Blood Glucose Levels and Characteristics of Hypoglycemia in Low Birth Weight Neonates

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ABSTRACT

Introduction: Low birth weight (LBW) neonates comprising of preterm and small for gestational age (SGA) are at risk of hypoglycemia. Hypoglycemia as such in LBW neonates is not well characterized. We aimed to study the blood glucose levels of these neonates and characterise the hypoglycemia.

Methods: Blood glucose levels in singleton neonates with birth weight between 1500 gm and 2499 gm were studied prospectively. Glucose levels were assessed at six hour intervals in the first 48 hours of life and extended if indicated. Glucose level ≤ 45 mg/dL in the first 24 hours and < 50 mg/dL thereafter was considered hypoglycaemia.

Results: A total of 320 among 3822 neonates satisfied inclusion criteria; 104 had at least one low glucose reading with an incidence of hypoglycaemia of 32.5%. Preterm neonates constituted 158 (49.4%) and SGA 76 (23.8%). Mean blood glucose values were lowest in the first hour of life (60.1 ± 17.2 mg/dL). Incidence of hypoglycemia was highest within one hour of life followed by day two of life (16.3% and 11.6% respectively). About 86 (82.6%) neonates were asymptomatic. Overall, 75% of neonates had a single episode of hypoglycemia and 25% had a recurrence. Hypoglycaemia was noted in 31.8% of neonates born to diabetic mothers, mostly in the first hour (57.1%). Other risk factors for hypoglycemia included intrapartum fluids, birth weight < 2000 g and polycythemia.

Conclusions: About a third of LBW neonates had hypoglycemia; mostly on the first hour and day one of life. Asymptomatic nature of hypoglycaemia in the large majority and recurrent hypoglycemia in 25% cases warrants glucose monitoring in this subgroup.

Key words: Glucose levels; hypoglycemia; low birth weight; neonates; preterm

INTRODUCTION

Most neonates maintain normal blood glucose levels by gluconeogenesis. However certain subgroups are relatively at higher risk for hypoglycemia. The important risk factors include prematurity, small for gestational age (SGA), large for gestational age (LGA), and maternal diabetes mellitus. A sudden metabolic transition from dependent to independent life at birth requires a coordinated and integrated change of hormones and enzymes.[1-5] The low birth weight (LBW) constitute a significant proportion of neonates and this proportion is much more in developing countries. The LBW neonates constitute preterm and intrauterine growth retardation neonates. Intrauterine growth retardation and prematurity impair nutrient reserves for mobilization, and thereby, impair the ability to maintain appropriate glucose concentration leading to hypoglycaemia. The glucose levels as such in LBW neonates are not well studied.

Hypoglycemia may be asymptomatic or symptomatic. Symptoms include lethargy, prolonged sleep, tachycardia, tachypnea, convulsions, stupor, motor and sensory disturbances. Symptoms can also be due to neuroglycopenia. Persistent or recurrent hypoglycaemia can blunt the autonomic response and hence only the neuroglycopenic effects may manifest.[1,5-7] Neonatal hypoglycemia is associated with adverse neurodevelopmental outcome.[6-9] The severity, duration as well as the number of episodes of hypoglycaemia may all have significant effects. Recurrent episodes, as well as severe hypoglycemia, is associated with a poor neurological outcome. Prompt recognition of risk factors, monitoring, prevention and management of hypoglycemia is important to reduce the risk of neurological sequel. In this context, we aimed to study the blood glucose levels and characteristics of hypoglycaemia in LBW neonates.

METHODS

A prospective study was conducted on singleton LBW neonates born in our hospital between February 2017 and May 2018. The LBW included neonates with birth weight between 1500 gm and 2499 gm. Outborn neonates, multiple gestations and those who succumbed within 48 hrs were excluded. Clearance was obtained from the ethics committee of the institution (IEC number: 90/2017). Baseline neonatal and maternal information, clinical features and examination findings of singleton LBW neonates were collected and documented in the proforma designed for the study. The blood glucose levels were assessed on a heel stick sample using a glucometer (Accuchek) within an hour and subsequently at six hour intervals in the first 48 hours of life. Extended blood glucose monitoring was carried out based on the physician's decision and such values were also recorded. The heel stick blood glucose was estimated as follows: the Accucheck strip was inserted into the glucometer; the heel of the neonate was cleaned with an alcohol-based skin disinfectant swab and allowed to dry for one minute; the lateral side of the heel was pricked with a heel lancet and the first drop was let out. The second drop of the blood was placed on the Accuchek strip for blood glucose estimation.

