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A Short Note on Neonatal Hypoglycemia

Abstract

When the newborn's blood glucose level is lower than what the body needs for things like cellular energy and metabolism, this condition is called neonatal hypoglycemia. Diagnostic thresholds vary widely across countries. Hypoglycemia is defined as blood glucose levels below 30 mg/dL within the first 24 hours of life and below 45 mg/dL thereafter in the United States. In the United Kingdom.

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Introduction

However, lower and more variable thresholds are used (18 mg/dL at any time OR baby with abnormal clinical signs and a single value 45 mg/dL OR baby at risk of impaired metabolic adaptation but without abnormal clinical signs and a measurement 36 mg/dL and remaining 36 mgHy poglycemia is the most common metabolic problem in newborns [1]. Neonatal hypoglycemia occurs in between 1 in 3 and 1,000 births, but it is difficult to quantify internationally due to a lack of consensus regarding diagnostic thresholds. Although it is treatable, it can be fatal if left untreated. It is more prevalent in neonatal hypoxic asphyxia, sclerosis, and infected sepsis, and occurs frequently in premature babies, small full-term babies, and babies born to diabetic mothers [2]. The central nervous system can be harmed if severe hypoglycemia lasts for an extended period of time or is experienced repeatedly. Neonatal hypoglycemia can occur on its own or as a clinical symptom of other conditions [3].

There are many different kinds of hypoglycemia, including transient and recurrent hypoglycemia. Each one has a different set of risk factors and may have a lot of different underlying causes. All newborns experience a physiological and transient fall in blood glucose, reaching a nadir at 2–3 hours of age before gradually rising over the next 24 hours [4,5]. An infant's brain is dependent on a healthy supply of glucose. During the last trimester of pregnancy, glucose is stored in the liver, heart, and skeletal muscles. Although some newborns are only able to compensate for this glucose deficiency up to a certain limit, newborns do have the ability to use an alternative form of energy, particularly when breastfed [6, 7]. There are other conditions that can increase an infant's risk of becoming hypoglycemic (see Risks). Infants with hyperinsulinism may be more likely to develop hypoglycemia [8, 9].

In the United States, every newborn is tested for hypoglycemia upon admission but this is not always recommended. Bedside glucose monitoring is only effective if the equipment is accurate, rapid, and reliable. This form of testing is often faster and more cost-effective. Laboratory serum glucose testing is the most accurate way to test blood glucose levels. These specimens are either taken from the heel, arterial, or venous punctures and must be stored immediately on ice in order to prevent glycolysis, which further alters the results [10, 11]. USA guidelines recommended that the hypoglycemic neonate should have a glucose test every 2–4 hours History of medical conditions like gestational hypertension, gestational diabetes mellitus, neonatal erythrocytosis, neonatal hemolysis of incompatible blood groups, perinatal asphyxia, severe infection, sclerosis, and neonatal respiratory distress syndrome, Neonatal hypoglycemia is particularly common in babies who are born prematurely, are born earlier than the gestational age, or are underfed in the early stages of life [12]. Clinical manifestations Neonatal hypoglycemia should be considered if there are atypical clinical manifestations, the symptoms get better with glucose infusion, or neurological symptoms and signs that are hard to explain. Measurement of blood glucose postnatal glucose monitoring is the primary method for detecting neonatal hypoglycemia early. Within an hour of giving birth, children who are at risk for neonatal hypoglycemia should have their blood glucose levels checked.

The American Academy of Pediatrics recommends that infants feed within the first hour of life with the glucose reading being 30 minutes after this feeding for an accurate result [13]. If the newborn's initial feeding does not raise the newborn's blood glucose level above 40 mg/dL, the newborn must receive an IV infusion of 10% dextrose in water as a mini bolus as 2 mL/kg over 1 minute. Following the mini bolus, a continuous infusion of 10% dex.

Because glucose is an essential nutrient for the brain, untreated neonatal hypoglycemia causes irreversible damage to both the posterior occipital and cortex regions of the brain. These regions function in cognition, adaptability, and visual skills. Long-term complications of neonatal hypoglycemia may include.

Conclusion

The tank also exercises the muscles of the mouth and helps with the circulation of blood in the mouth, which may help the baby be able to suck and take in mother's milk. Continuous glucose monitoring devices have been suggested to be helpful for improving blood glucose monitoring in neonatal infants; however, the devices have not been approved for use in this age group, and the potential benefits and risks are not clear from the studies that are available. Additionally, it is credited with preventing newborn hypoglycemia.

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Conflict of interest

None

References

1. Hovenkamp Hermelink. Predictors of persistence of anxiety disorders across the lifespan: a systematic review. *Lancet Psychiatry.* 8, 428-443 (2021).
2. Keeton CP, Kolos AC, Walkup JT *et al.* Pediatric generalized anxiety disorder: epidemiology, diagnosis, and management. *Paediatric Drugs.* 11, 171-183 (2009).
3. Shalev Arieh, Liberzon Israel, Marmar Charles *et al.* Post-Traumatic Stress Disorder. *N Engl J Med.* 376, 2459-2469 (2017).
4. Arehart Treichel Joan. Adult Separation Anxiety Often Overlooked Diagnosis – Arehart-Treichel. *Psychiatr News.* 41, 30 (2006).
5. Shear K, Jin R, Ruscio AM *et al.* Prevalence and correlates of estimated DSM-IV child and adult separation anxiety disorder in the National Comorbidity Survey Replication. *Am J Psychiatry.* 163, 1074-1083 (2006).
6. Mohatt Justin, Bennett Shannon M, Walkup John T *et al.* Treatment of Separation, Generalized, and Social Anxiety Disorders in Youths. *American Journal of Psychiatry.* 171, 741-748 (2014).
7. Viana AG, Beidel DC, Rabian B *et al.* Selective mutism: A review and integration of the last 15 years. *Clin Psychol Rev.* 29, 57-67 (2009).
8. Rose M, Devine J. Assessment of patient-reported symptoms of anxiety. *Dialogues Clin Neurosci.* 16, 197-211 (2014).
9. Samuels MH. Cognitive function in untreated hypothyroidism and hyperthyroidism. *Curr Opin Endocrinol Diabetes Obes.* 15, 429-433 (2008).
10. Grigsby AB, Anderson RJ, Freedland KE *et al.* Prevalence of anxiety in adults with diabetes: a systematic review. *J Psychosom Res.* 53 (6): 1053–60 (2002).
11. Zingone F, Swift GL, Card TR *et al.* Psychological morbidity of celiac disease: A review of the literature. *United Eur Gastroenterol J.* 3: 136-145 (2015).
12. Molina Infante J, Santolaria S, Sanders DS *et al.* Systematic review: noncoeliac gluten sensitivity. *Aliment Pharmacol Ther.* 41, 807-820 (2015).
13. Zhao QF, Tan L, Wang HF *et al.* The prevalence of neuropsychiatric symptoms in Alzheimer's disease: Systematic review and meta-analysis. *J Affect Disord.* 190, 264-271 (2016).