Oral Glucose Gel for Neonatal Hypoglycemia

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BACKGROUND

Neonatal Hypoglycemia is the most common metabolic disorder of infancy as infants transition from their mother's energy stores to their own. Neurodevelopmental consequences have been correlated with sustained hypoglycemia.
Risk factors for neonatal hypoglycemia for infants >/= 35 weeks are: late preterm infants, infants of diabetic mothers, small for gestational age infants (SGA) and large for gestational age infants (LGA).

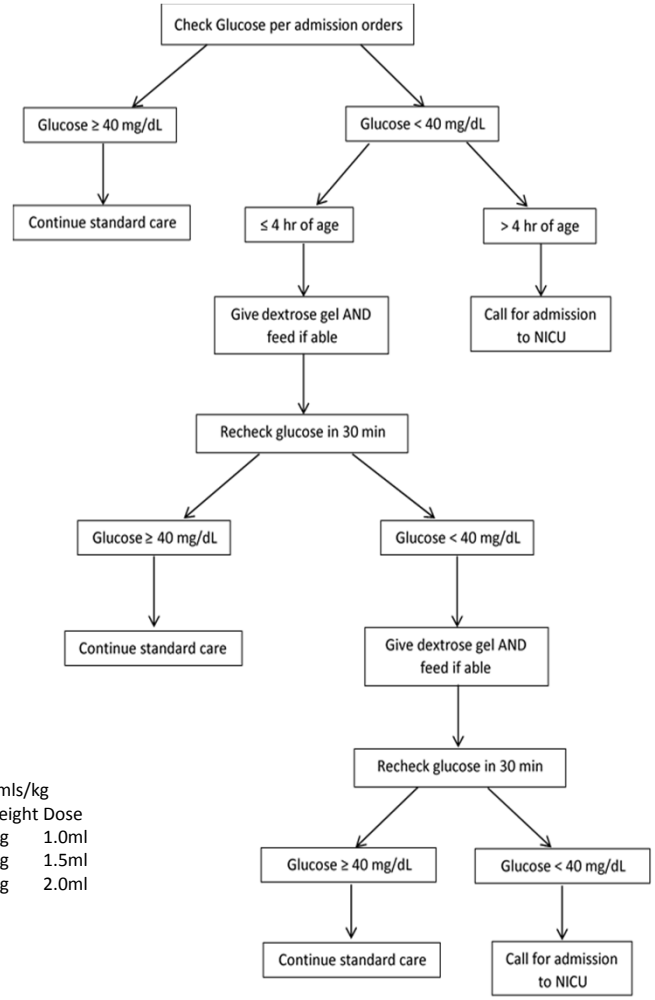
PURPOSE

To evaluate whether 40% buccal glucose gel administration as a supplement to feedings reduces the frequency of NICU admissions for intravenous dextrose treatment for neonatal hypoglycemia.

METHODS

40% glucose gel (dose = 0.5ml/kg) is massaged into the baby's buccal mucosa after drying the inside of the mouth with gauze. 0.5ml is massaged in alternating buccal mucosa each time until dose is completely given. The baby is then placed skin to skin on the breast or given formula supplementation if mom is not breastfeeding. 30 minutes after feeding, a blood glucose level is obtained. If <40mg/dl, another glucose gel dose is administered followed by feeding. If blood glucose continues to be <40mg/dl then the provider is notified for further orders.

Algorithm for oral glucose gel use



.5mls/kg
Weight Dose
2kg 1.0ml
3kg 1.5ml
4kg 2.0ml

RESULTS

Higher rates of breastfeeding at discharge.
Prevention of maternal – neonatal separation.
Decreased admissions to NICU for hypoglycemia.
Reduced hospital length of stay and cost. Cost is $3/ tube of glucose gel.
Further studies need to be carried out to assess long term neuro developmental outcomes.

CONCLUSIONS

The underlying goal is to standardize practice decisions to treat neonatal hypoglycemia. With the use of glucose gel, these measures can be achieved by supporting the mother – infant dyad, sustaining exclusive breastfeeding, reducing formula supplementation, reducing intravenous glucose administration, and reducing NICU admissions.
UMC NICU has the protocol in place now for the use of glucose gel.

REFERENCES

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