Any blood glucose level ≤ 45 mg/dL in the first 24 hours and < 50 mg/dL thereafter was considered as hypoglycaemia for study purpose. In cases of confirmed hypoglycaemia, if the neonate was on enteral feeds, glucose level was monitored within the next one hour. If the neonate was receiving intravenous fluids, 2 ml/kg of 10% dextrose bolus was given and the glucose infusion rate was increased by 2 mg/kg/min until normoglycaemia was achieved. If hypoglycaemia persisted even after 12 mg/kg/min of glucose infusion rate (GIR), a blood sample for serum cortisol and insulin was sent. A urine sample was sent to detect reducing substance and ketonuria. Dried blood spots for tandem mass spectroscopy, serum carnitine profile, aminoacidopathies and organic academia were also sent in cases of prolonged hypoglycaemia or hepatomegaly with jaundice.

Weight of unclothed neonate recorded within the first hour of life to the nearest of 5 gm with an electronic weighing machine was taken as birth weight. Gestational age was determined by maternal last menstrual period and / or antenatal sonography. Gestational age was further classified as preterm- gestational age < 37 completed weeks

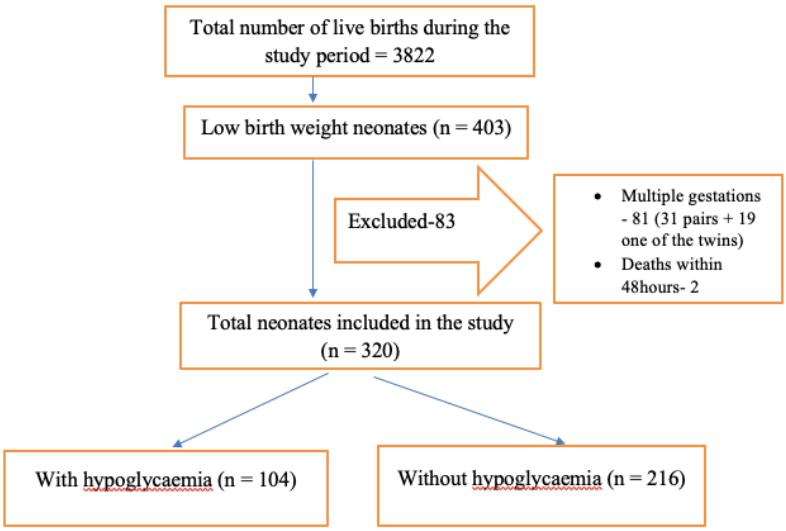

Figure 1. Study of flow chart

and term- gestational age of 37 to less than 42 completed weeks. Neonates were also classified as appropriate for gestational age (AGA)- birth weight between 90th and 10th percentile of gestational age, small for gestational age (SGA)- birth weight less than 10th percentile for gestational age and large for gestational age (LGA)- birth weight above the 90th percentile of gestational age.[10] Gestational diabetes mellitus (GDM) was diagnosed based on International Association of Diabetes and Pregnancy Study Groups criteria,[11] as follows- At any time in pregnancy if one or more of the following criteria are met: fasting plasma glucose ≥ 93 mg/dL (5.1 mmol/L), 1-hour plasma glucose ≥ 180 mg/dL (10.0 mmol/L) following a 75 gm oral glucose load or two-hour plasma glucose ≥ 153 mg/dL (8.5 mmol/L) following a 75 gm oral glucose load. The oral glucose tolerance test was obtained at 24 - 28 weeks of gestation. The hypoglycemia was further classified as a single episode or recurrent hypoglycemia. Recurrent hypoglycemia included a second or subsequent episode. The duration of an episode was the time from the first glucose concentration less than the cutoff to the first measured glucose concentration more than the cutoff. Neonatal sepsis was considered if a neonate manifested by systemic signs of infection and isolation of a bacterial pathogen from the bloodstream. Mixed feeding was defined as feeding the infant both breast milk and the commercial infant formula. Polycythemia was defined as venous hematocrit of > 65%. Data were analyzed with SPSS 21 using descriptive statistics such as frequency, percentages and median with 25th and 75th Interquartile range (IQR). The association of risk factors with neonatal hypoglycemia was analyzed with a chi-square test. A p-value of < 0.05 was considered significant.

