Neonatal Outcome of the Late Preterm Infant (34 to 36 Weeks): The Singapore Story

Nirmal Kavalloor Visruthan, 1MBBS, DCH, MRCPCH (UK), Pratibha Agarwal, 1MBBS, MD (Paeds), DNB (Paeds), Bhavani Sriram, 1MBBS, MRCP (Paeds), Victor Samuel Rajadurai, 1MBBS, MD (Paeds), MBCP

Abstract

Introduction: Late preterm (LP) neonates (34 to 36 weeks gestation) are often managed like term neonates though current literature has identified them to have greater complications. The primary objective of our study was to evaluate and compare morbidity and resource utilisation in LPs especially in view of paucity of Asian studies in this regard. Materials and Methods: A retrospective audit was carried out on 12,459 neonates born in KK Women’s and Children’s Hospital (KKWCH). The chief outcome measures were hypoglycaemia, hypothermia, respiratory morbidity, feeding problems and neonatal jaundice. Resource utilisation included neonatal intensive care unit (NICU) admission, mechanical ventilation, parenteral nutrition and length of hospitalisation. Results: Of 12,459 deliveries, 1221 (10%) were LP deliveries with a significantly increasing trend of 8.6% to 10% from 2002 to 2008 ($P = 0.001$). Neonatal morbidity in the form of hypoglycaemia (34 weeks vs 35 to 36 weeks vs term: 26% vs 16% vs 1%); hypothermia (5% vs 1.7% vs 0.2%); feeding difficulties (30% vs 9% vs 1.4%); respiratory distress syndrome (RDS) (4% vs 1% vs 0.1%); transient tachypnea of the newborn (TTNB) (23% vs 8% vs 3%) and neonatal jaundice (NNJ) needing phototherapy (63% vs 24% vs 8%), were significantly different between the 3 groups, with highest incidence in 34-week-old infants. Resource utilisation including intermittent positive pressure ventilation (IPPV) (15% vs 3.5% vs 1%), total parenteral nutrition/intravenous (TPN/IV) (53% vs 17% vs 3%) and length of stay (14 ± 22 days vs 4 ± 4.7 days vs 2.6 ± 3.9 days) was also significantly higher ($P < 0.001$) in LPs. Conclusion: LP neonates had significantly higher morbidity and resource utilisation compared to term infants. Among the LP group, 34-week-old infants had greater complications compared to infants born at 35 to 36 weeks.


Key words: Morbidity, Mortality, Respiratory distress syndrome, Total parenteral nutrition

1Department of Neonatology, KK Women’s & Children’s Hospital, Singapore
Address for Correspondence: Dr Nirmal Kavalloor Visruthan, Department of Neonatology, KK Women’s and Children’s Hospital, 100 Bukit Timah Road, Singapore 229899.
Email: nirmal.kavalloor.visruthan@kkh.com.sg