Prevalence of Complication in Infant of Diabetic Iraqi Mother

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Abstract1

Gestational diabetes mellitus (GDM) represents glucose levels in the high end of the population distribution during pregnancy. GDM carries a small but potentially important risk of adverse prenatal outcomes and a longer-term risk of obesity and glucose intolerance in offspring. Mothers with GDM have an excess of hypertensive disorders during pregnancy and a high risk of diabetes mellitus thereafter. Diagnosing and treating. Fetal measurements compliment maternal glucose measurements in identifying pregnancies that need such intensification. Glucose testing shortly after pregnancy can stratify the near-term diabetes risk in mothers, Thereafter, measurement glucose and HbA1c levels can detect deteriorating glycemic control, a harbinger of future diabetes, usually type 2. Subjects & Method: These cases were collected from the Hospital of Medicine City. The cases were from the ages of 18-42 and continued to search for these cases for three months. This study protocol was approved by the local ethical committee of the College of Pharmacy, University of Al-Yarmouk, Diyala, Iraq .In this study about my research of the Acute complication if diabetic mother in infant took 100 subject whose ages ranged between (18-42), some of cases were suffering from a family history and some of them were suffering from type 2 diabetes, but after childbirth found that some of them continued, they also have type 2 diabetes, high blood pressure and some severe infections, and also found some of them who suffered from severe bleeding after giving birth, or they had premature birth, and even found some cases that may die during childbirth. Serum glucose level can be evaluated using a ready-made kit for this purpose, according to the method of Barham and Trindoer. The glycated hemoglobin level was measured using a ready-made kit, according to A brahamy et al.0Results: When reading percentage of sugar test during the pregnancy, measuring the HbA1c level in its normal state, it showed 2.9% and when reading its percentage in the case of diabetes, it was 14.3%, and the percentage of FBS in the case of diabetes was 25.7%, and when measured in the case of GDM, it was 22.9, and the percentage of OGTT in the case of a diabetic was 17.1%. Conclusions In the conclusions, it was found that high incidence of pregnancy problems (DM Type II, GDM, Hypertensive, Nephropathy, Cesarean birth, premature birth, bleeding after birth, High risk of inflammation and Mother Death). Diabetes is a genetic disease, and also it may be acquired due to the surrounding environment, and there are several types of the first type. It may be treated with insulin or some medications. Also, there is some disorders such as bleeding after childbirth, or it may continue with a percentage of Infections. We also noticed that even newborn babies may suffer from some problems, some of them may be born with obesity, and some may have type 2 diabetes and may even die during birth and may suffer from some respiratory diseases, heart diseases and difficulty breathing.

Keywords: Gestational diabetes, Glucose; Iraqi Mother

1. Introduction1

Diabetes mellitus (DM) also known as simply diabetes, is a group of metabolic diseases in which there are high blood sugar levels over a prolonged period This high blood sugar produces the symptoms of frequent urination, increased thirst, and increased hunger. Untreated, diabetes can cause many complications. (1). Acute complications include diabetic ketoacidosis and non ketotic hyperosmolar coma. Serious long-term complications include heart disease, stroke, kidney failure, foot ulcers and damage to the eyes. (2). Type 1 DM results from the body's failure to produce enough insulin. This form was previously referred to as "insulin-dependent diabetes mellitus" (IDDM) or "juvenile diabetes". The cause is unknown. Type 2 DM begins with insulin resistance, a condition in which cells fail to respond to insulin properly. As the disease progresses a lack of insulin may also develop. This form was previously referred to as "non-insulin-dependent diabetes mellitus" (NIDDM) or "adult-onset diabetes". The primary cause is excessive body weight and not enough exercise. Gestational diabetes is the third main form and occurs when pregnant women without a previous history of diabetes develop a high blood glucose level. Prevention and treatment involves a healthy diet, physical exercise, not using tobacco, and being a normal body weight. Blood pressure control and proper foot care are also important for people with the disease. Type 1 diabetes must be managed with insulin injections (3). Gestational diabetes mellitus (GDM) resembles type 2 diabetes in several respects,

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involving a combination of relatively inadequate insulin secretion and responsiveness. It occurs in about 2-10% of all pregnancies and may improve or disappear after Delivery. However, after pregnancy approximately 5-10% of women with gestational diabetes are found to have diabetes mellitus, most commonly type 2. Gestational diabetes is fully treatable but requires careful medical supervision throughout the pregnancy. Management may include dietary changes, blood glucose monitoring, and in some cases, insulin may be required. Though it may be transient, untreated gestational diabetes can damage the health of the fetus or mother. Risks to the baby include macrosomia, congenital cardiac and central nervous system anomalies, and skeletal muscle malformations. Increased fetal insulin may inhibit fetal surfactant production and cause respiratory distress syndrome. In severe cases, perinatal death may occur, most commonly as a result of poor placental perfusion due to vascular impairment. Labor induction may be indicated with decreased placental function. A Caesarean section may be performed if there is marked fetal distress or an increased risk of injury associated with macrosomia, such as shoulder dystocia (4). Diabetes mellitus is characterized by recurrent or persistent hyperglycemia and is diagnosed by demonstrating any one of the following:[10] Fasting plasma glucose level ≥ 7.0 mmol/l (126 mg/dl). Plasma glucose ≥ 11.1 mmol/l (200 mg/dl) two hours after a 75 g oral glucose load as in a glucose tolerance test. Symptoms of hyperglycemia and casual plasma glucose ≥ 11.1 mmol/l (200 mg/dl) (5).