RESULTS

We studied the blood glucose levels in LBW neonates and the incidence of hypoglycaemia in them. Of 3822 neonates born in the hospital during the study period, 320 LBW neonates fulfilling the inclusion criteria were enrolled (Figure 1). Of 320 newborns, 104 neonates were found to have at least one low glucose reading. The incidence of hypoglycaemia among LBW neonates was 32.5%.

Among 320 LBW neonates, there were 158 (49.4%) preterm and 162 (50.6%) term neonates (Table 1). The male to female ratio was 1.02:1. The mean birth weight was 2144 gm ± 266 gm (range-1510 gm - 2480 gm). Among neonates, 244 (76.2%) were AGA and 76 (23.8%) were SGA. The mean blood glucose values in LBW neonates were found to be lowest in the first hour of life (60.1 ±

Table 1. Baseline characteristics (n = 320)

Characteristics	n (%)
Birth weight	
1500 - 1999 g	94 (29.4)
2000 – 2499 g	226 (70.6)
Gender	
Male	162 (50.6)
Female	158 (49.4)
Gestational age	
Preterm	158 (49.4)
Term	162 (50.6)
Gestational age vs. Birth weight categories	
AGA	244 (76.2)
SGA	76 (23.8)
Mode of delivery	
Vaginal delivery	89 (27.8)
Assisted vaginal delivery	2 (0.6)
Cesarean delivery	229 (71.6)
Maternal parity	
Primigravida	171 (53.4)
Multigravida	149 (46.6)

17.2 mg/dL) (Table 2 and Figure 2). The mean value improved to 68.8 ± 16.8 mg/dL at 24 hours and 68.9 ± 12.5 mg/dL at 48 hours.

Figure2 represents the glucose distribution in the study group at various time points in the initial

Table 2. Glucose distribution in low birth weight

Blood glucose (mg/dL)			
Hours of life	**Mean ± SD**	**Range**	**Median IQR (75th, 25th)**
1	60.1 ± 17.2	10 - 130	60 (70, 50)
6	68.4 ± 20.8	11- 180	65 (77, 56)
12	69.3 ± 17.9	20-179	66 (77, 58)
18	69.6 ± 16.3	18- 160	68 (77, 59)
24	68.8 ±16.8	22- 185	66 (74, 58)
30	68.9 ± 14.1	32- 144	68 (74, 60)
36	68.2 ± 14.8	40- 158	66 (74, 60)
42	67.9 ± 14.6	35- 146	66 (74, 60)
48	68.9 ± 12.5	38- 136	68 (80,64)

48hours of life. The box represents the interquartile range and the stars are the outliers. Nine neonates had episodes of hyperglycaemia at some time points. They were on IV fluids for various reasons. None of them received corticosteroid therapy. Three of them had sepsis.

In the present study, 104 out of 320 LBW neonates were found to have hypoglycemia on at least one

