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Glucose Gel Treatment for Neonatal Hypoglycemia

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Glucose Gel Treatment for Neonatal Hypoglycemia

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Background/Triggers

- Transient Neonatal Hypoglycemia:
 - Hypoglycemia is one of the most commonly encountered problem in infants within the first 48 hours of life
 - At risk infants include: being born late preterm, LGA, SGA, IUGR, and IDM
- Healthy People 2020 Objectives:
 - MICH 21.4 and 21.5: increase proportion of infants breastfed exclusively through 3 months/6 months
 - MICH 23: Reduce the proportion of breastfed newborns who receive formula supplementation within the first 2 days of life

Maternal, Infant, and Child Health (MICH).

PICO Question

P: Infant with hypoglycemia

: Glucose Gel

C: Formula

O: Achieve therapeutic blood sugar levels while still maintaining exclusive breastfeeding, as well as cost effectiveness.

In neonates, does glucose gel compared to formula maintain therapeutic blood sugar levels to promote exclusive breastfeeding?

Evidence

- Reduction of NICU admissions by 73%
 (Bennett, Fagan, Chaharbakhshi, Zamfirova & Flicker, 2016)
- Reduced recurrence rate of hypoglycemia, increased exclusive breastfeeding rates at discharge, and decrease need for admission to the NICU to treat hypoglycemia (Rozance & Hay, 2016)
- Reduce neonatal ICU admissions, reduce hospital length of stay and cost, support the mother/infant dynamic through reduced separation, support exclusive breastfeeding, and improve parental satisfaction (Newman & Bunch, 2017)
- Gel Cost
 - 15g tube= 15 doses for a 5kg baby
 - Each tube costs \$2.90
 - Each dose of gel: \$0.19 for 5kg baby

Implementation

- Met with Joyce Najarian, Inpatient DM
 - Informed about project, received no additional information
- Met with Pharmacy
 - Reviewed cost, brand, dosage, and implementation of gel
 - Agreed on pharmacy pre-filling syringes and stocking in pyxis on units
- Mother-Infant Care meeting
 - Presented research to providers
 - Interest shown in future clinical trial
- Proposed pathway



Neonate Birth weight Kg	Dose of 40% Glucose Gel G	Amount mL
2.0	0.4	1
2.5	0.5	1.25
3.0	0.6	1.5
3.5	0.7	1.75
4	0.8	2
4.5	0.9	2.25
5	1	2.5

Assessment of ALL Newborns for Prevention & Management of Hypoglycemia Revised May 1, 2017 All Newborns (Except those requiring NICU immediate intervention) are to be placed skin-to-skin for 1 hr and breastfed (unless baby is to be bottle fed) Assess All Newborns for Risk of Hypoglycemia Weigh all newborns in L&D after the initial skin-to-skin period to determine if LGA/SCA Growth Chart to use: WHO for 237 weeks 3and Olten for < 37 weeks (A ClOb's for weight), LGA (> 90% for weight), or Maternal Diabetes. Assess Every Newborn Feed For Initial Feed: Continue to attempt LATCH until lhr of Age Good Feed: LATCH 2 6 or 10-15 mis of Dreastmilk substitute Asymptomatic with Risk Factors Birth to 4hrs of age initial Feed within 1. hr Screen glucose 60 min AFTER the START of 1st Pred Mewborn 190-15 mis of Dreastmilk substitute Symptomatic Sizes & Semptoms of Newborn Hypoghycemia Hypotonia, Interinse, unhabiting, belowing, Canadia, and Hypothemia Symptomatic Sizes & Semptoms of Newborn Hypophycemia Hypotonia, Interinse, unhabiting, belowing, Canadia, and Hypothemia Symptomatic Sizes & Semptoms of Newborn Hypophycemia Hypotonia, Interinse, unhabiting, belowing, Canadia, and Hypothemia Symptomatic Sizes & Semptoms of Newborn Hypophycemia Hypothon, Interinse, unhabiting, lambard sofinating, Canadia, and Hypothemia Symptomatic Sizes & Semptoms of Newborn Hypophycemia Hypothon, Interinse, unhabiting, lambard sofinating, Canadia, and Hypothemia Symptomatic Sizes & Semptoms of Newborn Hypophycemia Hypothon, Interinse, unhabiting, lambard sofinating, Canadia, and Hypothemia Symptomatic Sizes & Semptoms of Newborn Hypophycemia Hypothon, Interinse, unhabiting, lambard sofinating, Canadia, and Hypothemia Symptomatic Sizes & Semptoms of Newborn Hypophycemia Hypothon, Interinse, unhabiting, lambard sofinating, lambard sofinating, Canadia, and Hypothemia Sizes & Semptoms of Newborn Hypophycemia Hypothon, Interinse, unhabiting, lambard sofinating, lambard sofinating, Canadia, and Hypothon, Interinse, unhabiti

Proposed Pathway:

- Initial feed within 1 hour
- Recheck BG 1 hour after start of feed or 30 minutes after completion
 - <35: Give glucose gel and feed, recheck in 1 hour
 - If <35 again,
 repeat steps
 - After second dose, contact provider

Lehigh Valley Health Network. (1, May 2017).

Next Steps

- Make TLC to educate staff
- Implement EPIC workspace
- Carry out clinical trial

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