

Neurodevelopmental follow up for low risk neonates – the practice in a tertiary NICU

Author: Dr Deirbhile Henderson, Neonates SHO, Rotunda Hospital

Supervisor: Professor Breda Hayes, Consultant Neonatologist, Rotunda Hospital

Paper number: 89

Background:

Adverse neurodevelopmental outcomes for infants born moderately or late preterm are well described in the literature¹. For term babies, risk factors for adverse neurodevelopmental outcomes such as HIE and hypoglycaemia have been identified². The development of a departmental guideline for neurodevelopmental follow-up for this population could potentially have a significant impact on public health.

Objective:

To establish the current trend of Neurodevelopmental follow up of low risk neonates ($\geq 1.5\text{kg}$ or ≥ 32 weeks gestation) admitted to a Tertiary NICU.

Methods:

Retrospective chart review of 50 low risk neonates admitted to NICU during a one month period. As well as demographical data, detailed outpatient follow up was collected.

Results:

Term babies were just as likely as preterms to receive at least one outpatient appointment (figure 2). However the majority seen for a third appointment were preterm (75%). Two preterm babies did not receive outpatient follow up. Figures 3-5 demonstrate appointments received by each group with their discharge diagnoses.

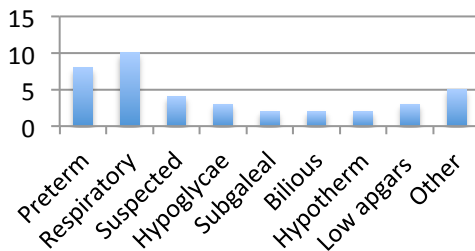


Figure 1. Admitting diagnoses

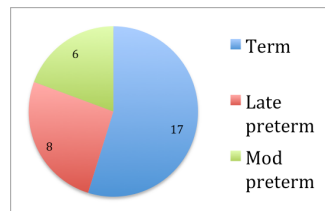


Figure 2. Appointments by gestational age

Conclusions/Discussion:

Babies with moderate prematurity or delivered at term and admitted with hypoglycaemia or birth-related injuries received closer follow up with an average of three outpatient appointments. However these cohorts are typically discharged early from neonatal follow up services. A targeted developmental program at 6 weeks, 3 months and 9 months may optimise timing of follow up without the burden of additional appointments.

Discharge diagnosis	Number of patients	Number of follow up appointments (average)	CGA at last follow up (average)
Birth-related injury (without encephalopathy)	2	2.5	3.75 months
Hypoglycaemia	2	2	3 months
PPHN	1	2	1 month
Infection/suspected EOS	4	1.5	1.25 months
Bradycardia	1	1	1 week
Cardiac anomaly	1	1	6 weeks

Figure 3. Term babies follow up with diagnoses

Discharge diagnosis	Number of patients	Number of appointments (average)	CGA at last follow up (average)
Preterm	2	3	2.75 months
SGA	1	3	3 months
Low Apgars	1	2	5 months
Cardiac anomaly	1	2	4.5 months

Figure 4. Late preterm babies follow up with diagnoses

Discharge diagnosis	Number of patients	Number of appointments (average)	CGA at last follow up (average)
RDS	5	2.6	4.4 months
Preterm	1	2	2.25 months

Figure 5. Moderate preterm babies follow up with diagnoses

References:

- Cheong J.L et al, Association between moderate and late preterm birth and neurodevelopment and social-emotional development at age 2 years – JAMA Pediatrics – April 2017: e164805.
- Wickstrom et al, Moderate neonatal hypoglycaemia and adverse neurological development at 2-6 years of age, European Journal of Epidemiology, July 2018.