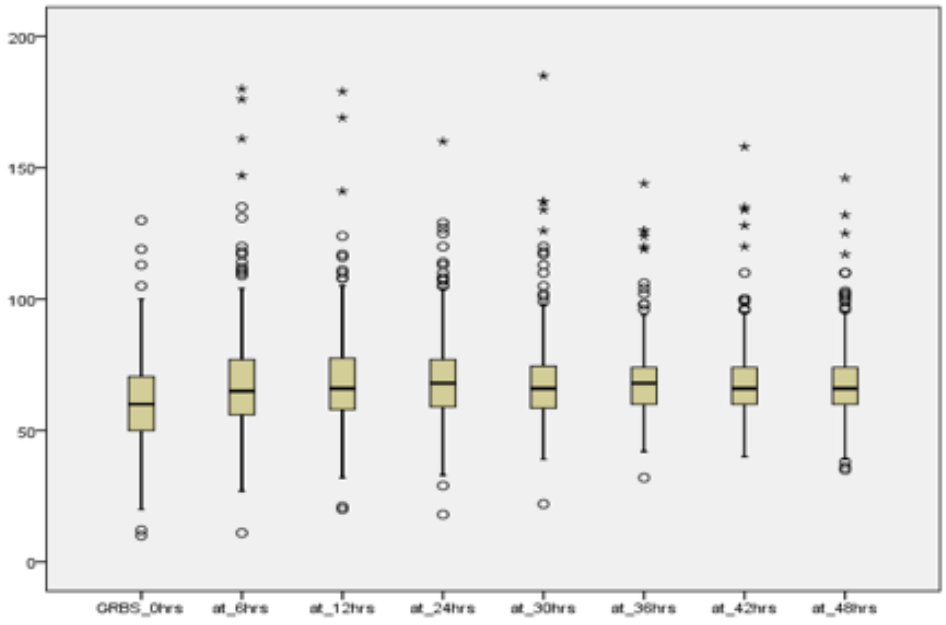

Figure 2. Glucose distribution in LBW neonates during the first 48 hrs of life

Table 3. Incidence of hypoglycemia among LBW

Hours of life	Number of neonates with hypoglycaemia (%)
Within 1 hour	52 (16.3)
1 to 6 hours	24 (7.5)
7 to 24 hours	19 (5.9)
25 to 48 hours	37 (11.6)
> 48 hours	26 (8.1)

occasion. Fifty two neonates had an episode of hypoglycemia within one hour of life, 12 of them had low glucose readings at six hrs of life as well (Table 3). About 12 neonates had the first low glucose value at six hrs of life. Incidence of hypoglycemia was noted to be highest within one hour of life followed by day two of life (16.3% and 11.6% respectively)

Hypoglycemia beyond 48 hours was observed in 26 neonates; 11 of them were term and 15 were preterm neonates. Eighteen AGA and eight SGA neonates had hypoglycemia beyond 48 hrs. Nine neonates had hypoglycaemia beyond day three. Two among them had a single episode and the cause was attributed to faulty feeding. One newborn, whose glucose values normalized on day six of life, was syndromic and had congenital heart disease. Two neonates had polycythemia. One neonate had respiratory distress syndrome. Four neonates had their birth weight between 1500 gm and 1999 gm and three among them had their glucose values normalized by day four of life. One among them had a single episode of hypoglycaemia. Seven neonates required IV fluids

Table 5. Severity and recurrence of hypoglycemia (n = 104)

Variables	N (%)
DAY 1 : 1 - 20 mg / dL 21 - 45 mg / dL	3 (2.8) 77 (74)
DAY 2 : 1 - 20mg / dL 21 - 50 mg / dL	0 35 (33.6)
Single episode of hypoglycemia	78 (75)
Recurrence of hypoglycemia	26 (25)

Table 4. Clinical manifestations in hypoglycemic neonates (n = 104)

Clinical manifestations	Number of neonates (%)
Asymptomatic	86 (82.6)
Symptomatic	18 (17.3)
Lethargy	12 (11.5)
Jitteriness	1 (0.9)
Poor feeding	6 (5.7)
Tachypnea	9 (8.6)
More than one symptoms	7 (6.7)

and the maximum GIR required was 12 mg/kg/min. The urine ketone bodies were negative in all neonates with recurrent hypoglycaemia.

In the present study, 86 (82.6%) LBW neonates had asymptomatic hypoglycaemia (Table 4). Among the symptomatic neonates, lethargy was noted to be the most common symptom and seven neonates had more than one symptoms. None had seizures.

In the present study, three (2.8%) neonates were found to have glucose values of < 21 mg/dL on day one (Table 5). Among them, one was a term SGA (1940 gm), the second was a term AGA (2260 gm) and the third neonate was a preterm AGA (2080 gm). All three were started on IV fluids and glucose values normalized within 24 hours. Overall, 75% of the neonates had a single episode of hypoglycemia and 25% had more than one episode. About 76.8% of newborns had a hypoglycemic episode on day

Table 6. Maternal risk factors for hypoglycemia in LBW neonates

Risk factors	With hypoglycaemia N = 104	Without hypoglycaemia N = 216	p-value
Maternal diabetes mellitus, n (%)			0.916
• Yes (44)	14 (31.8%)	30 (68.2%)	
• No (276)	90 (32.6%)	186 (67.4%)	
Intrapartum fluids, n (%)			0.005
• Yes (229)	85 (37.1%)	144 (62.9%)	
• No (91)	19 (20.8%)	72 (79.2%)	

Table 7. Timing of hypoglycemia in LBW neonates born to diabetic mothers (n = 14)

Hours of life	Number of neonates with hypoglycaemia (%)
Within one hr	8 (57.1)
Six hr	6 (42.8)

one. The incidence (33.6%) decreased on day two of life.

