THE EFFECT OF DIFFERENT FORMS OF MATERNAL DYSGLYCEMIA ON THE OCCURRENCE OF NEONATAL HYPOGLYCEMIA IN BABIES ADMITTED TO NICU

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Objectives

We report the effect of different forms of dysglycemia on the occurrence neonatal hypoglycemia in a large cohort of pregnant women studied as a part of a PEARL-Peristat Study, funded by QNRF- Doha-Qatar

Material and Methods

Out of 12255 pregnant women screened during 2016-2017, 3027 women were identified with GDM during pregnancy (WHO criteria) and 233 were diabetic (DM) before pregnancy. All dysglycemic women were managed properly with 3 or more clinical visits during the pregnancy period.

Neonatal hypoglycemia is defined as a plasma glucose level of less than 30 mg/dL (1.65 mmol/L) in the first 24 hours of life and less than 45 mg/dL (2.5 mmol/L) thereafter.
Data on neonatal hypoglycemia for babies admitted to NICU was collected from the hospital records.

Results

Babies born to DM and GDM mothers required more admissions to NICU for various reasons (24.5 % , 15.96% and 11.9 % Respectively (P< 0.01)

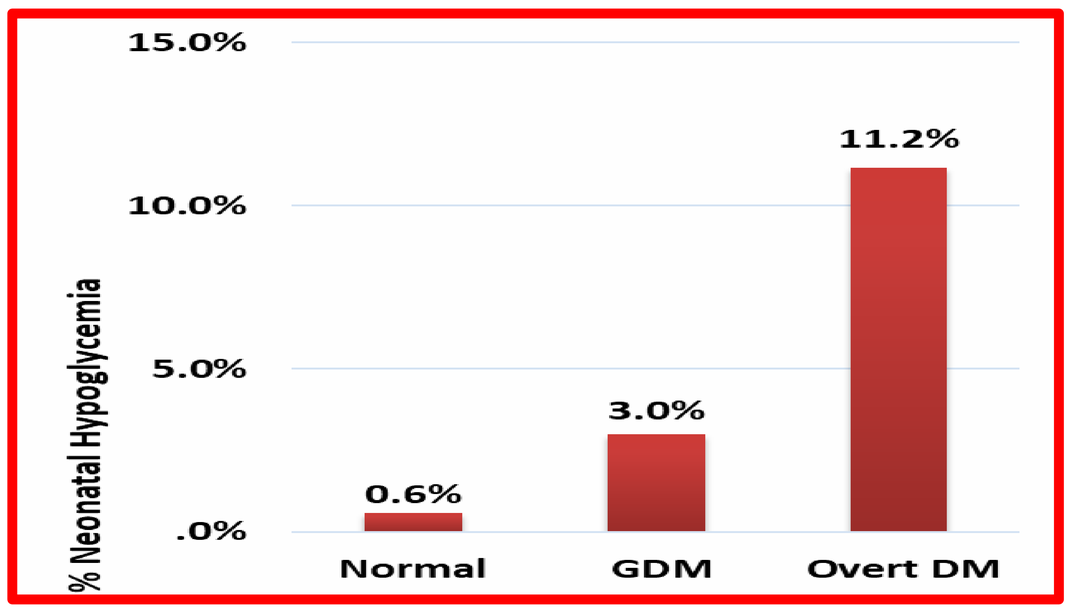
Neonatal hypoglycemia in infants admitted to NICU occurred more frequently in babies of DM and GDM compared to non-diabetic women (45.6%, 18.6% and 4.7% respectively).

Neonatal hypoglycemia occurred more in babies < 36 weeks of gestational age (GA) versus those > 37 weeks of GA in non-diabetic women.

However, neonatal hypoglycemia occurred more in babies born >37 weeks of age to DM (51.3%) and GDM (20.8%) when compared to babies born between 32 and 36 weeks of GA. Prolonged exposure to maternal hyperglycaemia appears to stimulate more insulin secretion during in-utero life and predispose more to neonatal hypoglycemia

Results

Prevalence of neonatal hypoglycemia among dysglycemia and normal women



		LIVEBORNS					
		No DM (8926)		Gestational DM (3018)		Overt DM (233)	
		Count	%	Count	%	Count	%
LBW or Non-LBW	≤ 2499g	594	6.7%	192	6.4%	17	7.3%
	≥ 2500g	8331	93.3%	2826	93.6%	216	92.7%
Macrosomic Baby	< 4000g	8478	95.0%	2813	93.2%	218	93.6%
	≥ 4000g	447	5.0%	205	6.8%	15	6.4%
Preterm	Not preterm	8353	93.6%	2747	91.0%	201	86.3%
	Preterm	573	6.4%	271	9.0%	32	13.7%
Final outcome	Discharged alive	8894	99.7%	3011	99.8%	233	100.0%
	Died in hospital	31	.3%	7	.2%	0	0.0%
Neonatal Death	No	8899	99.7%	3013	99.8%	233	100.0%
	Yes	27	.3%	5	.2%	0	0.0%
Phototherapy	No	8280	92.8%	2748	91.1%	211	90.6%
	Yes	646	7.2%	270	8.9%	22	9.4%
Hypoglycemic (admitted to NICU)	No	8876	99.4%	2928	97.0%	207	88.8%
	Yes	50	.6%	90	3.0%	26	11.2%
Jaundice (Admitted to NICU)	No	8860	99.3%	2992	99.1%	232	99.6%
	Yes	66	.7%	26	.9%	1	.4%
RDS_TTN	No	8495	95.2%	2843	94.2%	212	91.0%
	Yes	431	4.8%	175	5.8%	21	9.0%
Major Congenital Anomaly	No	8846	99.1%	2986	98.9%	230	98.7%
	Yes	80	.9%	32	1.1%	3	1.3%

Conclusions

Despite the marked improvement in the prenatal diagnosis and management of dysglycemia, there is still a higher prevalence of neonatal prematurity, hypoglycemia and respiratory distress in infants born to treated mothers with DM and GDM.
Hypoglycemia occurred more in babies born to dysglycemic with GA > 37 weeks compared to those born between 32 and 36 weeks of GA.

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I declare that I have no potential conflict of interest.

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