2019-70%). When comparing events pre and post transfer there are no statistically significant results due to the small sample sizes. There is a trend toward more frequent ventilator changes, lab monitoring and sepsis evaluations while in the PICU with growth velocity 8.7 g/day less than the previous NICU month.

Conclusions: This retrospective review has described the current practice of transitioning NICU patients to critical care departments as they become older and shows the evolution of this process over the last five years. The conclusions that can be drawn from analyzing the clinical courses, while informative, are limited by small sample size.