Among 44 LBW neonates born to diabetic mothers, 28 were preterm, 16 were term, seven were SGA and 37 were AGA neonates (Table 6). The incidence of hypoglycaemia in LBW neonates born to mothers with diabetes was 31.8%. Among the neonates born to mothers who received intrapartum fluids, 37.1% had hypoglycaemic events. Among neonates born to mothers who did not receive intrapartum fluids, 20.8% had hypoglycaemia. This difference was statistically significant.

Incidence of hypoglycaemia among low birth weight neonates born to mothers with diabetes (GDM and overt diabetes) was highest in the first six hours of life with an incidence of 57.1% at the first hour and 42.8% at six hrs of life (Table 7). There were seven preterm neonates and seven term neonates among the hypoglycaemia. Of 14 neonates, two were SGA and 12 were AGA.

In the present study, 34.8% of preterm neonates had hypoglycemia and 30.2% of term neonates had hypoglycemia (Table 8). A higher incidence of hypoglycemia was noted among LBW neonates with birth weight between 1500 – 1999 gm than those with birth weight between 2000 – 2499 gm (36.2% vs. 31%). There was no significant difference in the incidence of hypoglycemia noted among AGA and SGA categories. All neonates with polycythemia had hypoglycemia. Among eight neonates with sepsis one had hypoglycemia. This was preterm AGA neonate noted to have a single low blood glucose value at birth.

Among 135 exclusively breastfed neonates, 44 (32.6%) were found to be hypoglycaemic whereas

Table 8. Neonatal risk factors for hypoglycemia in LBW neonates

Risk factors	With hypoglycaemia N = 104 n (%)	Without hypoglycaemia N = 216 n (%)	p value
Gestational age (n)			0.384
• Preterm (158)	55 (34.8%)	103 (65.2%)	
• Term (162)	49 (30.2%)	113 (69.8%)	
Birth weight (n)			0.366
• 1500 - 1999 g (94)	34 (36.2%)	60 (63.8%)	
• 2000 - 2499 g (226)	70 (31%)	156 (69%)	
Birth weight/ gestational age categories (n)			0.844
• SGA (76)	24 (31.6%)	52 (68.4%)	
• AGA (244)	80 (32.8%)	164 (67.2%)	
Polycythemia (n)			
• Yes (4)	4 (100%)	0	
• No (316)	0	0	
Sepsis (n)			0.221
• Yes (8)	1 (12.5%)	7 (87.5%)	
• No (312)	103 (33%)	209 (67%)	

91 did not have hypoglycaemia (Table 9). Among 53 neonates receiving intravenous fluids, 25 (47.2%) neonates had hypoglycaemia.

DISCUSSION

We studied the blood glucose values, the incidence of hypoglycaemia and characteristics of hypoglycemia in LBW neonates. Hypoglycaemia was studied in detail for many neonatal and maternal variables. The incidence of hypoglycaemia among LBW neonates was 32.5%. The mean blood glucose values were lowest in the first hour of life. The hypoglycemic episodes decreased on day two of life. Most of the neonates with hypoglycaemia were asymptomatic. A higher incidence of hypoglycemia was noted among LBW neonates with birth weight between 1500 gm and 1999 gm than those with birth weight between 2000 gm and 2499 gm. About 25% found to have a recurrence of hypoglycemia. Maternal diabetes,

Table 9. Relationship between mode of feeding and hypoglycemia

Mode of feeding (n)	With hypoglycaemia n (%)	Without hypoglycaemia n (%)
• EBM / DBF (135)	44 (32.6%)	91 (67.4%)
• FORMULA (4)	2 (50%)	2 (50%)
• MIXED (128)	33 (25%)	95 (75%)
• IV FLUIDS (53)	25 (47.2%)	28 (52.8%)

intrapartum fluids, LBW and polycythemia were the common risk factors for hypoglycaemia.