Aim of study

Observe the prevalence of Complication in infant of Iraqi diabetic mother.

2. Subject and Method

Table 1: Frequency of the Biochemical Variables during the pregnancy period		
Variables	Frequency	Percent
HbA1c% = 4 to 5.6 (Normal)	3	2.9
HbA1c% = > 5.6 (Diabetic)	15	14.3
FBS = ≥ 7.0 mmol/l (Diabetic)	27	25.7
FBS = ≥ 5.1 to < 7.0 mmol/ l (GDM)	24	22.9
OGTT = 7.8 to 11.1 mmol/ l (Impaired glucose tolerance)	18	17.1
OGTT = > 11.1 mmol/ l (Diabetic)	18	17.1
Total	105	100.0

This case control study was conducted in the Hospital of Medicine City. This study consists of 100 subjects whose ages ranged between (18-42). and continued to search for these cases for three months. This study protocol was approved by the local ethical committee of the College of Pharmacy, University of Al-Yarmouk, Diyala, Iraq. some of cases were suffering from a family history and some of them were suffering from type 2 diabetes, but after childbirth found that some of them continued, they also have type 2 diabetes, high blood pressure and some severe infections, and also found some of them who suffered from severe bleeding after giving birth, or they had premature birth, and even found some cases that may die during childbirth. Serum glucose level can be evaluated using a ready-made kit for this purpose, according to the method of Barham and Trindoer. The glycated hemoglobin level was measured using a ready-made kit, according to A brahamy et al. (6).

3. Results

Descriptive statistic

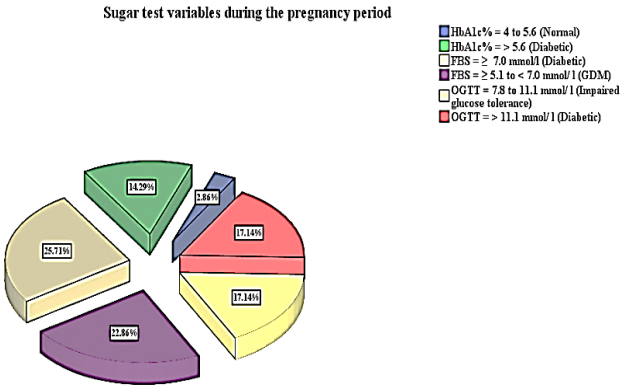


Figure 1: Sugar test variables during the pregnancy period

Table 2: Frequency percentage of the pregnancy problems		
Variables	Frequency	Percent
DM Type II	24	22.9
GDM	6	5.7
Hypertensive	15	14.3
Nephropathy	12	11.4
Cesarean birth	12	11.4
Premature birth	12	11.4
Bleeding after birth	9	8.6
High risk of inflammation	6	5.7
Mother death	9	8.6
Total	105	100.0

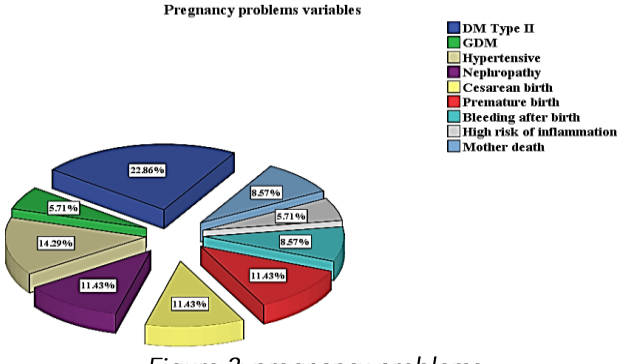


Figure 2: pregnancy problems

Table 3: Frequency percentage of the fetal disorders		
Variables	Frequency	Percent
Congenital Diabetes	18	17.1
Metabolic Syndrome	6	5.7
Macrosomia	21	20.0
Birth defects	12	11.4
Hypoglycemia	6	5.7
Difficult Breathing	6	5.7
Heart problems	9	8.6
Fetal death	27	25.7
Total	105	100.0

