



ADMISSION OF TERM NEONATES TO NEONATAL INTENSIVE CARE UNIT – IS THIS PREDICTABLE?

Abhijit Basu^{1,2} MBBS, DFFP, MD, FRANZCOG, FRCOG, AFRACMA, MBA, CertHPE, FRCS

Krina Kathawadia¹ MBBS, DGO, MD

Elaine Kottler¹ Midwifery Unit Manager, RM

¹ Department of Obstetrics & Gynaecology, Rockingham General Hospital; ² University of Notre Dame, WA; Australia

OBJECTIVE

- Admission of term neonates to neonatal intensive care unit (NICU) generates low volume, high cost care that has increased over time.
- Considered avoidable, known maternal risk factors relate to gestation, pregnancy risk stratification, mode of birth and antepartum steroid use.
- Nearly 70% of admissions lack identifiable antepartum or intrapartum factors
- Most admissions are transient (<6 hours) and for known causes (respiratory conditions, hypoglycaemia, jaundice, asphyxia, infection)
- This study was undertaken to identify a maternal profile to predict admission of term babies to NICU in an Australian hospital.

DESIGN

Retrospective case note review of term neonates

- admitted to level 4 NICU (clinical services framework Western Australia Health)
- over 3 months (July – September 2020)
- at an outer metropolitan Australian hospital
- with 1800 births annually

METHOD

- Neonates identified from NICU entry
- Term defined as $\geq 37+0$ weeks
- Deidentified data collated from electronic records on
 - labour and mode of birth
 - neonates birthweight, 5 minute Apgar score, resuscitation required, indication and length of NICU stay
- Low risk ethical research committee approved

CONCLUSION

- Admission rate of term babies to NICU was in keeping with international studies
- Most admissions were unexpected
- No consistent antepartum or intrapartum characteristics could be identified to construct a maternal profile to pre-empt admission of term neonates to NICU

RESULTS

- Total term births – 415
- Term admissions to NICU – 34 (8.1%)
- More babies (20) were born at ≥ 39 weeks than $\geq 37 - < 39$ weeks (14)
- Most born vaginally (16) and 2 with forceps
- Sixteen Caesarean sections in different categories – 1 (2), 2 (10) and 4 (4)
- Spontaneous labour in most (16), 13 were induced and 5 did not labour
- Most (21) babies weighed ≥ 3.5 Kg & 2 weighed < 2.5 Kg
- Apgar score at 5 minutes was ≥ 7 in 31
- Resuscitation at birth was needed in 16 and combined continuous positive pressure with intermittent positive pressure ventilations was the commonest (10) intervention
- Hypoglycaemia (10) was the commonest indication for NICU admission and the rest were for observation (7), respiratory distress (5), sepsis (4), delayed transition (3), post resuscitation care (3) and hypothermia (2)
- Most (15) babies following vaginal birth had normal weight (≥ 2.5 Kg), one had Apgar score of < 7 at 5 minutes and most often were admitted to NICU with hypoglycaemia (7)
- Duration of NICU stay was ≤ 6 hours in 7 (20.5%), 6 - < 24 hours in 8, 24-47 hours in 6 and ≥ 48 hours in the rest 38.2% (13)