Among LBW neonates, preterm and term neonates constituted almost equally. Male neonates outnumbered female neonates. Previously other studies evaluating glucose levels in children had similar observations.[2,12] SGA neonates constituted 23.8% in the present study. An Indian study had earlier reported 28% SGA neonates among 150 neonates enrolled to study glucose levels.[2]

The mean blood glucose values in LBW neonates were found to be lowest in the first hour of life and improved subsequently. Similar findings were reported in another study.[2] However, the authors reported much lower mean blood glucose values at the first hour of life in LBW neonates (41.0 ± 4.9 mg/dL). Following the birth of the normal newborn, the mean blood glucose levels dip within the first one to two hours, remain lower for two to three days and reach a normal, stable value of 70 to 100 mg/dL subsequently. In LBW neonates this dip is likely to be much more and may last for several weeks.[1-5]

In the present study, the incidence of hypoglycemia was 32.5%. Incidence of hypoglycemia was noted to be highest within one hour of life followed by day two of life (16.3% and 11.6% respectively). Hypoglycemia beyond 48 hours was observed in 26 neonates and nine neonates had hypoglycaemia beyond third day. Faulty feeding, syndromic features, polycythemia, respiratory distress syndrome, LBW were the associated features with them. These are the other known risk factors for hypoglycemia beyond 24 hours in a neonate. A study of 187 SGA neonates in Montreal reported that 26% of the neonates had at least one episode of hypoglycemia.[12] Another Indian study found the incidence of hypoglycemia to be 32%, significantly greater in SGA and preterm neonates.[2] They reported maximum numbers of hypoglycemia within 24 hrs of life with a maximum incidence at six hrs of life, similar to the present study.

The symptoms and signs of hypoglycaemia are the results of activation of the autonomic nervous system in response to a low glucose value-producing neurogenic symptoms.[5-8] Symptoms can also be due to neuroglycopenia resulting in decreased cerebral glucose use. Neonatal hypoglycemia manifests as jitteriness, cyanosis, seizures, apneic episodes, tachypnea, weak or high-pitched cry, floppiness or lethargy, prolonged sleep, poor feeding, and eye-rolling.[12-15] Persistent or recurrent hypoglycaemia may blunt the autonomic response resulting in manifestations of only the neuroglycopenic effects. In the present study, 82.6% LBW neonates with hypoglycaemia remained asymptomatic. Lethargy was the most common symptom and none had seizures. An Indian study earlier reported lethargy in 60% and jitteriness in 50% of hypoglycemic neonates.[15] The definition of neonatal hypoglycaemia and screening is controversial. Although continuous monitoring of glucose may be the best method to detect neonatal hypoglycemia, it may not be practical.[13,14] Estimation of both venous and capillary glucose levels are accepted modalities. Capillary glucose levels may differ from venous levels but the difference may not be physiologically significant.[14] Single low glucose value is unlikely to have any long term neurological sequelae. However, the need for monitoring of blood glucose in at-risk neonates and operational thresholds have been well stated by many studies and guidelines.[16-19]

To determine or predict the neurological outcome, it becomes important to have information about the duration of hypoglycaemia as well as the number of episodes. Recurrent episodes of hypoglycaemia may lead to a poor neurological outcome. In the present study, 2.8% of neonates were found to have glucose values of < 21 mg/dL on day one. They required IV fluids and glucose values normalized

within 24 hours. Overall, 25% had more than one episode. About 76.8% newborns had a hypoglycemic episode on day one. The incidence (33.6%) decreased on day two of life. A higher percentage of hypoglycemia within the first 24 hrs of age was reported previously. Bhat MA et al also found greater episodes of hypoglycemia in the first 24 hrs of life in SGA newborns.[15] Overall incidence of hypoglycemia was 25.2% and 98% occurred in the first 24 hrs. In another study, most episodes (315/390, 81%) occurred in the first 24 hours.[20] Authors reported blood glucose concentration ≤ 36 mg/dL in 19% and 37% having more than one episode. Ninety-eight neonates (19%) had recurrent episodes of hypoglycemia.[20]