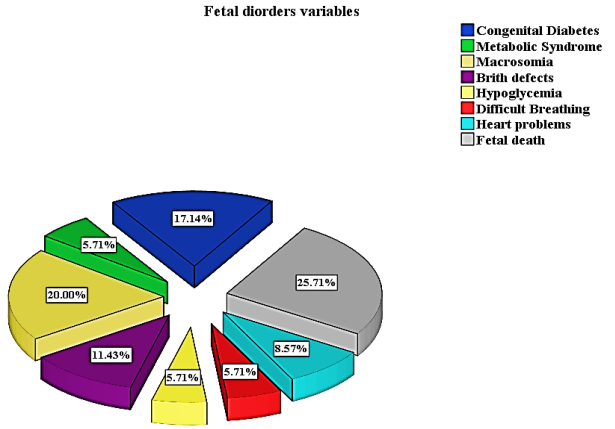


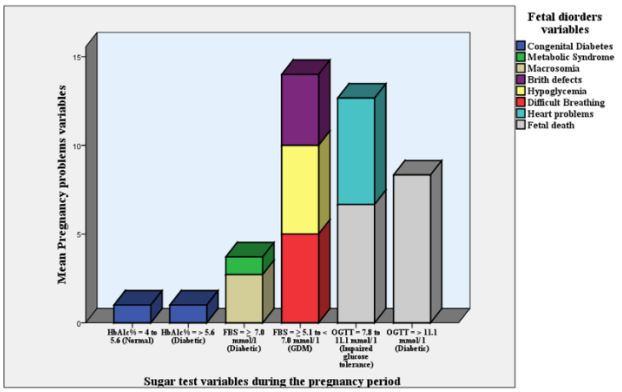
Figure 3: Fetal disorder

Inferential statistic

Paired Samples Correlations

Table 4: Pearson correlation between the variables				
Pearson correlation		N	Correlation	Sig.
Pair 1	Sugar test variables during the pregnancy period & Pregnancy problems variables	105	.961**	.000
Pair 2	Sugar test variables during the pregnancy period & Fetal disorders variables	105	.962**	.000

Figure 4: represented the sugar test variables during the pregnancy period with a pregnancy mother and fetal problems



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4. Disscussion

Gestational diabetes usually develops in second half of pregnancy and may have severe life-threatening consequences for the mother, such as pre-eclampsia and obstructed labour, and for the unborn baby, such as preterm birth, macrosomia and shoulder dystocia (7).

The present study agrees with previous study that observed incidence rates of GDM are 1.7% -15.7%, that depending on the ethnic origin, maternal age, and diagnostic criteria. GDM may also cause a variety of pregnancy complications, including increased prenatal and prenatal mortality, prenatal complications, and neurodevelopmental delay (8). In addition to experiencing the direct risks to pregnancy outcomes posed by GD, women with a history of GD have an up to 7-fold increased risk of developing type 2 diabetes (T2D) later in life (9). Women with previous GD are also at increased risk of cardiovascular complications, with this increase in risk being detectable within 10 years postpartum. However, previously published analyses have not fully clarified whether this enhanced cardiovascular risk is attributable to the subsequent development of prediabetes or T2D, or to the presence of frequently concomitant cardiovascular risk factors. Several studies suggests that women with a history of GD have double the risk of major cardiovascular events compared with women without previous GD, irrespective of a T2D diagnosis later in life (10,11).

In previous study the authors assessed the risk of congenital malformations and adverse prenatal consequences in GDM. They found an increased risk of cardiac malformations in infants born for women with insulin-treated GDM but not in diet-treated GDM. They also found an unexpected increased risk in fetal mortality in the GDM group (12), this study were accordance with current study that found high prevalence of fetal death in gestational diabetes. The present study reported 20% of fetal disorder (macrosomia). This agree with previous study, Of specific note is the possible interference of GDM with fetal growth, often causing increased birth weight (macrosomia). The rate and severity of the complications are in direct relation to the degree of glycemic control, and most control will diminish the complications (13,14).

Postpartum infection is a leading cause of maternal mortality worldwide. Approximately five million cases of pregnancy-related infection occur every year globally, and approximately 75,000 result in death. Infection incidence is higher in low-resource settings, and many infection-related maternal deaths are preventable (15).

Cesarean delivery was associated with the composite in-hospital postpartum infection outcome (including confirmed diagnosis of UTI, endometritis or bloodstream infection). In fact, in multivariable logistic regression models for each of the fever/hypothermia, endometritis, postpartum infection composite outcome, cesarean delivery was independently associated with each outcome. This finding is consistent with other reports that postpartum infection is three times more likely to occur after cesarean section than after vaginal delivery (16).

5. Conclusions

In the conclusions, it was found that high incidence of pregnancy problems (DM Type II, GDM, Hypertensive, Nephropathy, Cesarean birth, premature birth, bleeding after birth, High risk of inflammation and Mother Death). Diabetes is a genetic disease, and also it may be acquired due to the surrounding environment, and there are several types of the first type. It may be treated with insulin or some medications. Also, there is some disorders

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