Does a hypoglycaemic episode in small for gestational age infants further disadvantage their neonatal outcomes?

Chiara Marshall, Wei Qi Fan

RESEARCH WEEK
5-9 OCTOBER 2020
INSPIRED RESEARCHERS
Northern Health

AIMS

To compare the neonatal outcomes of SGA infants with hypoglycaemia to SGA infants without hypoglycaemia and to place the findings in the context of ethnicity and socioeconomic status.

BACKGROUND

- Infants with a birthweight below the 10th percentile for their gestational age are defined as small for gestational age (SGA) and have a higher risk of experiencing neonatal complications.
- Hypoglycaemia within 24 hours of birth occurs in approximately 26% of SGA neonates (1).
- There are several known long-term complications associated with SGA births and neonatal hypoglycaemia (2), however the impact of hypoglycaemia in the neonatal period remains unclear.

METHODS

STUDY DESIGN

Retrospective cohort study of 285 SGA infants born at The Northern Hospital and admitted to the neonatal unit from 2015 to 2019.

OUTCOMES

Primary outcomes were length of neonatal unit admission and feeding intervention requirement.

ANALYSIS

Multivariate regression analysis was used to determine significant differences in the outcomes of hypoglycaemic babies compared to normoglycaemic babies.

Source: http://nssrbabylab.com

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RESULTS & DISCUSSION

285 SGA infants were recruited for this study and divided into two groups based on their blood glucose results within 24 hours of birth. Statistically significant findings are displayed in Figures 1, 2 and 3.

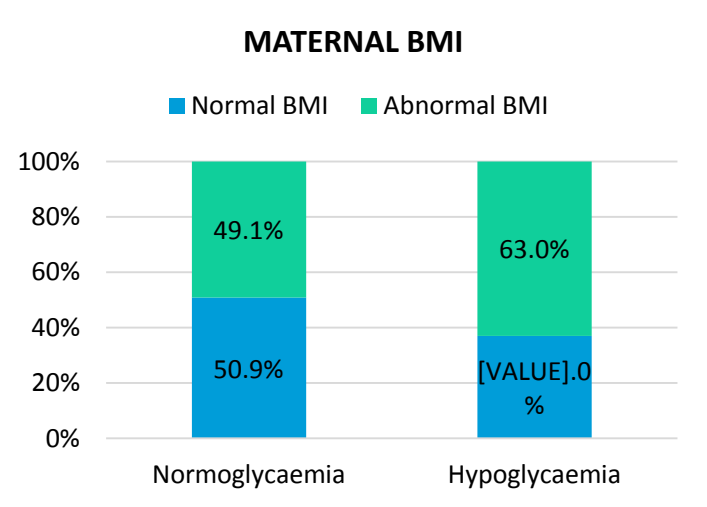

Figure 1. Proportion of participants born to mothers with a healthy BMI during first trimester in the normoglycaemic and hypoglycaemic groups (p=0.027) *BMI* = body mass index.

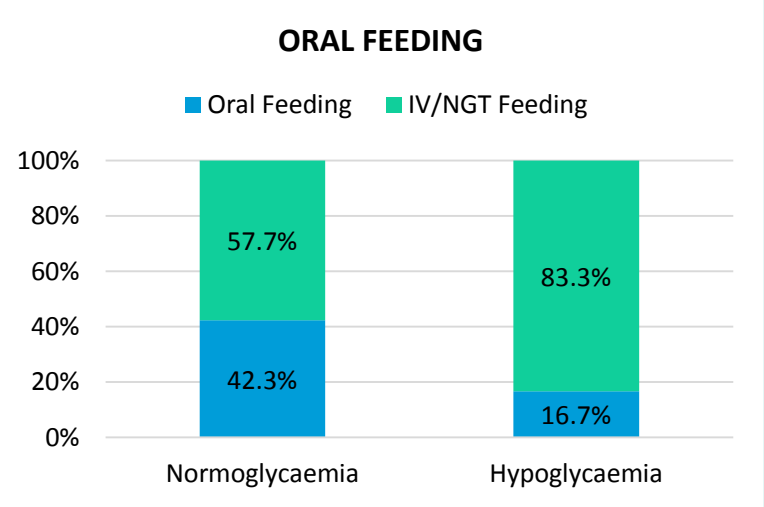

Figure 2. Proportion of preterm participants that fed orally in normoglycaemic and hypoglycaemic groups (p=0.01) *IV* = intravenous. *NGT* = nasogastric tube.

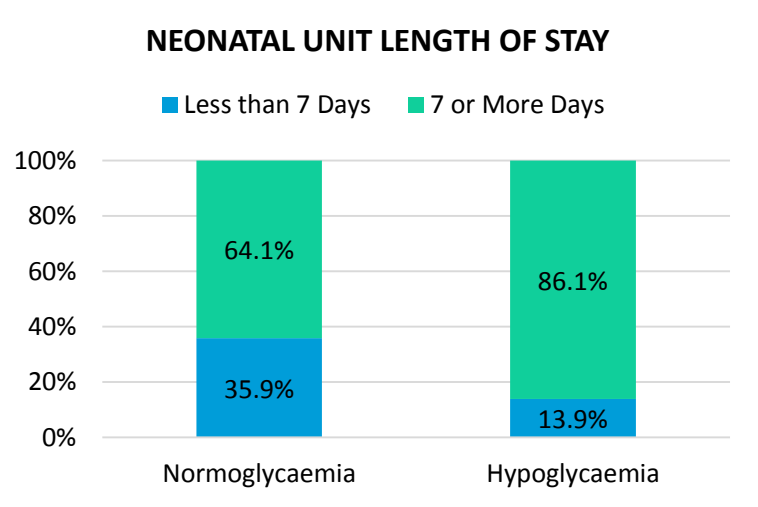

Figure 3. Proportion of preterm participants that were admitted to the neonatal unit for 7 days or more in normoglycaemic and hypoglycaemic groups (p=0.016).

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CONCLUSIONS

Overall, SGA babies admitted to the neonatal unit with hypoglycaemia were at a greater risk of feeding intolerance and requiring interventions for feeding.

The prevalence of neonatal hypoglycaemia in SGA babies may be higher if they are born to a mother with a hypertensive disorder or an abnormal BMI in the first trimester.

Preterm SGA infants with hypoglycaemia have poorer neonatal outcomes than those without hypoglycaemia. They are more likely to require feeding interventions and have a prolonged admission to the neonatal unit.

REFERENCES

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2. Duvanel CB, Fawer CL, Cotting J, Hohlfeld P, Matthieu JM. Long-term effects of neonatal hypoglycaemia on brain growth and psychomotor development in small-for-gestational-age preterm infants. Journal of Pediatrics. 1999;134(4):492-8.

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