Hume et al reported that about 18% preterm infants were unable to maintain normal concentrations of blood glucose even though they are ready to be discharged.[21] Another study looked at long term neurological problems related to hypoglycaemia in SGA infants.[22] About 72.9% of SGA infants had hypoglycemia and those with repeated episodes of hypoglycemia had significantly reduced head circumference and lower scores in specific psychometric tests at 3.5 years of age. Further, they also had lower psychometric scores at five years of age. Infants with moderate recurrent hypoglycemia had lower scores at 3.5 and five years of age when compared with infants who had a single episode of hypoglycemic. The authors stressed the need for repetitive blood glucose monitoring for small-for-gestational-age infants in the neonatal period.

Newborns from diabetic mothers with diabetes type 1 and 2 or gestational diabetes are at highest risk of developing symptomatic hypoglycemia in the first few hours after birth.[23-25] Among 44 LBW neonates born to diabetic mothers in the present study, the incidence of hypoglycaemia was 31.8%. Hypoglycaemia was highest in the first six hours of life - 57.1% at the first hour and 42.8% at six hrs of life. A higher incidence of hypoglycaemia of 48% among neonates born to 199 diabetic mothers has been reported in another study.[20] Authors found 83% of hypoglycaemic episodes occurring within the first 24 hrs of life. A study from Sweden reported early neonatal hypoglycemia in infants of all types of diabetes in mothers whether they are insulin-treated, insulin-dependent or GDM.[24] They reported neonatal hypoglycemia in well-controlled pregnancies also. Compared to controls from non-diabetic mothers, the prevalence of hypoglycemic episodes in infants of diabetic mothers is as high as 40%.[3] Hence, neonatal hypoglycemia should always be anticipated and screened for in high-risk infants born to diabetic mothers, even in the absence of clinical symptoms, from the first hours of postnatal life itself.[25-28] If blood glucose is under 35 mg/dL at any point in time, initiation of IV glucose therapy is recommended.[25] This would avoid the immediate risk of convulsions, coma and even death as well as long term neurological consequences.

Among the neonates born to mothers who received intrapartum IV fluids, 37.1% had hypoglycaemic events whereas, among neonates born to mothers who did not receive intrapartum fluids, 20.8% had hypoglycaemia. Mothers receiving intrapartum glucose infusions need supervision. Previously a study reported that six out of 56 neonates born to mothers receiving intrapartum glucose infusions having hypoglycemia at one hour of life.[28] It is recommended that the normal parturient be given less than 20 gm/hour of IV glucose before delivery and have a blood glucose level less than 120 mg/dl at the time of delivery.

In the present study, 34.8% of preterm neonates had hypoglycemia and a higher incidence of hypoglycemia was noted among LBW neonates with birth weight between 1500 – 1999 gm (36.2% vs. 31%) than those with birth weight between 2000 – 2499 gm. This suggests the metabolic adaptation problem at birth in preterm and LBW neonates. Previously, hypoglycaemia of 77.7% among preterm neonates was reported by an Indian study.[2] Same study also found three times higher incidence of hypoglycaemia in SGA neonates compared to AGA neonates (64.2% vs.20.3%). Among breastfed neonates, 32.6% were found to be hypoglycaemia in the present study. Although early breastfeeding is protective against hypoglycemia in many infants monitoring is still needed. The incidence of hypoglycemia as high as 51% among neonates despite early and frequent breastfeeding was reported in one study.[20]

CONCLUSIONS

The incidence of hypoglycaemia is 32.5% among LBW neonates and most of them being asymptomatic, warrants the need for frequent monitoring of blood glucose levels in this population. About one-fourth of LBW neonates were likely to have recurrent hypoglycemic episodes. Maternal diabetes, intrapartum fluids, LBW, preterm infants and polycythemia were the common risk factors for hypoglycaemia. Hypoglycaemia can occur even in breastfed infants. In the first 48 hours following birth, the focus should be on ensuring adequate feeding and stabilizing the glucose levels. Those whose blood glucose values remain low or who have other associated risk factors should be evaluated further and be closely monitored and ensured normal levels of blood glucose.

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